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REPORT 2016

Building capacities for biodiversity and development

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Acronyms

AAU	Addis Ababa University, Ethiopia
ABS	Access and Benefit Sharing
BES	Biodiversity and Ecosystem Services
BCCM	Belgian Coordinated Collection of Microorganisms
BGM	Botanic Garden Meise
BIP	Biodiversity Indicators Partnership
BTC	Belgian Technical Cooperation
CBD	Convention on Biological Diversity
CBD NFP	National Focal Point to the Convention on Biological Diversity
CHM	Clearing House Mechanism
CITES	Convention on International Trade in Endangered Species of wild fauna and flora
CNEDD	Conseil National de l'Environnement pour un Développement Durable, Niger
COHERENS	Coupled Hydrodynamic Ecological Model for Regional Shelf Seas
COMIFAC	Commission des Forêts d'Afrique Centrale
COORD	Programme Coordination and Management
COP	Conference of the Parties
COPBH	Belgian Community of Practice on Biodiversity & Health
CRH-U	Centre de Recherche en Hydrobiologie–Uvira, D.R.Congo
CSB	Centre de Surveillance de la Biodiversité
DDD	Direction de Développement Durable
DGD	Belgian Development Cooperation
EDIT	European Distributed Institute of Taxonomy
GBIF	Global Biodiversity Information Facility
GEO BON	Group on Earth Observations Biodiversity Observation Network
GIS	Geographic Information System
GTI	Global Taxonomy Initiative
ICCN	Institut Congolais pour la Conservation de la Nature, Kinshasa, D.R. Congo
ICT	Information and Computer Technology
IEBR	Institute of Ecology and Biological Resources, Hanoi, Viet Nam
IFS	International Foundation for Science, Sweden
IMAB	Inventories Monitoring and Assessment of Biodiversity
INECN	Institut National pour l'Environnement et la Conservation de la Nature, Bujumbura, Burundi, maintenant OBPE
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IRD	Institut de Recherche pour le Développement
ISCNET	Institut Supérieur de Conservation de la Nature, de l'Environnement et du Tourisme , R.D. Congo
ISDR-GL	Institut Supérieur de Développement Rural des Grands Lacs, D.R. Congo
ISP Mb-Ng	Institut Supérieur Pédagogique de Mbanza-Ngungu, D.R. Congo
LEGERA	Laboratoire d'Ecologie et de Gestion des Ressources Animales, D.R. Congo
LEM	Law Enforcement Monitoring
MATEE	Ministère de l'Aménagement du Territoire, de l'Eau et de l'Environnement, Morocco
MIST	Management Information System
MRV	Measuring, Reporting and Verification

MUMM	Management Unit of the North Sea Mathematical Models
MUNI	Masaryk University, Czech Republic
NGO	Non-Governmental Organisation
NP	Nagoya Protocol
NBSAP	National Biodiversity Strategy and Action Plan
NM-AIST	Nelson Mandela African Institution of Science and Technology, Tanzania
NWU	North-West University, South Africa
OBPE	Office Burundais pour la Protection de l'Environnement (avant : INECN)
PEET	Partnerships for Enhancing Expertise in Taxonomy
PM	Person Month
PNKB	Parc National de Kahuzi-Biega
PN	Parc National
POL	Policy Support
PTK	Portal Toolkit
RA	Regional assessment
RBINS	Royal Belgian Institute of Natural Sciences
RDC	D.R. Congo
RMCA	Royal Museum for Central Africa
RZSA	Royal Zoological Society of Antwerp
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SDSN	Sustainable Development Solutions Network
SGEDD	Secrétariat Général à l'Environnement et Développement Durable
SSC	South-South Cooperation
TCT	Target cross-linking tool
TST	Trans Sectorial Team
UAC	Université d'Abomey- Calavi, Benin
UA	Universiteit van Antwerpen, Belgium
UB	Université du Burundi
UL	University of Limpopo, South Africa
ULB	Université Libre de Bruxelles, Belgium
ULg-GxABT	Université de Liège – Gembloux Agro-Bio Tech
UNIBU	Université du Burundi
UNIKIS	Université de Kisangani, D.R. Congo
UNIKOL	Université de Kolwezi, D.R.Congo
UNILU	Université de Lubumbashi, D.R. Congo
UNZI	University of Zimbabwe
UOB	Université Officielle de Bukavu, D.R. Congo
UWC	University of the Western Cape, South Africa
VLIR-NSS	VLIR North-South-South cooperation programme
VLIR-SI	VLIR South Initiative
VLIR-STI	VLIR Short Training Initiative
VLIR-UOS	Flemish Interuniversity Council, Development Cooperation, Belgium
VUB	Vrije Universiteit Brussel
VVOB	Vlaamse Vereniging voor Ontwikkelingssamenwerking en technische Bijstand, Belgium
WCMC	UNEP World Conservation Monitoring Centre

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Executive summary

2016: third year of five year plan 2014-2018

The interventions are explained per strategic objective (SO).

SO1 (knowledge, science)

Global taxonomy Initiative (GTI) and AbcTaxa

The 13th *external* GTI call for individual grants for taxonomic training was launched. 14 grantees from Benin (3), Burundi (1), Côte d'Ivoire (3), D. R. Congo (3), Togo (1), Uganda (2) and Vietnam (1) came for a one month stay in Belgium to work on topics related to taxonomy as well as ecosystem services related to development. Under the 13th *internal* GTI call for training in the South, researchers from RBINS had projects in Benin (Oligochaetes), Burundi (pollinators), Vietnam & Cambodia (entomo-diversity). For the first time in 2016, we organised a GTI alumni workshop in order to stimulate cooperation between our former trainees and help them with communication, education and public awareness activities in their countries.

AbcTaxa volume 14 was awarded as the best bryological publication for the years 2013-2014 by the International Association of Bryologists. The volume 15 on sawflies of Namibia and western South Africa was published at the beginning of 2016.

Institutional Cooperation

Cooperation in R.D. Congo with ICCN, universities and CSB

A regional workshop was organized to share lessons learned on the monitoring of habitats during this programme by the beneficiary institutions (ICCN in D.R. Congo, OBPE in Burundi and UAC-CENAGREF in Benin). The activities carried out in partnership with the ICCN in previous years focused on strengthening its capacities to collect data on habitat dynamics in order to use this information to improve the management of Biodiversity and the valorisation of Ecosystem Services (ES) and were shared amongst participants from D.R. Congo, Burundi and Benin. Other activities included: in D.R. Congo, the Ruzizi Natural Reserve was assessed for its biodiversity in view of a rehabilitation programme. Studies were carried out on wild mushrooms in the Virunga Mountains and Itombwe Natural Reserve as well. The drafting of the manual entitled "Habitats Nature Reserve Itombwe" has made significant progress. It will be released in 2017. In ex-Katanga province, the research on termitosols in the Miombo systems continued in the framework of theses at UNILU. With UNIGOM, we implemented the first phase of the "Mycologists Network

of the Great Lakes Region of Africa (RMGL). This project has been selected by Belgian Science Policy (BELSPO) in the context of strengthening the international networks of the Federal Scientific Establishments (ESFs), including the RBINS. A workshop was organized in Goma (DRC) and in the Virunga N. P. And finally, at UNIKIS and CSB, research on ticks, bush meat and bat biodiversity was further supported locally and with internships at RBINS.

In 2016 RBINS intensified talks about an MoU with the Centre de Surveillance de la Biodiversité (R.D. Congo, Kisangani), in order to strengthen the CSB in its role of secondary CHM for R.D. Congo. This MoU was signed at the beginning of 2017. Such a convention will allow both institutions to cooperate more, in agreement with the Congolese Ministry in charge of Environment. The cooperation aims at further developing the Clearing House Mechanism in R.D. Congo, the Monitoring, Reporting and Verification (MRV) activities for biodiversity data nationally, and stronger awareness activities in cooperation with the Ministry for primary and secondary education and the Belgian education development agency VVOB. This role of CSB as a secondary CHM has recently been officialised in an MoU between CSB and the Direction de Développement Durable du Secrétariat Général à l'Environnement et Développement Durable du Ministère de l'Environnement et Développement Durable.

Marine modelling in Peru, Vietnam and Benin

The institutional cooperation on marine modelling with IMER (Vietnam) and IMARPE (Peru) is now reaching midterm. In Vietnam, a technical meeting was held with CEBioS to evaluate the cooperation which is evolving well and will end in 2018. In Peru, a closing meeting in March 2017 is planned in order to conclude the cooperation with some awareness and dissemination work towards stakeholders. As in previous years, 2 Vietnamese and 2 Peruvian researchers came to Belgium to strengthen their scientific and technical skills with this tool. The capacity building on marine modelling is now planned for IRHOB in Benin as well, after a successful formulation mission. Implementation is planned for 2017.

Institutional cooperation with OBPE (Burundi) and UAC (Bénin)

Both institutional cooperation with OBPE (Burundi) and UAC (Benin) are due to end by the middle of 2017. Reporting of 2016-first half of 2017 is therefore postponed and will appear in the next annual report. Despite the political situation in Burundi, OBPE performed well for all indicators, except for the search for experts concerning training in valuation of ecosystem services, which is more related to the security climate. CEBioS and OBPE are finalising a lexicon about Kibira N.P., due to be published at the beginning of 2017. Concerning UAC (Benin), a mid-term evaluation was carried out at the beginning of 2016: the research is evolving well on the ecosystem of Penjari N.P. The monitoring skills have been transferred but still need to be fully implemented by the 'ecoguards'. A lexicon about the habitats of Penjari N.P. is well under way and is due to be finalised in 2017.

External projects in Burundi and Tanzania, and EVAMAB

Two external projects (VLIR-UOS) have now come to an end in December 2016: the South Initiative on the monitoring of Lake Tanganyika together with the VUB (Prof. L. Triest) has seen two missions by CEBioS and lots of monitoring activities by 10 students of the Université du Burundi, mentored by UB and OBPE. Two Burundese scientists came on a grant to the VUB in the framework of this project (algae and macroinvertebrates). CEBios was also involved in the publication of a Letter to Science (Verheyen et al., 2016) pointing out the threats emanating from oil drilling plants in the lake. The second project, the North South South on the development of a decision support system in lake Manyara (Tanzania) saw a successful closing workshop in December 2016 with CEBioS, KU Leuven, NM-AIST (Tanzania), UWC (South Africa) and UNZI (Zimbabwe). A new Belspo funded project has been selected and is due to start in 2017: EVAMAB, on the valuation of ecosystem services in 4 UNESCO-MAB reserves in Africa. One FTE will work on this project.

SO2 (information, CHM)

SO2 promotes the digital aspects of biodiversity awareness raising and information provision. A CHM call was launched, while the projects of previous call were implemented. A regional CHM workshop for Francophone partners to prepare them for COP13 was organised in Bénin. CEBioS organised and/or participated in national CHM workshops in Côte d'Ivoire, Jordan (Palestinian participants), Niger and Togo. CEBioS was active in the further development of the Aichi targets tool in the framework of the EU, as well as several international CBD meetings concerning the development of CHM (new software, awards, ...). The Belgian CHM won the third price for the first CHM award that was organised for the first time during COP13 in Cancun. 7 partner countries got certificates of Achievements during the Award ceremony. Several demands came to use the digitalised historical archives at RBINS for Virunga N.P. and for Fonds Leopold III. 5 countries (Benin, D.R. Congo, Kenya, Morocco and Togo) started projects under the 2016 call for projects.

SO3 (awareness)

A call 'public awareness' was launched for the partner countries. 5 countries were granted funding to start their projects under the call. Burundi continued the projects under the 2014-2016 institutional framework. One Workshop for GTI alumni was organised in Benin to work with them on how to communicate the results of their studies to a wider public and the authorities. The cooperation with VVOB on awareness raising in pilot schools in the region of Kinshasa continued as well. A side event on the results of the projects from former calls and

the GTI alumni workshop was organised during the CEPA Fair in the margins of COP13 in Cancun, Mexico.

SO4 (policy mainstreaming)

CEBioS participated to several international meetings: 2 CHM-Informal Advisory Committee to the Secretary of the CBD meetings; one Informal advisory committee meeting on capacity building for the Nagoya Protocol, SBSTTA 20, SBI1 and COP13 as member of the Belgian Delegation with pilot role for several agenda items. CEBioS initiated discussions with BTC headquarters to establish an 'Accord Cadre de Coopération', stipulating the possibilities of mutual assistance in partner countries and in project development, training and sensitising of BTC staff on biodiversity related topics, assisting with environmental impact studies and so on. At the same time, for instance BTC's local representations at Kisangani and at Kinshasa have been met and made familiar with CEBioS as well as with the services the CSB could offer to help BTC to take environmental factors into account at local project level. CEBioS was active at SBSTTA20 and COP13, including in the organisation of a side event during the COP13-CEPA fair entitled Capacities for awareness in Africa: Country cases. The 'Dienst Bijzondere Evaluaties' made an evaluation of policy support to DGD by the Belgian development actors, including RBINS-CEBioS. It was seen as excellent. It reads e.g. concerning the functioning of the DGD-funded CEBioS staff at RBINS: 'This original configuration, with the constitution of a program and specific resources dedicated to the Funding Agreement, enables its specific features to be preserved within the IRSNB, namely capacity strengthening in the south and policy support, while allowing real institutional and operational anchoring within the Institute.'(see: https://diplomatie.belgium.be/sites/default/files/downloads/evaluation_of_the_institutional_actors_policy_support.pdf)

SO5 (MRV)

The projects of the first MRV call (francophone Africa) have been finalised and a one-week closing workshop was organised in Cotonou (Benin). The second call, following the same philosophy but focusing on the regional level in the D.R.Congo, was launched and 11 projects were selected. Many of these were already discussed with the project partners by the relevant CEBioS programme officers during missions in the South. A lot of attention was devoted to (inter)national outreach and visibility of MRV processes and outputs (e.g. conferences, publication of policy briefs in preparation for the COP and of a scientific paper).

SO6 (Nagoya Protocol)

CEBioS and NFP were involved in several meetings on the Nagoya Protocol in Belgium and elsewhere. Replies to several requests on information about how to contact people in the countries to obtain PIC and MAT. OBPE in Burundi organised a participative process to reach a protocol of cooperation with the Ministry of health and the organisation of 'tradipraticiens' in order to valorise the use of traditional knowledge on medicinal plants in the spirit of the Nagoya protocol. This was presented as pioneering case study at the European Congress on tropical Ecology in Brussels in February 2017.

SO7 (coordination and management)

The staff has been enlarged with the recruitment of one new scientists, ir. Hilde Keunen, who focuses on administrative processes, SO5 (MRV) and the institutional cooperation with the 'Centre de Surveillance de la Biodiversité' at Kisangani (CSB, R.D. Congo). CEBioS organized 6 BIOPOLS meetings as well. Planning of 2017 and reporting of 2016 went smoothly. Integration into the management cycle of DO Nature was carried out. Due to the fact that CEBioS phase I is now reported for its third year, an overview of reached targets is provided in a rapid self-evaluation exercise, which can be helpful for the mid-term evaluation which will be carried out in 2017.

The functioning of CEBioS in 2016, which is the third year of the five year plan 2014-2018, has reached 100 % expenses before December 2016. The programme is now at cruise speed. The enhanced visibility and connection of the CEBioS programme with external actors and projects promoted a giving dynamics of cooperation and expertise development with increasing national and international recognition.

Luc Janssens de Bisthoven, coördinator, 6-06-2017

Part I - The year in brief

Background

The specific objectives of the programme are to build capacities to study and monitor biodiversity, share scientific and technical information and increase awareness (as well as understanding and ownership) of the importance of biodiversity for development.

The programme directly supports the implementation of the UN Convention on Biological Diversity in/by developing countries and of related national, regional and international biodiversity policy.

The 2014-2018 programme includes 6 strategic objectives:

1. To strengthen the **scientific and technical knowledge base** on biodiversity and on its linkages with ecosystem services and poverty reduction;
2. To enhance the **information base** on these issues and on associated governance processes;
3. To **raise awareness and communicate** on the importance of biodiversity and ecosystem services for poverty reduction and sustainable development, and on associated governance processes.

The Convention on Biological Diversity (CBD)

The objectives of the CBD are:
- the conservation of biodiversity
- the sustainable use of the components of biodiversity
- the fair and equitable sharing of the benefits arising from the use of genetic resources.

Our programme of work contributes to these objectives and to the following articles of the Convention:
- identification and monitoring of biodiversity (Article 7)
- research and training (Article 12)
- education and public awareness (Article 13)
- the transfer of technology (Article 16)
- the exchange of information (Article 17)
- the promotion of scientific and technical cooperation (Article 18)

The RBINS, with both its partners and DGD-D2.4. and other departments aims:

4. To improve the **mainstreaming of biodiversity and ecosystem services** in policy sectors that have a high relevance for development;
5. To improve the knowledge on the **measurement, reporting and verification (MRV)** of policy choices and activities linked to biodiversity and ecosystem services;
6. To raise awareness on, and build capacities for, the implementation of the **Nagoya Protocol (NP) on Access and Benefit Sharing (ABS)**.
7. The last programme component is the **Programme Coordination and Management (COORD)** devoted to coordination and management, as well as transversal issues such as project communication, networking and outreach.

Rapid self-evaluation after 3 years

Three questions asked by DGD were reflected upon and are answered in the following tables.

1. Framing the activities in the 5-year program: is the program on track or not? How do the activities of 2016 contribute to the expected results in 2018?

2. An analysis of the effectiveness of activities: were activities conducted well? Did something go not as planned or expected? What are lessons learned and do we need adaptations for the next 2 years?

3. What was the added value of the activities in terms of sustainable (human) development?

The questions were answered by CEBioS staff and counter-checked by the coordinator, and then presented at the steering committee of 29 May 2017. Some IRs in SO1 refer rather to achievements in 2016, as part of the general achievements towards the targets of the log frame. The other SOs refer rather to the 3 years 2014-2016.
The colour icons were added to give a rapid overview of degree of achievement. Orange means 'targets in view (that means in 2016 already 60% achieved) by the end of 2018' and green means targets already reached or certainly to be reached in 2018'.

1. Framing the activities in the 5-year program: is the program on track or not? How do the activities of 2016 contribute to the expected results in 2018?

IR	Output indicators	SO1, knowledge, science	Self-evaluation 2014-2016 (60%)
1.1. GTI extern	1.1. (GTI extern) National authorities use the information provided by SO1 in the national indicator process • 12-18 students trained / year will produce: 8 posters and/or oral presentations given at national or international events/ year; • 5 publications in scientific journals or general media/ year; • 3 who graduate (Master or Ph. D.)/ year;	2016 The program is fully on track. In 2016, 13 young researchers benefitted from our support to improve their taxonomic skills with GTI research visits in Belgium. Regarding the outputs, a total of 13 articles were published in Peer reviewed journals by our GTI alumni in 2016 (see full list on our website here http://www.taxonomy.be/gti_calls/grants_awarded/publis-gti/2016)./Some of our GTI alumni's achievements in 2016:-GTI alumnus lecturer position at the Université Peleforo Gon, in Korhogo, Côte d'Ivoire. -GTI alumnus successfully defended his Ph.D. at the Faculté des Sciences, Université de Yaoundé 1, Cameroon./ -GTI alumnus was granted a one-year Fellowship from the Japan Society for the Promotion of Science (JSPS)./-GTI alumnus from DR Congo presented a poster of his work on the ecology of Lake Kivu introduced populations of Lake Tanganyika Poecilid fish in Africa at	Targets reached 

		the Zoology2016 Congress, University of Antwerp, in December 2016./Other example: access to CAMES	

IR	Output indicators	SO1, knowledge, science	Self-evaluation 2014-2016 (60%)
1.1 GTI extern	1.1. (GTI extern) National authorities use the information provided by SO1 in the national indicator process • 12-18 students trained / year will produce: 8 posters and/or oral presentations given at national or international events/ year; • 5 publications in scientific journals or general media/ year; • 3 who graduate (Master or Ph. D.)/ year;	**In June 2016**, the **1st GTI alumni workshop** was organised in **Benin**. The main objective was to help GTI alumni produce **material for public awareness**, shared with managers of national CHM websites who posted them on their websites to reach a broader audience. See here for more info: http://www.taxonomy.be/projects/gti-alumni-workshop-2016 Finally, we launched our **first awareness call dedicated to GTI alumni,** so that they can share their research results **with relevant stakeholders**: fishermen, students, local populations, etc. A total of **10 projects** were selected. Some are not finished yet. Results and awareness raising material will be regularly uploaded online here http://www.taxonomy.be/gti_calls/grants_awarded/gti-awareness-projects/	**Targets reached**

IR	Output indicators	SO1, knowledge, science	Self-evaluation 2014-2016 (60%)
1.2.1. GTI intern	A 1.2.1. (GTI intern) •nr of trained students trained / year will produce ; •publications in scientific journals and general media; •graduates (Master or Ph. D.); •in-country training courses as multiplier effect and additional people trained. Results will be valorised through publication in renowned science journals. They	Results: In **2016**, 3 projects were funded in Benin, Burundi and South-East Asia. All these projects were successfully achieved. RBINS researchers provided *in situ* training in our partner countries as expected. Among the 13 publications of 2016, some were written by promoters and partners of these projects.	**Targets reached**

	will also be used under SO1.4. A and B to produce vulgarisation tools.	Reports are available online here: http://www.taxonomy.be/gti_calls/grants_awarded/grants-rbins-2014	

IR	Output indicators	SO1, knowledge, science	Self-evaluation 2014-2016 (60%)
1.2.2. RDC, Benin, Burundi habitat monitoring	B •At least one training per country is organized and is followed by two applications campaigns on the field. 30 people trained in the habitat monitoring, •Syllabi produced and/or updated (see also 1.4.B) •equipment purchased. •4 articles published in peer reviewed journals, •4 lexicons will be finalized and used, see also SO1-4b	**2016**: 25 stakeholders, three from Benin, five from Burundi and 17 from DR Congo participated in a **regional workshop** held in the PNKB. The workshop **boosted the Beninese team to intensify its work on monitoring the impacts of fires on habitats and ecosystem services in PN Penjari. T**he Burundians and the Congolese wished **to learn** from the UAC experience on fire so that they could be able to apply it in **Central african savannas**. *A regional workshop on the monitoring of fire should be planned in the future.* The **lexicon** dedicated to the habitats of the Kibira national park (Burundi) was released. Moreover, the official presentation of **the handbook published in 2013 on the PNKB was done during the regional workshop mentioned above.** This experience will make it easy to edit **3 other lexicons (PNRububu, Burundi; Itombwe Natural Reserve, DRC and PN pendjari), whose manuscripts are almost ready.**	**Targets will be reached** Cooperation with Benin diff. for implementat of monitoring, satisfactory for research BUR: tablettes failed, extern expert problem, however rest very satisfactory

IR	Output indicators	SO1, knowledge, science	Self-evaluation 2014-2016 (60%)
1.2.2. RDC, Benin, Burundi habitat monitoring	•over 5 years : 2 PhD students, •6 master students finalised their thesis, •5 oral contributions (participation to meetings, conferences, lectures, seminaries…) •5 information exchange sessions have been organised in relation with	**2016** Jean-Claude Rizinde Hakizimana (UNIGOM) complete the data of his DEA memoir that he presented successfully at the UNIKIS on the "Inventory and Ecology of Edible mushrooms in the North Sector of the PNVi". At least a total of 4 theses of this level have already been achieved during the triennium 28 papers were presented at the workshop of the Mycologists Network in Great Lakes Region	**Targets reached**

	poverty reduction related subjects of the studies.	(http://mycorgl2016.jimdo.com/programme/) - Belspo programme . . http://www.kaowarsom.be	

IR	Output indicators	SO1, knowledge, science	Self-evaluation 2014-2016 (60%)
1.2.3- UNIKIS & CSB, RDC	C•3 PhD students identified •3 PhD students/year followed training supervised by expert in Belgium/ elsewhere (total=15) •For 3 PhD students: 1 local visit/2years by supervisor (total=9) •1 'atelier de restitution'/year for the 3 PHD students after their training framed in the context of poverty reduction related subjects of the studies (total=4+the PhD defence) •2 publications in scientific journals/PhD student (total=6).	Done Done Done	**Targets reached**

IR	Output indicators	SO1, knowledge, science	Self-evaluation 2014-2016 (60%)
1.2.4. Marine modelling	1. D•A review of the presentation of the specific research questions of the partner institutes 2. •Number of scientific output (presentations, conference) 3. •Strategic management plans concerning Coherens for the institute and local authorities 4. •Number of qualified trainee ex-post reports within the visitors programme	• , **Vietnam** on track, but some delay with particle model and management plan integration, policy brief to be made • **Peru** closed, policy brief in making, integration in management plans on-going • **Benin** started • **Tanzania,** Senegal to be explored 1. All **research questions** from Peru were discussed on stakeholder meetings and the theses were accepted. In Vietnam all projects should pass the central body of the governmental research institute in order to be co-funded. 2. We are well on track with **publications** and **other scientific output**. Courses (1): COHERENS is used as a tool to practice the study of fluid dynamics at the University of San Marcos. The **course** is given by Jorge Quispe and is called' Geophysical Fluid Dynamics and Wave Propagation' or in spanish Dinámica de Fluidos Geofísicos y Propagación de Ondas. Thesis (2) Conferences (6) 3. V. Vijith has taken up a professor teaching position at the university of Cochin Bangalore and is planning to teach his students marine modelling with COHERENS	**Targets due to be reached**

	5. •3 policy briefs are to be produced by the partners 6. •Documentation of the Developed modules for COHERENS available.	4. An ex-trainee (prof. Syamsul Rizal) has organized a course about marine modelling so there are a lot of indonesian students downloading and working with marine modelling codes. Peru is in close contact with several authorities. 5. Peer reviewed articles. In progress, the first drafts of policy briefs are ready for Peru. 6. A 'Coherens for dummies' documents was developed as well as 'how to' documents are made available through the forum and web-site	

IR	Output indicators	SO1, knowledge, science	Self-evaluation 2014-2016 (60%)
1.3. Monitoring data is fed into national indicator processes	in at least 4 partner countries of the Belgian development cooperation data from monitoring activities are integrated in at least one of the indicators for the follow up of the respective national strategy.	See MRV SO5	Redefine
1.4. Lexica and abcTaxa	•At least 5 Abc Taxa manuals have been produced during the 5-year period dissemination per volume •Supporting/disseminating materials formerly produced •4 lexicons, •Syllabuses produced and/or upgraded, •participation by staff members in 5 events relevant to taxonomic popularisation tools development/capacity building. •feedback on the use of courses available. •results of at least 5 projects and public awareness activities under SO1-1 and SO1-2 are published on the internet on www.taxonomy.be or a national CHM website if available.	3 lexica published, 3 more to come 3 abcTaxa published, 1-2 to come before end of 2018 Publications of results in web	**Targets can be reached Lexica on track/ abcTaxa will maybe reach target of 5 volumes** 

IR	Output indicators	SO2, Information flow, CHM	Self-evaluation 2014-2016 (60%)
2.1. Expertise in information	1. 10 national training workshops, 2. 120 persons trained,	1.14 national and follow-up training workshops have been organized since the start of 2013 2.265 persons trained	**Targets reached** 

management is built	3. follow-up training has been organised in at least 8 partner countries. 4. 5 countries participate in the information management/ CHM network through South-South Cooperation (SSC) with one of our partner countries. 5. 70 % of the partner CHM sites have 20 pages added or updated /year. 6. Tool to follow-up the implementation of the national strategy is actively used in at least 5 countries	3.Follow-up training has been organized in 4 countries (Togo, Côte d'Ivoire, Tanzania, RD Congo) 4.5 countries participate (Jordan, Sudan, Gabon, Liban, Yemen) 5.Most countries have added 20 + pages each year. Only Burkina Faso and Mali haven't. 6.3 countries are using the tool (Morocco, Benin, Burundi) The tool is picked up by the MEA Knowledge management workgroup, EU and Switzerland. Till the development is satisfactory no new countries will be initiated.	

IR	Output indicators	SO2, Information flow, CHM	Self-evaluation 2014-2016 (60%)
2.2. Information flows are improved	1. CHM websites running and regularly updated: 50% of websites updated Alternative indicator : information added on the CHM partner websites during 2014-2018 has increased with 20 % compared to the period 2008-2012. 2. •Number of information meetings with different stakeholders in partner countries 3. •INECN strengthened : CHM website updated on a regular base (pages added/year and number of visitors per year compared to baseline of 2012), Library documented and used (number of books added in the library database, number of visitors to the library), 5+ scientific bulletins published	1.At this moment all websites are updated regularly except Mali. Mali's trained person has changed position and we stop for the time being the cooperation as this was the third person trained in 5 years. 2.> 14 information meetings have been organized in the partner countries 3.More than 300 pages added per year. Due to the civil strife in Burundi between 2014 and now the person responsible for the library fled the country. No replacement has been nominated yet. 2 items of bulletin published	**Targets reached** Issue of weak Burundi, but maintains satisfactory level 

IR	Output indicators	SO2, Information flow, CHM	Self-evaluation 2014-2016 (60%)
2.3. Information is used to advise governance processes	1. •Level of activity of the network of partners: One regional workshop organised, 2. •number of participation in EU and global governing activities by Be and partner countries. 3. •EU tool for the follow up of the reporting on the national strategies is used in at least 5 countries for the reporting to CBD, related biodiversity Conventions and agreements. 4. •Number of information meetings with different stakeholders in partner countries.	1.3 regional workshops have been organized 2.No exact number for the partner countries can be given other than the participation paid for by CEBioS to COP. 4 persons have been paid for directly. CEBioS staff has participated in more than 4 international meetings each year 3.3 countries are using the tool (Morocco, Benin, Burundi) The tool is picked up by the MEA Knowledge management workgroup, EU and Switzerland. Till the development is satisfactory no new countries will be initiated 4.> 14 information meetings have been organized in the partner countries	**Targets reached**

IR	Output indicators	SO3, awareness	Self-evaluation 2014-2016 (60%)
3.1.Baselines provide an insight on the level of awareness and/or commitment.	1. Number of public awareness projects completed, 2. At least 3-5 countries will reply to the special call for projects and develop indicators for public awareness. 3. In 2018 and 2019 these countries and countries that did their baseline studies and indicators development in 2011-2012 will receive can submit projects for funding to redo the same studies as undertaken in the first years. This will facilitate them to	1.For the baseline studies 2 studies have been finalized at the time of this report. Benin and Burundi. Togo and DR Congo are undertaking their study under 2016 financing but haven't completed yet. 2. 5 countries : 4 countries from point 1 as well as Morocco. 3.As it isn't yet 2018 this point can't be reported on. However 2 of the countries that did their baseline study in 2011 and 2012 aren't any longer in the list of	**Targets due to be reached**

	study effects and change in conception of the Public awareness work done under SO3.2.	priority countries and will not be able to do this study in 2018 with our financing.	
3.2. Awareness and engagement are raised	1. Indicators on public awareness show a positive development between 2014 and 2018. 2. PA Materials are developed and used in different countries.	1.This can't be evaluated yet 2.PA materials are being developed however there isn't yet a take-up by one country of the materials developed by another country. This is in the pipe-line for Benin, Burkina Faso and Niger.	**Targets to be evaluated** 

IR	Output indicators	SO3, awareness	Self-evaluation 2014-2016 (60%)
3.3 Communication and awareness raising in Belgium	• Number of people reached in Belgium through stands and events • number of related communication material (posters, brochures), • number of people attending awareness raising events or receiving material, etc.: 4-5 public awareness projects completed • Number of events with new stand • New stand • Number of awareness presence in events • Courses	• New stand, web site, brochures produced • Each year at least 2 events in Belgium attended with stand, brochures • Large event in 2015 with presence of Minister A. Decroo • Courses at several universities, companies and ministries • Games being developed • Videos produced and in production • Publications in GLO.Be and web sites • In 2018: CEBioS Phase I EVENT planned, new brochures abcTaxa, posters, policy briefs…	**Targets reached** 

IR	Output indicators	SO4, meanstreaming	Self-evaluation 2014-2016 (60%)
4.1.Expertise of Belgian Development Cooperation is built	1. 4 training workshops organised for the target groups decided by DGD, 2. Capacities of DGD to include biodiversity in ex-ante SEA and EIA for cooperation projects are raised.Increase of biodiversity protection measures in the development cooperation	1.1 training workshop organized so far as no other request received from DGD. In 2017 a second one will be organized 2.Several times CEBioS tried to get involved in the preparation of the PICs for partner countries. So far this was only possible in Mali. **Advice on prep. Meetings for Guinée, Burkina faso, Palestina Paper** on EIA in dev. Coop. submitted **Chennai** process, **IPBES** cap. Build., WIPEI, **Event 2015**, **visit DG of DGD**, **VVOB event** contribute to 4.1. as well.	**Targets need sustained effort in specific demands to be reached (DGD)** 
4.2. Biodiversity and ecosystem services are mainstreamed in activities supported by the Belgian Development Cooperation	1. Number of consultancy requests from DGD staff 2. Number of processes	1.Till 2017 only 1 official request was made for a PIC, however many smaller requests were made for input in other documents from DGD 2.CEBioS is participating in the processes of the CBD (2 COPS, 4 SBSTTAs, 1 WGRI, 1 SBI, 5 IAC meetings, +10 WPIEIs), UNESCO (…….), BES network, BID Network, IPBES, OECD	No clear targets, but many requests, so **estimated targets reached** 

IR	Output indicators	SO5, MRV	Self-evaluation 2014-2016 (60%)
5.1. Expertise of the RBINS on MRV is built	1. The EU reporting tool for NBS's is developed in cooperation with the CHM network 2. The reporting tool is used for the follow up of the implementation of national strategies and the reporting towards the Aichi targets	1.The tool is still being further developed and will be used to facilitate MEA reporting processes for common elements between the MEAs and the SDGs 2.The 6th national report will be started in 2017 with available information from the tool for Belgium	**Targets to be reached** 

IR	Output indicators	SO5, MRV	Self-evaluation 2014-2016 (60%)
5.2. Methodo lo-gies to assess progress towards the Aïchi Targets are available	• National indicators are developed and used for reporting towards the AICHI targets	-We are on track: 4 projects contributing to the integration of monitoring activities into indicators have been carried out in 3 countries: Benin, DRC, Burundi (Morocco: project halted while still in course for administrative reasons); 11 projects ongoing in DRC. The call for Anglophone countries (2017-18) will increase the number of countries involved. --These projects all follow up on at least 2 Aichi Targets and the corresponding national target or strategic priority axis of the national plan. -The structures responsible for the follow-up and reporting of NBSAPs (CHM and CBD focal points) of the respective countries are included in this process as project partners or jury members. -2 workshops have been organised (ca. 10 participants each) and 4 policy briefs stemming from the results in the different countries produced, in addition to local outreach activities of the individual projects; a similar workshop for the DRC is planned. Externally-funded workshops and other short-term training activities, mainly on monitoring techniques, reached an additional ca. 80 participants spread over 9 African countries.	After slow start due to lack of man-power, SO5 on track, **targets dependent on countries, to be reached in some** 

IR	Output indicators	SO6, P. of Nagoya	Self-evaluation 2014-2016 (60%)
6.1. The RBINS and DGD are familiar with the obligations under the Nagoya Protocol	1. Number of meetings on NP attended 2. Number of staff members aware of the implications of Nagoya Protocol 3. implementation: 2 members of staff trained 4. Researchers and other stakeholders are aware on the implications of the NP on their way to work.	1.6 CBD organized meetings have been attended (COP/MOP 1 and 2, 2 IAC meeting on Capacity building for the NP, 2 ABS-CH IAC meetings 2.25 RBINS staff have been familiarized with the NP, of these 5 CEBioS staff and 1 person of the NFP CBD. 3.2 staff members have been trained in the NP 4.NP introductory meetings have been organized for RBINS, MRAC, BGM and Be MOSAIC staff, participation in VLIR meetings on the NP for researchers Nagoya seminary at DGD planned in 2017	**After slow start due to lack of ratification, now at full speed Targets reached** 
6.2. Awareness of the scientific community and other stakeholders on the Nagoya Protocol is raised	1. A special section on the Belgian Clearing House on "Frequently Asked Questions on the Nagoya Protocol" has been developed and is updated regularly.. 2. Number of fliers 3. Number of information sessions	1.The special section has been added to Taxonomy.be for the time being as the NFP for NP hasn't officially approved the FAQ. They are updated regularly with questions received from researchers as well seed companies. 2.No flyer has been produced yet as Belgium only ratified the NP end 2016, there is no legislation in place yet. 3.6+ information sessions have been organized so far.	**After slow start due to lack of ratification, now at full speed Targets to be reached** 

2. An analysis of the effectiveness of activities: were activities conducted well? Did something go not as planned or expected? What are lessons learned and do we need adaptations for the next 2 years?

SO	Comments about effectiveness of activities: not as planned	Comments about effectiveness of activities: lessons learned and adaptations
1	1.1. GTI: 1.2.1. GTI: concern with nr. of experts 1.2.2. Habitats: lexica on track, however few reports from ICCN, Cenagref/ no success with PN mangroves	Device new eligibility criteria in calls/ further develop alumni network. Since we have a long lasting experience in the organization of short term trainings in Belgium (initiated in 2004 for GTI calls) and an efficient 'logistics team' in CEBioS, all activities could be successfully conducted. Trainings are evaluated by trainees and trainers and have been very positive so far. 'Openings' to external experts should be carefully weighed if needed. A possible needed adaptation would be if the list of partner countries would change. Reflect on stakeholder engagement, management and results based approach in RDC.

SO	Comments about effectiveness of activities: not as planned	Comments about effectiveness of activities: lessons learned and adaptations
1	1.2.3.Unikis/CSB: well on track	Reflect on international visibility and role of CSB, cooperation with BTC etc…: initial problems with English, data management, and data analyses were partly addressed through the VLIR CUI project in Kisangani. The financial aspects of the graduation (costs related to submission and defense of master and PhD theses) are unexpectedly high., and certainly not a problem that can solved locally. hence the budget of the two last year's foresees a adequate budget to deal with this issue.
	1.2.4. Marine: Peru was sometimes difficult but ended nicely with policy briefs	With Peru there were some issues with **communication** with local coordinator (English and working style), however highly motivated students. Vietnam: IMER is well on track, we are pushing on dissemination of the results.The development of a forum goes slower than expected and a protocol to make sure all questions are answered in time is developed.
	1.3. National indic.: is close to SO5 MRV	Redefine this IR and expected indicators and streamline with SO5
	1.4. Lexica & abctaxa: abctaxa has delays	Find strategy to attract potential authors/ lexica on track with BE, RDC & BU coming/ lexica Benin some delays/ few curricula

SO	Comments about effectiveness of activities: not as planned	Comments about effectiveness of activities: lessons learned and adaptations
2	The politics in Burundi cause some concerns. Some countries are weak and cannot reach a satisfactory level till now.	Most indicators are met or are on the way to be reached. Expand cooperation with VVOB to Kisangani. Work with WWF in RDC.
3	How to better link national focal points CBD and CHM?	Baseline studies to be followed up and repeated.
4	Policy support positively evaluated by DGE and Driss	Further contribute to mainstreaming in wake of reforms and MoU with BTC and others. FedtWin is opportunity.
5	MRV: distinction with 1.3. not clear	Redefine 1.3 and reflect on MRV
6	Activities, nationally, increased in 2016, while internationally SO6 is performing since 2014	Keep tempo nationally

3.What was the added value of the activities in terms of sustainable (human) development? (Ref. to Outcome indicators)

SO	Comments about added value in terms of human development
1.1. GTI Extern & 1.2.1. GTI intern	Biodiversity and ecosystem services are **better known**. This knowledge **enables policy makers** achieve a better management and sustainable use of biodiversity in the partner countries. **build their scientific skills** but also so that **their research brings an added value** to the knowledge of 'ecosystem services' in their homeland. See results of these projects here: http://www.taxonomy.be/gti_calls/grants_awarded/grants-taxonomists-partner-countries-2014/ They can **explain good practices** regarding pest control to small farmers, or **teach poor populations** which mushrooms are edible and can be cultivated… This is another key aspect of how taxonomy strongly helps achieving sustainable human development! See reports of these projects here: http://www.taxonomy.be/gti_calls/grants_awarded/gti-awareness-projects/ **Writing policy briefs** aimed at decision makers using the results of the GTI projects. The 1st policy t deals with **Insect biodiversity of Vietnam**. Other briefs will be prepared in the coming months, **to help achieve sustainable development in our partner countries…**

SO	Comments about added value in terms of human development
1	1.2.2. Habitats: **RDC** The work at **Itombwe, Kahuzi-Biega, Virunga, Luswishi and Ruzizi** on habitat monitoring in ICCN managed protected areas was fruitful: **ecogardes** are more aware, more knowledgeable, **managers** do more science based decisions, e.g. mapping of their area, inventory of their area, follow-up of habitats, use of drone. **Benin** The work at **Penjari** N.P. on habitat monitoring in CENAGREF managed protected areas was fruitful: ecogardes are more aware, more knowledgeable, managers do more science based decisions, e.g .mapping of their area, inventory of their area, follow-up of habitats. **Villages** (AVIGREFS) are more involved. **Large projects** start (GIZ, African Parks) **Burundi** The work at **Ruzizi, Ruvubu and Kibira N.P. and L. Tanganyika** on habitat monitoring in OBPE managed protected areas was fruitful: ecogardes are more aware, more knowledgeable, managers do more science based decisions, e.g. mapping of their area, inventory of their area, follow-up of habitats. Interest from **World Bank and EU.**

SO	Comments about added value in terms of human development
1	1.2.3.Unikis/CSB: UNIKIS and CSB have **become able to investigate the biodiversity** in the tropical rain forest linked to poverty reduction, both at the implementation level (research), as at the management level (reporting, analyzing trends and deciding on specific interventions). Their stays in Belgium, and attendance to international meetings have resulted in a **growing network** with the global scientific community, which has already led to scientific output and one succeeded and one ongoing attempt to extra-muros funding. CSB and UNIKIS are active in research in promising fields which can help support the, such as collection of mushrooms, fisheries, and the bushmeat trade. **local green economy, local communities more involved**

SO	Comments about added value in terms of human development
1	1.2.4. **Marine: IMARPE (Peru)** has had the **closure meeting and all funding stopped**, we remain in **contact**. The students of the course started with a facebook page about their experiences with marine modelling https://www.facebook.com/pg/GIHECOM/ In the wake of the closure another workshop about fisheries management was organized, three students are visiting a marine modelling conference in Chili. **IMER (Vietnam) is well on track and a midterm meeting showed progress about inter team communications.** 1. Indicator 1: Peruvian scientist have found their way to the fisheries industry and the government and are actively promoting the importance of well managed seas. Our Vietnamese colleagues are already well connected with governmental issues. 2. All researchers are trained to define a **clear research question related to biodiversity** and how they can explain their work to people not specialized in marine modelling. 3. The marine model was applied in **5 different ecosystems** and the development is well documented with research articles. Central themes are the effects of pollution, waste water pipes, algae blooms, temperature rise and coral bleaching on biodiversity. 4. A **forum** is put online and has gradually more and more users. It is a slow process. 1.3. National indic.: see above 1.4. Lexica & abctaxa: see above
2	Dynamising CHM focal points and ministries.
3	Promoting awareness raising to target publics and baseline studies as effective tools
4	Enhancing visibility of Belgium in international UN scene on biodiversity, and national recognition of CEBioS as a valuable partner.
5	Linking scientists with policy makers and authorities
6	Active on N.P. in Burundi! RDC: training in 2017 linking scientists and authorities! Belgium: cooperation with NFP and DG ENV.
7	CEBioS recognised, visible, nationally and internationally, + external funding (VLIR-UOS, ARES, BELSPO, GEF), results based management improved, staff expanded and more specialised, publications increased

Main milestones in 2016

1 JANUARY TO 31 DECEMBER 2016

19-24 January	27th training session for CHM administrators, Brussels. 2 participants from Iraq (paid by Iraq), given by H de Koeijer and M-L Susini Ondafe	SO2
01-03 February	Han de Koeijer, Luc Janssens de Bisthoven and M-L Susini Ondafe organised a capacity-building workshop for the managers of the CHM of French speaking African countries, in Cotonou, Benin	SO2
17-18 February	National training course for information exchange through the CHM and the TCT in Rabat, Morocco (H. de Koeijer and A-J Rochette)	SO2
03 March	M-L Susini Ondafe participated in the OECD - DAC Environet Informal working session on biodiversity mainstreaming in Paris, France	SO4
5 – 20 March	M Vanhove undertakes a capacity building mission to ex-Katanga Province (D.R.Congo) in the framework of a VLIR-SI with Unilu, and to explore collaboration with UL and UNIKOL.	SO5
04-06 April	M-L Susini Ondafe gave a national training on the use of the PTK for the contributors to the CHM in Abidjan, Côte d'Ivoire	SO2
19 April	CEBioS joins the educaid.be network and becomes member of the new project group dedicated to the environment (M-L Susini Ondafe is the co-leader of this group with Maartje Houbrechts)	SO4
25-30 April	M-L Susini Ondafe participated in the 20th Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA20) to the CBD in Montreal, Canada, with the Belgian delegation. She was the pilot on the item dedicated to 'Sustainable use of biodiversity'	SO4
25-April to 6 May	H. de Koeijer participated in SBSTT 20 and the First meeting of the Subsidiary Body on Implementation with the Belgian delegation with special emphasis on Capacity building.	SO4

02 - 23 May	F. Muhashy Habiyaremye: Mission in DRC at the ICCN General Directorate and in Kivu province, particularly in the Kahuzi-Biega National Park to prepare a regional workshop to share lessons learned on the monitoring of habitats dynamics during its implementation of this programme by ICCN, OBPE, UAC	SO1
7-28 May	K. Baetens received 2 visitors from Vietnam: advanced course on implementing sediments in a hydrodynamic model	SO1
20 May	CEBioS contributes to the event organised by the Belgian Focal Point to the Convention on Biological Diversity (CBD NFP) to celebrate the 20 years since which the CBD has been ratified by Belgium.	SO3, SO4
01-03 June	K Baetens and M-L Susini Ondafe organised a formulation workshop for the new cooperation between the RBINS (CEBioS) and IRHOB for the modelling of marine factors affecting the coastline using COHERENS, in Cotonou, Benin	SO1
06-09 June	A-J Rochette and M-L Susini Ondafe organised the 1st GTI alumni workshop, in Cotonou, Benin	SO1
11-15 June	K. Baetens received two visitors from Peru: Introduction to hydrodynamic models and advanced hydrodynamic modelling	SO1
15 - 21 June 2016	H. de Koeijer participated as EU expert in the Second meeting of the Informal Advisory Committee on Capacity-building for the Implementation of the Nagoya Protocol as well as in Second meeting of the Informal Advisory Committee to the Access and Benefit-sharing Clearing-House	SO6
3–9 July	Jean Didier Akpona (UAC), Benoît Nzigidahera (UNIBU), Anne-Julie Rochette, Maarten Vanhove and Erik Verheyen organise and present the *session Capacity building for biodiversity monitoring in Africa* at *GEO BON Open Science Conference & All Hands Meeting* (Leipzig, Germany).	SO5
24-29 July 2016	H. de Koeijer and M. Madbouhi organised the rirst regional training for Jordan, Palestine State and Syria. GIZ funded Jordan Participants, CEBioS the other countries participants.	SO2

26 July–12 August	M Vanhove undertakes a mission to Burundi and the D.R. Congo (South Kivu province) in the framework of different VLIR-UOS, MRV and ABS-NP interventions with OBPE, UNIBU and CRH-U and for a workshop on fish and fisheries monitoring in collaboration with the University of Basel (Switzerland).	SO5
14-30 August	F. Muhashy Habiyaremye: Mission in DRC, organisation of the regional workshop to share lessons learned on the monitoring of habitats changes during its implementation of this programme by ICCN, OBPE, UAC	SO1
10–25 September	VLIR-STI organised at Université Mohammed V (Rabat, Morocco) with Maarten Vanhove as co-promoter. Experts from Belgium, France, the USA, Cameroon and Ivory Coast; 25 participants from Benin, Burkina Faso, Cameroon, the D.R.Congo, Ivory Coast, Madagascar and Morocco.	SO5
18 September	CEBioS is present at Bruxelles Champêtre (Rural Brussels) on a common booth with the CBD NFP.	SO3
27 September	CEBioS and VVOB welcome school inspectors from D.R. Congo at RBINS for a half day about “L’éducation rencontre la biodiversité en R.D. Congo”.	SO3
27 September – 6 October	L Janssens de Bisthoven and M Vanhove undertake a mission to Burundi in the framework of different VLIR-UOS and ABS-NP interventions with OBPE, UNIBU and CRH-U.	SO1, 2, 3, 6
6–7 October	European One Health/EcoHealth Workshop (Brussels). CEBioS is part of the local organising committee, convenes a session on education and capacity building and sponsors the participation of two Congolese speakers.	SO1, 3, 4, 5
05 October	M-L Susini Ondafe participated in the OECD - DAC Environet Informal working session on biodiversity mainstreaming in Paris, France	SO4
16 – 24 October	Closing workshop of the first MRV project call, launched in 2015 (Cotonou, Benin) organised by A-J Rochette and M Vanhove together with the host institution (UAC).	SO5

30/10-08/11	F. Muhashy Habiyaremye: Mission in DRC, coordination of the implementation of the project funded by BELSPO to promote the mycologists networking in the Great Lakes Region of Africa	SO1
01-05 November	K Baetens and M-L Susini Ondafe organised a mid-term evaluation meeting of the collaboration with IMER in the use of COHERENS, in Hai Phong, Vietnam	SO1
20 Nov. -1 Dec.	At the CSB in Kisangani, Hilde Keunen accompanied the first discussions about an ACC between the CSB and the RBINS. A digitisation project for the CHM website (Kisangani) and a base line study on sensitisation indicators (Kinshasa) were launched.	SO7, SO2, SO3
01-16 December	M-L Susini Ondafe and H de Koeijer participated in the 13th Conference of the Parties (COP13) to the Convention on Biological Diversity, in Cancun, Mexico. M-L followed item 17 on 'Other scientific and technical issues, including synthetic biology, implications of the assessment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, and sustainable wildlife management'. H. de Koeijer was lead for Belgium and the EU on capacity building, Clearing-Houses, public awareness as well as traditional knowledge during the COP and the COP/MOPs.	SO4
4 – 11 December	L Janssens de Bisthoven, A-J Rochette and M Vanhove organise a stakeholder workshop in Mto wa Mbu (Tanzania) within a VLIR-NSS with NM-AIST, KU Leuven, UNZI and UWC.	SO1
15 – 17 December	M Vanhove attends the annual symposium of the Centre for Research and Conservation of the Royal Zoological Society of Antwerp and presents CEBioS' projects at the *Zoology 2016* conference (Antwerp).	SO1
19 December	RBINS and CEBioS received Mr. Bruno van der Pluijm, Director-general for Development Cooperation and Humanitarian Aid (DGD), together with a delegation from DGD.	SO7

Where we work

In 2016, we worked with many countries around the world, implementing capacity building activities ranging from individual and group training to helping partner institutions manage their day-to-day activities.

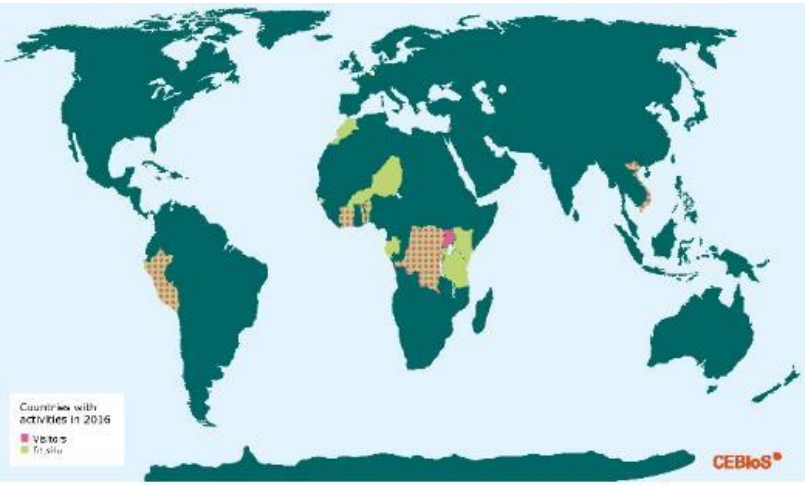


Fig. 1. World maps showing places of interventions of the CEBioS programme (above) and projects with external funding (under)

Projects per country

The following table presents projects per country, implemented in 2016.

Country	Project/activity	Strategic Objective
Benin	Institutional cooperation with Université Abomey-Calavi (UAC)	1, 2, 3, 5
	GTI external, 3 researchers+3 awareness projects	1
	First GTI alumni workshop in Cotonou	1
	GTI internal: Taxinomie, systématique et biodiversité des oligochètes des eaux souterraines du Bénin by P. Martin	1
	Formulation mission with IRHOB on marine modeling	1
	Amélioration du contenu et de l'audience du centre d'échange d'informations du Bénin	2
	Promotion de la coopération sous régionale pour la mise en œuvre du centre d'échange d'informations sur la biodiversité (CHM)	2
	Mise en œuvre du volet CHM du Programme de coopération scientifique UAC – RBINS: Phase 1	2
	Regional CHM workshop for francophone countries, Cotonou	2
	"Raising awareness of national stakeholders on the conservation of biodiversity in Benin".	3
	Informing and raising awareness of the population on the water pollution in Benin.	3
	CEIBA-ONG « Sensibilisation à la lutte contre la déforestation et la pollution autour du parc de la Pendjari »	3
	Nature Tropicale- ONG: « Projet de sauvegarde communautaire des tortues marines de l'atlantique et de leurs habitats le long du littoral du Benin »	3
	Closing workshop MRV, Cotonou	5
	MRV : Chaîne de valeur et connaissances traditionnelles de quelques plantes médicinales dans les grands centres urbains au Bénin	5
	Mise en place d'un système de suivi de la biodiversité au Bénin	5
Burundi	Institutional cooperation with Office Burundais pour la Protection de l'Environnement (OBPE)	1, 2, 3, 5, 6
	GTI external, 1 researcher + awareness projects	1
	GTI internal : Etude de l'influence de l'anthropisation sur l'abondance et la diversité des insectes pollinisateurs au Burundi by Benoit Nzigidahera (OBPE, Burundi)	1
	Renforcement des capacités du CHM-Burundais	2
	"Towards an effective awareness raising in the light of the conservation of biodiversity".	3
	Indicateurs pour le suivi de la tendance de la biodiversité au Burundi	5
	VLIR-UOS South Initiative on monitoring of Lake Tanganyika: 2 missions and 2 stages in Belgium	1
R.D. Congo	Négociations sur un Accord Cadre de Coopération avec le Centre de Surveillance de la Biodiversité (CSB), Kisangani, R.D. Congo	1, 2, 3, 5
	GTI external, 3 researchers + awareness projects	1
	Monitoring of habitats in Luswishi, Ruzizi, Virunga, Itombwe (lexicon on going)	1
	Regional workshop on monitoring of habitats (+Benin+Burundi)	1
	Implementation of the project funded by BELSPO 2015 to promote the international networking of federal scientific institutions (ESFS)	1
	Support of scientists at UNIKIS, CSB on ticks, bats and bushmeat	1
	CHM training courses (2x)	2
	Awareness project in cooperation with VVOB: Awareness raising on the role of sustainable agriculture for biodiversity in the technical agriculture teaching system	3
	Études floristique et ethnobotanique des plantes utilisées au quartier Guma à Kinshasa/Maluku	5

	MRV projects : SUD-KIVU, Suivi et caractérisation de la pêche au Lac Kivu/ SUD-KIVU, Renforcement des Capacités de l'Administration locale (Ministère de l'Agriculture, Pêche et Elevage, Ministère de l'Environnement et la police lacustre) en matière de suivi de la gestion de la pêche/ TSHOPO , Exploitation des poissons à Kisangani et ses environs en RDC/ KASAÏ-ORIENTAL , Diversité ichtyologique des espèces capturées dans la rivière Lubilanji au Kasaï oriental en R.D. Congo/ EQUATEUR , Les pêches durables dans l'hinterland marécageux et fluvio-lacustre le long du fleuve Congo, rivière Ikelemba et du lac Tumba de 2013 à 2016/ SUD-KIVU , Les menaces des crocodiles et des hippopotames de la plaine de la Ruzizi et les stratégies de leur conservation, Sud-Kivu/ TSHOPO , Projet de valorisation des données et de mise au point d'indicateurs de suivi de la Biodiversité en RDC: cas de la Viande de brousse/ TSHOPO , Exploitation de la viande de brousse dans la région forestière de Kisangani (R.D. Congo, Kisangani/ KINSHASA , Contribution à l'étude floristique des espèces végétales utilisées dans la production de charbon de bois/ KASAÏ-ORIENTAL , Contribution à l'étude de la filière bois énergie au Kasaï oriental, cas du bassin l'approvisionnement de la Lubi/KONGO CENTRAL , Le développement d'agro forêts comme alternative pour valoriser la production durable du charbon de bois autour de la ville de Boma dans le territoire de MUANDA.	5
Ivory Coast	GTI external, 3 researchers + 3 awareness projects	1
	National training course for information exchange through the CHM	2
	Collecte de données scientifiques sur la flore, la faune et les services écosystémiques de la zone refuge de la Biodiversité d'Agbaou (sud-ouest ivoirien) et Enrichissement du site CHM de la Côte d'Ivoire à partir des données collectées	2
	Education and raising awareness on invasive alien species in Côte d'Ivoire.	3
Togo	GTI external, 1 researcher + awareness projects	1
	Baseline study on indicators for public awareness, communication and engagement to measure the perception of the public toward biodiversity in Togo.	3
	Raising awareness and promote biodiversity to the principal stakeholders for the conservation of the biodiversity of Togo.	3
Uganda	GTI external, 2 researchers in cooperation with KLIMOS	1
Vietnam	GTI external, 1 researcher	1
	GTI internal : 'Fostering Entomodiversity research in Southeast Asia' by Jérôme Constant and Patrick Grootaert	1
	2 stages in Belgium and one mid-term evaluation technical mission at IMER on marine modelling	1
Cambodia	GTI internal : 'Fostering Entomodiversity research in Southeast Asia' by Jérôme Constant and Patrick Grootaert	1
Peru	3 stages in Belgium from University of San Marcos and IMARPE on marine modelling	1
Niger	National CHM training course	2
	Projet de sensibilisation des détenteurs des Connaissances Traditionnelles du Niger dans le cadre de la mise en œuvre du protocole de Nagoya sur l'Accès aux ressources génétiques et Partage des Avantages	3
Morocco	National training course for information exchange through the CHM and the TCT	2
	VLIR-UOS KOI summer school on aquatic systems, with many other African countries: Benin, Burkina Faso, Cameroon, D.R Congo, Ivory Coast, Madagascar	5
Jordan and The Palestinian territories	Regional Training Course CHM	2
Gabon	National training for the CHM in Gabon (trained by Morocco)	2
Kenya	RCEs Stakeholder Awareness and Sensitization on Biodiversity CHM Website	2
Tanzania	Promotion and operationalization of Tanzania national chm	2
	VLIR-UOS North South South on decision support system for Lake Manyara	1
Burkina Faso	Amélioration de la connaissance et de l'engagement des acteurs nationaux et du contenu du centre d'échange d'informations (CHM) du Burkina-Faso	2
Madagascar	Mise à jour du CHM pour le thème biodiversité côtière et marine et renforcement de la collaboration avec la République des Comores	2
Guinee Bissau	Raising awareness and environmental education of local development agents towards a sustainable management of biodiversity and natural resources in Guinea-Bissau.	3

Expenditure

Table 1: Expenses for all strategic objectives in 2016 (stand: 12 May 2017)

	Budget 2016	engaged	Realised	open	balance	% used
SO 1						
ER 1.1 – Scientific and technical expertise is built	60,000.00 €	67,746.95 €	67,746.95 €	0.00 €	-7,746.95 €	112.91
ER 1.2 – Quality scientific knowledge is produced	200,850.00 €	202622.72 €	188519.72 €	14103 €	-1772.72 €	100.88
ER 1.3 – Monitoring data yield indicators	20,000.00 €	9,345.89 €	7,511,89 €	1,834.00 €	10,654.11 €	46.73
ER 1.4 – Scientific outputs accessible	50,000.00 €	16,680.37 €	16,680.37 €	0.00 €	33,319.63 €	33.36
Salaries M.-L. Susini, F. Muhashy, M. Vanhove, K. Baetens, K. Vrancken (6+12+2+6+3 pm)	150,657.00 €	137,356.26 €	137,356.26 €	0.00 €	13,300.74 €	91.17
Total	**481,507.00 €**	**433,752.19 €**	**417,815.19 €**	**15,937 €**	**47,754.81 €**	**90.08**
SO2						
ER 2.1 – Expertise in information management is built	50,000.00 €	20,559.94 €	19,656.94 €	903.00 €	29,440.06 €	41.12
ER 2.2 – Information flows are improved	60,500.00 €	69,261.54 €	53,128.54 €	16,133.00 €	-8,761.54 €	114.48
ER 2.3 – Information used in governance	25,000.00 €	12,323.37 €	12,323.37 €	0.00 €	12,676.63 €	49.29
Equipment ICT & technical development	4,000.00 €	0.00 €	0.00 €	0.00 €	4,000.00 €	0.00
Salaries M.-L. Susini, H. de Koeijer, K. Vrancken (5+6 pm)	67,897.00 €	65,371.05 €	65,671.05 €	0.00 €	2,525.95 €	96.28
Total	**207,397.00 €**	**167,515.90 €**	**150,479.90 €**	**17,036.00 €**	**39,881.10 €**	**80.77**
SO3						
ER 3.1 – Baselines provide insight on awareness level	10,000.00 €	24,561.12 €	21.566.12 €	2,995.00 €	-14,561.12 €	245.61
ER 3.2 - Awareness and engagement are raised	75,000.00 €	103,355.97 €	81,310.97 €	22,045.00 €	-28,355.97 €	137.81
ER 3.3 – Communication and awareness raising in Belgium	5,000.00 €	9,090.49 €	9,090.49 €	0.00 €	-4,090.49 €	181.81
Salaries M.-L. Susini, H. de Koeijer, M. Vanhove, K. Vrancken (1+4+4+6 pm)	50,148.00 €	67,675.04 €	67,675.04 €	0.00 €	-17,527.04 €	134,95

Total	140,148.00 €	204,682.62 €	179,642.62 €	25,040.00 €	-64,534.62 €	146.05
SO4						
ER 4.1 – Expertise of Belgian Dev. Coop. built	8,000.00 €	0.00 €	0.00 €	0.00 €	8,000.00 €	0.00
ER 4.2 – Biodiversity is mainstreamed in BDC activities	10,000.00 €	6,319.79 €	6,319.79 €	0.00 €	3,680.21 €	63.20
Salaries L. Janssens de Bisthoven + H. de Koeijer (6+2 pm)	50,378.00 €	52,927.80 €	52,927.80 €	0.00 €	-2,549.80 €	105.06
Total	68,378.00 €	59,247.59 €	59,247.59 €	0.00 €	9,130.41 €	86.65
SO5						
ER 5.1 – Expertise of DGD and RBINS built	3,000.00 €	6,002.07 €	6,002.07 €	0.00 €	-3,002.07 €	200.07
ER 5.2 – Methodologies are available	20,500.00 €	21,740.59 €	20,260.59 €	1,480.00 €	-1,240.59 €	106.05
Salaries M. Vanhove, A.-J. Rochette (3+12pm)	38,236.00 €	59,527.71 €	59,527.71 €	0.00 €	-21,291.71 €	155.68
Total	61,736.00 €	87,270.37 €	85,790.37 €	1,480.00 €	-25,534.37 €	141.36
SO 6						
ER 6.1 – DGD and RBINS familiar with Nagoya Protocol	5,500.00 €	6,391.76 €	6,391.76 €	0.00 €	-891.76 €	116.21
ER 6.2 – Awareness is raised	19,500.00 €	19266.69 €	19266.69 €	0 €	233.31 €	98.80
Salaries M. Vanhove (3 pm)	17,163.00 €	17,624.08 €	17,624.08 €	0.00 €	-461,08 €	102.69
Total	42,163.00 €	43,282.53 €	43,282.53 e	0 €	-1,119.53 €	102.66
SO 7						
ER – Programme is efficiently, effectively managed	2,000.00 €	2,687.39 €	2,687.39 €	0.00 €	-687.39 €	134.37
Salaries L. Janssens de Bisthoven, V. Pinton, M. Agarad (6+12+12pm)	113,629.00 €	117.,497.90 €	117,497.90 €	0.00 €	-3,868.90 €	103.40
Total	115,629.00 €	120,185.29 €	120,185.29 €	0.00 €	-4,556.29 €	103.94
TOTAL GENERAL	1,116,958.00 €	1,115,936.49 €	1,056,443.49 €	59,493.00 €	1,021.51 €	99.91
Calculated with TMA of 7,75%	86,500.00 €	86,500.00 €	86,500.00 €	0.00 €	0.00 €	100.00
TOTAL GENERAL WITH STRUCTURAL COSTS	1,203,458.00 €	1,202,436.49 €	1,142,943.49 €	59,493.00 €	1,021.51 €	99.92

Expenditure analysis

For all large posts (representing 1,056,443.49 Euro or 99.91 % of total budget without structural costs), the maximum 15% deviation rule was respected. Some smaller posts saw

larger deviations, which will be compensated in the next years of the multi-annual scheme. The implementation of the year plan 2016 started on 1 January 2016 and ended on 31 December 2016. By December 2016, we attained a budget execution rate of nearly 100%. Due to the multi-year format of the programme, the remaining annual balances will be added to the 2017 budget and beyond (see annual plan 2017).

The distribution of expenses per type of activity

Table 2: Expenses for salaries, operations and equipment in 2016 (stand March 2017).

2016	Budget	Engaged	Realised	Open	Balance	% used
Salaries	488,108.00 €	517,979.84 €	517,979.84 €	0.00 €	-29,871.84 €	106.12
Operations	624,850.00 €	597,956.65 €	538,463.65 €	59,493.00 €	26,893.35 €	95.70
Equipment	4,000.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
Total without structural costs	1,116,958.00 €	1,115,936.49 €	1,056,443.49 €	59,493.00 €	4,000.00 €	99.91
Structural costs	86,500.00 €	86,500.00 €	86,500.00 €	0.00 €	0.00 €	100.00
Total with structural costs	**1,203,458.00 €**	**1,202,436.49 €**	**1,142,943.49 €**	**59,493.00 €**	**1,021.51 €**	**99.92**

Points of comments:

- All justifications of expenses are available for consultation at the RBINS. The RBINS certifies that these supporting documents, including those corresponding to expenses incurred outside Belgium (made by our local partners), correspond to the amounts reported in the general tables.
- Equipment: nothing spent in 2016, in the multi-annual budget, it compensates for the over expenditure of 2015.

SO 1 – Strengthen the scientific and technical knowledge base

Points of comment:

- No particular issues, budget is balanced.
- ER 1.3. and 1.4. : expenses less than 50% of (relatively small budget). A volume of AbcTaxa has been published in 2016, as well as a lexicon and several policy briefs. Three lexica (Bénin, RDC, Burundi) are in advanced state, but could not be printed in 2016. For Burundi, it is due to the security situation. For Bénin, it is due to the late start of the project in 2014.

SO 2 – Enhance the information base

Points of comment:

- SO2 and SO3 are often closely linked, as the same partners are involved in CHM and awareness. In some years CHM calls have more success, in other years awareness

calls. This year, SO3 on awareness had more activities and compensates with 146,05% of budget for the 80,77% of budget expenditure of SO2.

- National training depends on the request that we get from the countries. With the passing away of the national focal point of Guinea-Conakry, no new focal point has been installed, reason why the national training couldn't take place. Burkina Faso still hasn't finalised a 2014 project under SO2.2 and therefore was refused their national training.

SO 3 – Contribute to awareness raising

Points of comment:

- Same comment as in SO2
- With the closure of the 3-year cycles for the GTI and other projects we had decided at the start of the 5-year programme that their results should be shared through awareness raising activities with the general public as well as targeted publics. In 2016 this resulted in an over expenditure of the budget which was compensated with underspending in the period 2014-2015.

SO 4 – Improve the mainstreaming of biodiversity

Points of comment:

- Salaries well balanced
- Many activities, though with low costs as it often involves attendance to meetings in Belgium and reviews of documents in the office.
- No special requests from embassies have been received nor specialised training at the DGD headquarters. Travels were quite often booked on other SOs.

SO 5 – Improve knowledge on MRV (& indicators)

Points of comment:

- SO5 is over its budget, in a movement to compensate for under-expenditure in 2014-2015.
- SO5 also accounts for activities under 1.3.

SO 6 – Raise awareness & built capacities on ABS NP

Points of comment:

- Same comments as in SO4.

SO 7 – Coordination and management

No comments

External projects 2016

Table 3: External projects and origin of funding.

Project/ activity	South partners	North/global partners	Total Budget	CEBioS contribution
VLIR-UOS South Initiative: Monitoring of Lake Tanganyika (CEBioS is co-promotor)	OBPE, UB, Burundi	VUB	75000, 2015-2016	Two missions in 2016, closure of project in December 2016
VLIR-UOS North South South: Decision support system for lake Manyara (CEBioS is partner)	NM-AIST, Tanzania, UNZI (Un. Zimbabwe), UWC (S Africa)	KU Leuven, UGent	75000, 2015-2016	One closing workshop, closure of the project in December 2016
Belspo / International networking of federal scientific institutions	Mycologists Network of the Great Lakes Region of Africa (RMGL): Institutions: UOB, UNIGOM (RDC), OBPE (Burundi), UR-Ce (Rwanda)	Botanic Garden Meise	39940, 2016-2017	Implementation of the first phase of the project: a workshop was organized in Goma (DRC) and in the PNVi from 1 to 6 November 2016. 20 mycologists from Burundi, D.R. Congo and Rwanda participated.
VLIR-UOS VLADOC: Towards sustainable fisheries in Lake Tanganyika: integration of genetics, environmental data and stakeholder involvement (CEBioS is involved)	CRH-Uvira	KU Leuven	€ 145 000, 2016-2020	Co-supervision PhD student and capacity building and extension activities; formulation mission in August 2016
VLIR-UOS Short Training Initiative: Building an African network for sustainable management of aquatic biological resources supported by genetics and parasitology (CEBioS is involved)	Université Mohammed V, Rabat (Morocco), Université de Yaoundé I (Cameroon), Université de Ngaoundéré (Cameroon), Université Félix Houphouet-Boigny d'Abidjan (Ivory Coast)	KU Leuven IRD RMCA College of Charleston (USA)	€ 39 085, 2016	Two-weeks capacity building workshop in September 2016 for 25 African participants
VLIR-UOS South Initiative: Renforcement des capacités locales pour une meilleure évaluation biologique des impacts miniers au Katanga (D.R. Congo) sur les poissons et leurs milieux aquatiques (CEBioS is involved)	Unilu University of Limpopo (South Africa)	KU Leuven University of Antwerp	€ 74 960, 2014-2016	Capacity building mission and initiation of South-South collaboration in March 2016; MSc student supervision

South Initiative (VLIR-UOS) in Burundi

Surveillance de la dynamique de la biodiversité du Lac Tanganyika

See http://www.biodiv.be/cebios2/news/cebios-mission-in-burundi

Two staff members of the Royal Belgian Institute of Natural Sciences, CEBioS programme, Dr. L. Janssens de Bisthoven and Dr. M. Vanhove visited Burundi on 27 September-5 October 2016 in order to monitor and participate to the South Initiative (VLIR-UOS) "Surveillance de la dynamique de la biodiversité du Lac Tanganyika », as co-promotor. The promotor in Belgium is Prof. Ludwig Triest (Vrije Universiteit Brussel), and in Burundi, Prof. Joël Ndayishimiye (Université du Burundi) and the project (2015-2016) ends in December 2016.

The rationale of the project stems from a demand by the 'Office Burundais pour la Protection de la Nature (OBPE)' to install a rapid and effective biomonitoring system of the Burundese part of the coast of Lake Tanganyika, based on scientific evidence of the value of riparian habitats as hatching and nursery ground for pelagic fish, important for the local artisanal fisheries and hence as a source of income and protein for local communities. In order to install such a surveillance system, the multidisciplinary team focuses on eight littoral habitats with a variable degree of anthropogenic stress, distributed along the Burundese shoreline. The team explores both the water physico-chemistry, and a range of taxa to be used as bioindicators: algae, macrophytes and macro-invertebrates. Also the fish fauna of these habitats is inventoried. The lake suffers from pollution by the city of Bujumbura and artisanal palm oil processing, input by small streams with loads of sediments from erosion due to deforestation and overfishing by catamarans with light fishing of sardines at night and mosquito nets.
Moreover, the 'Centre de Recherche en Hydrobiologie' of Uvira in DR Congo was invited for a fruitful brainstorming with the colleagues from OBPE and Université du Burundi to explore transfrontier avenues of cooperation to better understand and monitor their common lake resources in a sustainable way.

Fig. 1 bis. Water analysis in Lake Tanganyika

North South South (VLIR-UOS) in Tanzania

Balancing water for biodiversity and socio-economic use in a changing climate: towards a Decision Support System for sustainable land and water use.
http://www.biodiv.be/cebios2/news/second-stakeholders-workshop-of-north-south-south-project-vlir-uos-integrated
The results of the first workshop (December 2015) were summarised in an abstract presented to SIL, 2016, Italy, by Prof. L. Brendonck, promotor North of the North South South Project between KU

Leuven, UGent (Un. Plymouth), Un. of Zimbabwe, Un. of Western Cape (South Africa) and NM-AIST (Tanzania, Arusha). CEBioS is co-promoter.

See abstract book, http://sil2016.it/files/3214/7272/2565/33rd_SIL_Congress_2016_-_Book_of_Abstracts.pdf

Fig. 1c. Participative multistakeholder workshop in December 2016 in Mto wa Mbu

Fig. 1d. The participants to the second and closing workshop of the North South South Project in Tanzania (December 2016)

CEBioS was present at the second workshop in December 2016 with Dr. Luc Janssens de Bisthoven, ir. Anne-Julie Rochette and Dr. Maarten Vanhove. The other project partners present were from KU Leuven (Belgium), NM-AIST (Tanzania), UWC (S. Africa), UNZI (Zimbabwe), Trias (Tanzania) and Plymouth University (UK). Participants to the workshop included the scientists involved in the project, representatives from the drainage basin, National Park Authorities, farmers, pastoralists, traditional leaders. Results from the studies conducted in the framework of the project were presented and involved research about soil erosion, lake biodiversity, remote sensing, socio-economic surveys, decision-support system, etc. The workshop was also the opportunity to introduce a new project coordinated by CEBioS: the 'EVAMAB' project on the evaluation of ecosystem services in Biosphere reserves, such as the Lake Manyara Biosphere reserve. A participatory exercise was developed, that aimed at prioritizing, analysing and mapping the ecosystem services in the area, and identifying potential management options.

Training activities

Fig. 2. Training in taxonomy at the RBINS (GTI), Hamed Olinaran Odountan from UAC, Benin, prepares his macroinvertebrate specimens for microscopic observation.

Training constitutes the core of the capacity-building programme. While formal academic education is provided by universities, the RBINS offers hands-on experience and advanced professional training. It takes the form of field and lab work for individuals or groups, workshops and distance learning.

Table 4: Overview of **training efforts in 2016** (number of trainees per programme component, activity and country).

Strategic Objective	INDIVIDUAL TRAINING IN BELGIUM	INDIVIDUAL TRAINING *IN SITU*	GROUP TRAINING IN BELGIUM	GROUP TRAINING *IN SITU*
SO 1.1- Scientific and technical expertise is built				
1.1.1 Visits in Belgium	Benin (3 people), Burundi (1), Côte d'Ivoire (3), D. R. Congo (3), Togo (1), Uganda (2) and Vietnam (1)			
S0 1.2- Quality scientific knowledge is produced				
1.2.1.(A) Taxonomic research is strengthened – *in situ* workshops				Benin (7), Burundi (3) Vietnam (5), Cambodia (5)
1.2.2. Cooperation with ICCN/PNKB				Recording of standardized observations on the vegetation to feed a data base on habitats dynamics (5) 2016
1.2.2. Cooperation with ICCN, OBPE, UAC				Regional workshop on the dynamics of Habitats, PNKB (24) 2016
1.2.3. (C) Cooperation with UNIKIS	D.R. Congo (3)			
1.2.4 Marine modeling			Peru(3), Vietnam(2)	
SO2.1 Expertise in information management is built/ training workshops				D.R. Congo (15), Morocco (23), Côte d'Ivoire (19) Jordan (20), Niger (4), Gabon (15)
SO2.3. Information used in governance			Lecture at VUB to 15 Master students about Biodiversity governance/ lecture at UGent to ±10 Ms students about taxonomy	Benin (18)
SO3.2				GTI Alumni Workshop (12)

SO5.2. Closing workshop of MRV projects VLIR-STI Local students or researchers attending workshops/seminars during VLIR-related CEBioS missions VLIR-funded internships in Belgium	Burundi (2), DRCongo (1)			Benin (5), Burundi (2), DRCongo (3) Benin (2), Burkina Faso (3), Cameroon (3), DRCongo (2), Ivory Coast (3), Madagascar (2), Morocco (10) 10 (Burundi), ca. 30 (DRCongo)

Distance learning

The process of 'distance learning' has continued in 2016. It took many forms, pending on the type of support needed by our partners. For the CHM, demand-based ad hoc support by e-mail for the web masters was provided regularly.

For the **GTI,** the approach is different. Taxonomy is a complex science that highly depends on the studied taxon, explaining why a single person cannot achieve distance learning efficiently.

Distance learning thus takes the form of sharing of resource material through our 'GTI reader' website (http://www.taxonomy.be/gti_course/). It also consists of sustained support throughout the year by the promoters of GTI projects and by the mentors of our trainees. In 2016, such support took the form of review and correction of draft scientific papers, translation of papers into English (or improving the quality of English), production of illustrations and maps, search for literature, etc.

Awareness raising

Awareness raising has a special SO however also in other SOs there are activities whose main activity is geared towards awareness raising or as a side –activity. One can think about the awareness raising of scientists on the Nagoya Protocol, interviews given for national television, radio or articles in newspapers, stands and more. The effect of these activities is not always tangible however it can have a big impact in the partner countries as well as in Belgium. A https://www.youtube.com/watch?v=SFh1cyTtrfo

was also created to present CEBioS activities.

In 2016, CEBioS organised the 1st GTI alumni workshop in order to help our former trainees produce communication and awareness material, using the results of their taxonomic research. See more details under paragraph S01-1.1 of this report.

This project was presented by M-L Susini Ondafe during the side event organised by CEBioS at the CEPA fair of the 13th COP, on 8 December 2016, in Cancun, Mexico.

The side-event was entitled 'Capacities for awareness in Africa: country cases'. The following speakers participated in the side-event:

- Han de Koeijer, CEBioS, RBINS, Belgium
- Marie-Lucie Susini Ondafe, CEBioS, RBINS, Belgium
- Hugues Adeloui Akpona, Direction Générale des Eaux Forêts et Chasse, Ministère du Cadre de Vie et du Développement Durable, Benin
- Adelard Mutombo Kazadi, Ministère de l'Environnement, Conservation de la Nature et Developpement Durable, DDD, R.D. Congo
- Director of the Office Burundais pour la Protection de l'Environnement, Ministère de l'Eau, de l'Environnement, de l'Eau et de l'Aménagement du Territoire et du Tourisme

Some further examples of awareness interventions:

- Poster sessions + oral presentations:
    - Han de Koeijer and Luc Janssens de Bisthoven, oral presentation of "Introduction to RBINS and CEBioS" during CEPA-Fair at COP 13, Cancun, Mexico, 08/12/2016;
    - Han de Koeijer and Luc Janssens de Bisthoven, oral presentation of "Introduction to RBINS and CEBioS" to group of Master students from UGENT visiting the RBINS. 22/12/2016.
    - Luc Janssens de Bisthoven gave a lecture about 'biodiversity governance' at the VUB in November 2016.

- Stands:
    - CBD NFP event to celebrate the 20 years since which the CBD has been ratified by Belgium 20/05, 200 participants, RBINS.
    - Bruxelles Champêtre/Landelijk Brussel, together with the CBD NFP: 18/09, 80.000 visitors, Place des Palais, Brussels.

Fig. 3. Flyer to invite attendees to the CEBioS side event during COP13

Part II. Institutional cooperation

Introduction

The institutional cooperation concentrates principally on OBPE (Burundi, previously INECN) and UAC (Benin). Both started a three year programme in 2014 and will end towards mid - 2017, when full reporting is expected. Therefore, the report for 2016 is postponed and only some intermediary reporting is given at this stage. For the institutional cooperation on marine modelling with IMER (Vietnam), IMARPE (Peru), and IRHOB (Benin), we refer to the chapter under SO1, 1.2.4.(D).
We also collaborated in the framework on the GTI (SO1), CHM (SO2), awareness (SO3) and MRV (SO5) calls with many other institutions. We refer to the respective chapters.

BENIN

Institutional cooperation with Université Abomey-Calavi (UAC)

UAC started a three year programme in 2014 and will end towards mid - 2017, when full reporting is expected. Therefore, the report for 2016 is postponed and only some summary is given at this stage.

Résultat de l'auto évaluation par Objectif :
Objective 1 :
Réalisé car les connaissances acquises avant le démarrage du projet étaient capitalisées.
Objective 2
Plus tôt satisfait car les dernières activités pourraient être réalisés avant le fin du budget 2016
Objective 3
Plus tôt satisfait : Il n'y a pas eu une thèse de doctorat à cause de manque de moyen ; Rapport 2016 reste à finaliser et la sensibilisation n'a pas pu se faire à cause de retard engendré au début du projet (retard pour signer le contrat).
Objective 4
Plus tôt satisfait : retard dans la signature du contrat c'est répercuté sur la collecte de données dans les années suivantes.
Objective 5
Mitigé: retard dans la signature du contrat c'est répercuté sur la collecte de données dans les années suivantes et alors ensuite sur les activités de cet objective.

Programme de coopération au Bénin :UAC-IRSNB
Cadre logique

Table 4 bis: Log frame, institutional cooperation with Université Abomey-Calavi in Benin. Colour code : in the text- red = not achieved, yellow = still on-going, to be achieved in 2017, green = achieved and closed. Colour of the cells in right column: red = not reached, but possible before end of 2017, yellow = not yet achieved, but possible in prolongation period until 2018, green = achieved and closed.

Logique d'intervention	Indicateurs	Sources de vérification	Hypothèses	Objectives atteints
Objectif général: Contribuer à l'amélioration des connaissances scientifiques et de leur transfert vers les acteurs cibles en vue d'améliorer la gestion de la biodiversité et la sensibilisation à sa conservation.				
Objectifs spécifiques: 1. Renforcer les capacités de l'université d'Abomey-Calavi à répondre aux préoccupations de la DPNP, et des AVIGREFs sur la gestion des feux et leurs impacts sur les habitats et la faune dans la Réserve de Biosphère de la Pendjari, tout en valorisant l'expertise de l'IRSNB. 2. Informer et sensibiliser les acteurs et les bénéficiaires des services inhérents au parc (entre autres CENAGREF et AVIGREFs) sur les valeurs de ces services écosystémiques. 3. Contribuer au réseau CHM national pour renforcer la coopération scientifique et technique.	L'UAC répond plus efficacement aux demandes du CENAGREF et des AVIGREFS en rapport avec la gestion des feux et des parcours Les gestionnaires et autres acteurs intègrent la composante biodiversité dans 75% au moins de leurs activités. Des supports de sensibilisation sont produits et des ateliers de sensibilisation sont organisés. Une baseline sur la participation au réseau CHM (site web, info …) est définie. La participation au réseau CHM a significativement augmenté par rapport au baseline 2012-13.	Rapport du comité de gestion du PN de la Pendjari Rapports annuels de l'UAC, CENAGREF et AVIGREF Articles de presse relatifs à la biodiversité et aux services écosystémiques supports de sensibilisation Rapports des ateliers de sensibilisation Statistiques par contributeur du site web CHM	Les synergies entre les directions du PNP, du CENAGREF, des AVIGREFs, et l'UAC sont optimales Le CHM est connu, valorisé, accepté et employé par l'UAC et les autres acteurs Le CHM est capable de répondre aux demandes des acteurs L'ambassade belge est tenue au courant des évènements et impliquée De nouvelles synergies et sources de financement sont explorées La GIZ est informée	

RI1 Les connaissances scientifiques pré-existantes et disponibles sont transférées vers les acteurs, y compris le CHM			La bibliothèque est fonctionnelle et les archives sont mises à disposition des utilisateurs Les chercheurs ont une attitude transparente et collaborative	Objectives atteints
1.1. Les chercheurs synthétisent leurs recherches passées	75% des études et travaux sur la thématique de feu et parcours sont synthétisés	Documents de synthèse	Disponibilité des documents de recherche	Flore Ecologique, Faune : Tous apporter au parc.
1.2. Les chercheurs informent les gestionnaires (DPNP et AVIGREFs) sur leurs résultats passés	1 atelier d'échange et d'information est organisé sur les résultats des travaux réalisés sur la thématique de feu et son impact sur les parcours et la faune	Rapport d'atelier, liste et évaluation des participants après l'atelier	Disponibilité des acteurs	
1.3. Les chercheurs contribuent au CHM	augmentation du nombre de documents de recherche et de gestion sur le CHM	Le site du CHM, protocoles d'utilisation, formation organisée (appels compétitifs annuels CHM)	Echange d'informations stable et spontané entre chercheurs et webmasters du site du CHM, réaction aux appels compétitifs	Document de synthèse doit encore être remis au CHM avant juin 2017
RI2 De nouveaux outils de gestion des feux et parcours dans des aires protégées sont disponibles pour un meilleur suivi			Un plan de gestion des feux et parcours est disponible et mis en oeuvre	
2.1. L'UAC et l'IRSNB simplifient les contenus des résultats scientifiques déjà disponibles ; ce qui facilite leur transfert vers les usagers	Une première édition d'un lexique portant sur les connaissances préexistantes est réalisée	Lexique 1ère édition	Intégration concrète de cette activité dans les occupations de l'équipe de l'UAC	1ère édition disponible en version électronique pas encore prêt pour être mise sur CHM

2.2. Le vocabulaire vernaculaire et les connaissances traditionnelles relatives à la biodiversité sont collectés, analysés et publiés.	Un document en trois langues (wama, gurmantchéman et biali) sur le vocabulaire et connaissances traditionnelles est disponible intégrant un guide d'utilisation du feu comme outil d'aménagement	Liste du vocabulaire et répertoire des connaissances traditionnelles Guide d'utilisation du feu comme outil d'aménagement	Partenariat bénéfique entre chercheurs et population locale	Disponible dans la version finale du lexique. Seulement révision en vue d'édition nécessaire
2.3. La méthode de collecte et de suivi des données est adaptée aux feux et parcours	Le protocole de méthode de collecte et de suivi est élaboré	Protocols disponibles,	Protocoles suffisamment distribués, expliqués et appliqués	Fiche LEM disponible
2.4. La méthode adaptée au point 2.3. est utilisée pour analyser l'occurrence des plantes dominantes des habitats	Les photos, planches, géo-localisations, herbiers, fiches de suivi	rapports de missions de collecte et de suivi	Matériel disponible (appareils photo, GPS,…)	Rapports 2014-2015 disponibles, 2016 en court prévu pour juin 2017
2.5 Sur base des résultats relatifs aux points 2.1, 2.2., et 2.3, le lexique est produit, et disponible en version électronique et papier, et distribué	1 lexique mis à jour est produit	Lexique	Les mandats et responsabilités sont clairs	Révision en court et prévu final vers juin 2017 et sera ensuite disponible sur le CHM

RI1 Les connaissances scientifiques pré-existantes et disponibles sont transférées vers les acteurs, y compris le CHM			La bibliothèque est fonctionnelle et les archives sont mises à disposition des utilisateurs Les chercheurs ont une attitude transparente et collaborative	Objectives atteints
1.4. Les chercheurs synthétisent leurs recherches passées	75% des études et travaux sur la thématique de feu et parcours sont synthétisés	Documents de synthèse	Disponibilité des documents de recherche	Flore Ecologique, Faune : Tous apporter au parc.
1.5. Les chercheurs informent les gestionnaires (DPNP et AVIGREFs) sur leurs résultats passés	1 atelier d'échange et d'information est organisé sur les résultats des travaux réalisés sur la thématique de feu et son impact sur les parcours et la faune	Rapport d'atelier, liste et évaluation des participants après l'atelier	Disponibilité des acteurs	
1.6. Les chercheurs contribuent au CHM	augmentation du nombre de documents de recherche et de gestion sur le CHM	Le site du CHM, protocoles d'utilisation, formation organisée (appels compétitifs annuels CHM)	Echange d'informations stable et spontané entre chercheurs et webmasters du site du CHM, réaction aux appels compétitifs	Document de synthèse doit encore être remis au CHM avant juin 2017
RI2 De nouveaux outils de gestion des feux et parcours dans des aires protégées sont disponibles pour un meilleur suivi			Un plan de gestion des feux et parcours est disponible et mis en oeuvre	
2.1. L'UAC et l'IRSNB simplifient les contenus des résultats scientifiques déjà disponibles ; ce qui facilite leur transfert vers les usagers	Une première édition d'un lexique portant sur les connaissances préexistantes est réalisée	Lexique 1ère édition	Intégration concrète de cette activité dans les occupations de l'équipe de l'UAC	1ère édition disponible en version électronique pas encore prêt pour être mise sur CHM

2.2. Le vocabulaire vernaculaire et les connaissances traditionnelles relatives à la biodiversité sont collectés, analysés et publiés.	Un document en trois langues (wama, gurmantchéman et biali) sur le vocabulaire et connaissances traditionnelles est disponible intégrant un guide d'utilisation du feu comme outil d'aménagement	Liste du vocabulaire et répertoire des connaissances traditionnelles Guide d'utilisation du feu comme outil d'aménagement	Partenariat bénéfique entre chercheurs et population locale	Disponible dans la version finale du lexique. Seulement révision en vue d'édition nécessaire
2.3. La méthode de collecte et de suivi des données est adaptée aux feux et parcours	Le protocole de méthode de collecte et de suivi est élaboré	Protocols disponibles,	Protocoles suffisamment distribués, expliqués et appliqués	Fiche LEM disponible
2.4. La méthode adaptée au point 2.3. est utilisée pour analyser l'occurrence des plantes dominantes des habitats	Les photos, planches, géo-localisations, herbiers, fiches de suivi	rapports de missions de collecte et de suivi	Matériel disponible (appareils photo, GPS,…)	Rapports 2014-2015 disponibles, 2016 en court prévu pour juin 2017
2.5 Sur base des résultats relatifs aux points 2.1, 2.2., et 2.3, le lexique est produit, et disponible en version électronique et papier, et distribué	1 lexique mis à jour est produit	Lexique	Les mandats et responsabilités sont clairs	Révision en court et prévu final vers juin 2017 et sera ensuite disponible sur le CHM

RI 3 Les connaissances scientifiques sur les feux et les parcours sont accrues et adaptées			Motivation des chercheurs et partenaires	Objectives atteints
3.1. La recherche sur les feux et parcours est effectuée	1 thèse de doctorat ; au moins 4 mémoires de master défendus avec succès	Thèse mémoire disponibilité des résultats pour base de données, CHM, publications, statistiques, matériel de sensibilisation	Disponibilité de bons candidats étudiants et encouragement des femmes bourse de doctorat disponible sur d'autres fonds	Pas eu candidat pour thése ; 3 masters défendus avec succès et 4 licences défendus ; en juillet 2017 3 autres masters seront défendus ; étudiants travaillent sur publications scientifique et présentations durant colloques
3.2. Les résultats des recherches sont transférés ou restitués aux gestionnaires du PN de la Pendjari (UAC, Cenagref, DPNP, Avigref)	2 ateliers de restitution au moins 5 présentations ppt, 5 posters et 5 plaquettes sont édités et mis à disposition des gestionnaires	Rapport des ateliers, listes des participants, présentations PowerPoint, évaluation des participants, documents édités	Participation des acteurs aux ateliers	
3.3. les nouveaux résultats sont disséminés et vulgarisés (étudiants, chercheurs, riverains des aires protégées)	Les résultats sont intégrés aux modules de syllabus pour étudiant et de matériaux de sensibilisation	Syllabus brochures, posters, , site du CHM	Bonne coopération entre le CHM et l'UAC	Atelier de restitution avec étudiants en mars 2017 ; formats de matériaux de sensibilisation seront édités vers juillet 2017 ; sensibilisation sera fait décembre 2017
RI 4 Le suivi de la dynamique des habitats au PN de la Pendjari par les gestionnaires est renforcé			Responsabilités bien établies	
4.1. Les gestionnaires sont capables de faire le suivi des habitats du PN de la Pendjari	Ateliers de formation sur les critères pertinents repris sur les fiches de suivi avec les gestionnaires du PN de la Pendjari et avigrefs	Fiche papier ou électronique établie Rapport de formation, listes des participants, évaluation des participants	Disponibilité des acteurs	Durant deux années il y a eu des formations avec établissement du fichier LEM, introduction sur son utilisation pratique ; renforcement des capacités en 2017 suite à l'atelier régional aux quel deux membres de l'équipe de gestion du PN Pendjari ont participé avec plus d'engagement.
4.2. Les gestionnaires appliquent les critères pertinents pour la collecte des données sur la dynamique des habitats et tiennent compte des résultats dans les plans de gestion du PNP	Au moins 75% des sites choisis sont suivis	Rapports des suivis de la DPNP rapports de suivi des AVIGREFS,	Disponibilité/Redéploiement des Eco-gardes pour le suivi	10 sites ont été rétenue pour la collecte au lieu de 14 suite à l'acessibilité ; collectes ont été fait 10 sur feux précoces ; 8-10 pour feux

				tardives ; en Aout 2017 les feux de contre saison doivent être fait. Rapports en tant que tel pas disponible mais dans une base de données de collecte des fiches. Trop tôt pour que les Eco gardes peuvent faire le travail eux-mêmes.
4.3. Une base de données sur le suivi de la dynamique des habitats est établie et utilisée à l'UAC par les chercheurs et étudiants. La base de données est partagée avec les gestionnaires	La base de données sur le suivi de la dynamique des habitats est fonctionnelle, accessible et utilisée	Statistiques des entrées des données	Disponibilité de matériels et ressources humaines	Fiches LEM sont encore en état d'encodage dans la base de données (fin mai 2017encodage des collectes entrées 2016)
RI 5 La sensibilisation sur la conservation de la biodiversité est réalisée			Fonds appropriés pour le CHM et autres canaux	
5.1. Les décideurs et élus locaux sont sensibilisés	atelier(s) de sensibilisation	rapport	Participation des acteurs à l'atelier	Outputs de la recherche seront utilisés prévus en 2017-2018 suite à la réception des résultats des recherches
5.2. Les riverains et les AVIGREFS sont sensibilisés	atelier(s)de sensibilisation	rapport	Participation des acteurs à l'atelier	Outputs de la recherche seront utilisés prévus en 2017-2018 suite à la réception des résultats des recherches
5.3. Du matériel de sensibilisation est produit et disséminé	Campagnes, posters, folders, etc…	Matériels de sensibilisation	Bonne coopération entre CHM et chercheurs, réponse aux appels compétitifs	Outputs de la recherche seront utilisés prévus en 2017-2018 suite à la réception des résultats des recherches
5.4. Le CHM relate les activités et partage les produits de sensibilisation	Statistiques du site web CHM	Enquête de satisfaction auprès des usagers, statistiques de visites sur le site	Connection internet	Outputs de la recherche seront utilisés prévus en 2017-2018 suite à la réception des résultats des recherches. Déjà des statistiques par rapport à l'activité R1

Burundi

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

For interventions by CEBioS staff, see Activity 1.2.2. (B). Supporting the monitoring of habitats for the management of ecosystems as well as SO2 (information) and SO3 (awareness)

OBPE is due to submit its annual report 2016 in May 2017. The following table is an intermediary report of activities based on the log frame of the project and discussed during an evaluation mission in March 2017.

Table 5: The following table is based on the log frame of the cooperation with OBPE (Burundi). The left column in green means 'finalised', in red means 'still to do' and in yellow means 'added as new complementary activity for 2016-2018'. Red text are further actual comments about the status of the activity.

	ACTIVITES
1	**IR 1 :** La dynamique des habitats et la biodiversité des aires protégées du Burundi sont mieux connues et comprises
1.1.	Collecte des données pour rendre compte des changements diachroniques
1.1.1.	Etablir un système fonctionnel de collecte des données sur les types d'habitats et leur évolution (progressive/régressive)
1.1.1.1	Suivi des types d'habitats et leur évolution (progressive/régressive)
1.1.1.2	Suivi des feux au niveau des quadrants existants mis en place par UNDP
1.1.1.3	Suivi des bambous au niveau des quadrants existants mis en place par UNDP
1.1.2	Renforcer la gestion des collections de flore, en particulier celle des plantes dominantes qui, en tant que telles, servent de référence pour la reconnaissance des habitats
1.1.2.1.	Renforcer l'herbarium de l'OBPE suivant les normes internationales (Référence au Projet BID volet Cofinancement)
1.1.2.2.	Renforcer des herbiers des Parcs Nationaux de la Kibira, Ruvubu et de la Rusizi
1.1.2.3.	Multiplier des guides et lexiques sur la flore et les habitats pour le suivi de leur évolution (Ruvubu et Rusizi)
1.1.3.	Mettre en place et à jour une base de données et transférer continuellement les données
1.2.	Renforcement des capacités en matière de recherche sur le suivi de la dynamique des habitats
1.2.1.	Former le personnel de niveau de base sur la collecte des données
1.2.2	Former le personnel de niveau supérieur sur la collecte, l'enregistrement et l'interprétation des données (formation sur base de données qui sera développée en juillet par un expert international)

1.2.3.	Organiser un atelier régional d'échange d'expériences sur les meilleures pratiques et les leçons apprises (en attendant l'avis de François)
1.3.	Promotion de la recherche sur les écosystèmes aquatiques des aires protégées du Burundi et les bio-indicateurs de leur état
1.3.1.	Conduire des études sur les indicateurs de la santé des écosystèmes aquatiques
1.3.2.	Conduire des études sur la typologie des macrophytes des milieux aquatiques (lac Tanganyika et vallée de la Ruvubu) (pour la formulation des indicateurs : déplacer vers le volet MRV)
1.4.1	Mener une recherche sur les Batraciens des milieux aquatiques (ajouté en 2016)
	Déplacement, logement et restauration d'un étudiant pour faire une étude sur la taxonomie des batraciens et leur rôle écologique en milieux aquatiques des Parc Nationaux de la Kibira, Rusizi, Ruvubu, de la Malagarazi et de Bugesera (En coopération avec Dr Olivier S.G. Pauwels, IRSNB)
	Outils de capture, de conservation et de transport et alcool
	Faire une visite pour la taxonomie des batraciens dans une institution spécialisée (Contacter Monsieur Pauwelset Marie Lucie pour la prise en compte du projet en 2017)
2	**IR 2: Les services écosystémiques (SE) dans les aires protégées du Burundi sont mieux compris et valorisés**
2.1.	Etudes sur les services écosystémiques du Burundi
2.1.1.	Conduire une étude bibliographique d'inventaire des SE au Burundi et définition des SE les plus pertinents pour 2.1.2.
2.1.2.	Mener une étude spécifique pour l'estimation de la valeur économique des SE sélectionnés sur base de 2.1.1. (formation sur l'évaluation économique, études d'évaluation, vérification des calculs : budget prévu en avenant 2014)
2.2.	Recherche en mycologie
2.2.1.	Mener une recherche sur la productivité de champignons sauvages comestibles sur base de recherche taxonomique (év. GTI) (Forêt de montagne)
2.2.2.	Mener une recherche sur la filière commerciale et communautaire des champignons
2.2.3.	Mener une recherche sur la restauration des zones déforestées sur base des essences autochtones en symbiose avec les champignons (Budget existant dans le projet avenant 2014)
2.2.4.	Organiser une formation des éco-gardes et les communautés locales sur l'exploitation rationnelle des champignons (Budget existant dans le projet avenant 2014)
2.2.5.	Mener des recherches sur la taxonomie des champignons (Budget existant dans le projet avenant 2014)

2.2.6.	Organiser la filière des champignons
2.3.	Recherche sur les pollinisateurs
2.3.1.	Mener des recherches sur la taxonomie des pollinisateurs (Demander à Marie Lucie si c'est prévu dans le budget)
2.3.2.	Mener une recherche sur l'apiculture écologique avec des espèces autochtones (meliponiculture)
2.4.	Recherche sur les SE des plantes
2.4.1.	Mener une recherche sur le rotin (palmier rotang) (Sensibilisation et développer projet pour la restauration : a deplacer dans le RI3)
2.4.2.	Mener une recherche sur le bambou (Organiser la filière, chercher source de financement, ONG?)
2.4.3.	Mener une recherche sur les macrophytes en milieu aquatique, typologie des 'wetlands' (lac Tanganyika et vallée de la Ruvubu) (pour la formulation des indicateurs : déplacer vers le volet MRV)
2.4.4.	Inventaire, caractérisation et cartographie des plantations forestières et agroforestières + banque de données y relative
3	**IR3 Des publics cibles sont sensibilisés à la biodiversité**
3.1.	Etude de base sur la perception de l'objectif 1 d'AICHI au Burundi
3.1.1..	Mener une étude sur le niveau d'implication des groupes cibles dans la protection des aires protégées
3.1.2.	Confectionner des outils de sensibilisation sur les aires protégées suivant les groupes cibles
3.1.3.	Organiser des séances de sensibilisation des populations riveraines des aires protégées par groupes cibles suite aux résultats de 3.1.1. et 3.1.2.
3.2.	Etude de base sur les enjeux du Protocole de Nagoya
3.2.1.	Mener une étude nationale sur le niveau de compréhension des groupes cibles sur les enjeux du Protocole de Nagoya et mettre en place un Cadre stratégique national y relatif
3.2.2.	Confectionner des outils de sensibilisation sur le Protocole de Nagoya suivant les groupes cibles (suite aux résultats 3.2.1.) (regarder l'atelier du 20 au 21 Mars 2017)
3.2.3.	Organiser des séances de sensibilisation des groupes cibles sur le Protocole de (suite aux résultats 3.2.1 et 3.2.2.) (regarder l'atelier du 20 au 21 Mars 2017)

3.3.	Etude de base sur les problèmes clés de la biodiversité
3.3.1.	Mener une étude nationale sur le niveau de compréhension des manifestations et des causes hiérarchisées des problèmes clés de la biodiversité par des groupes cibles (Evaluation des impacts des activités de sensibilisation pour le 6ème rapport national) juillet Août Septembre (Table ronde, lobbing, cadre dediscussion, des bailleurs et de décideurs pour l'intégration de la biodiversité dans les projets)
3.3.2.	Confectionner des outils de sensibilisation sur les problèmes clés suivant les groupes cibles (suite aux résultats 3.3.1.)
3.3.3.	Organiser des séances de sensibilisation des groupes cibles sur les problèmes clés de la biodiversité (suite aux résultats 3.3.1 et 3.3.2.) premier semestre de 2018 (code forestier, loi sur les aires protégées, etc.)
3.3.4.	Promotion écotouristique
3.3.4.1	Elaborer et multiplier un document pour la promotion écotouristique basé sur les résultats sur la valeur économique des SE (implication de l'ONT)
3.3.4.2.	Sensibiliser pour investir dans l'écotourisme
4	**Le CHM et le MRV sont renforcés**
4.1.	Diffusion continue sur le site web des informations sur la biodiversité
4.1.1	Assurer un approvisionnement continu en électricité
4.1.1.2	Inauguration officielle de l'approvisionnement continu en électricité avec panneaux solaires
4.1.2.	Assurer une connexion internet continue
4.1.3	Rendre fonctionnel le CHM et mettre régulièrement à jour le site web
4.1.3.1.	Former les différents Points focaux interinstitutionnels et autres partenaires sur Bioland
4.1.3.2.	Alimenter régulièrement le site web par tous les acteurs concernés
4.1.3.3.	Faire le suivi via entre autres l'organisation de réunions périodiques des Points focaux interinstitutionnels du CHM
4.1.4.	Recruter un consultant chargé d'appuyer le Point Focal du CHM dans la collecte et le postage des informations sur le site web du CHM
4.2.	Informations sur la biodiversité constamment diffusées sur des supports non web
4.2.1.	Publier et diffuser annuellement le bulletin scientifique de l'OBPE
4.2.2.	Publier et diffuser des documents pertinents dans le domaine de biodiversité

4.2.3.	Organiser une réunion biannuelle sur l'orientation du bulletin
4.3.	Amélioration du système de fonctionnement de la bibliothèque de référence en biodiversité
4.3.1.	Former continuellement des bibliothécaires sur l'utilisation du logiciel WINISIS et sur la recherche et la diffusion de l'information documentaire
4.3.2.	Organiser l'échange d'expérience pour explorer le fonctionnement des autres bibliothèques
4.3.3.	Numériser la cartothèque et la mettre en ligne
4.3.4.	Communiquer l''existence de la bibliothèque
4.3.5.	Disponibiliser un guide du catalogue, un lexique vernaculaire et un dictionnaire Anglais-Français-anglais
4.3.6.	Importer des livres dans le domaine de biodiversité (sur le lac Tanganyika et les écosystèmes centrafricains)
4.3.7.	Plastifier certains documents importants en détérioration à la bibliothèque
4.4.	Adoption de l'approche de Measuring, Reporting, Verification (MRV)
4.4.1.	Intégrer approche MRV dans le système de rapportage sur la biodiversité
4.4.2.	Adapter l'approche MRV sur les résultats obtenus des recherches aux points 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3
4.4.2.1.	Formuler des indicateurs sur base des résultats de la recherche sur les macrophytes en milieu aquatique, typologie des 'wetlands' (lac Tanganyika et vallée de la Ruvubu)
4.4.2.2	Mener une étude sur le statut de Cordia africana, Pterocarpus angolensis, Pterocarpus tinctorius, Raphia kalimacharica, Oxythenanthera abyssinica et établir indicateurs

Négociations sur un Accord Cadre de Coopération avec le Centre de Surveillance de la Biodiversité (CSB), Kisangani, R.D. Congo

Afin de pouvoir donner un appui au renforcement du Centre de Surveillance de la Biodiversité dans son rôle de *CHM secondaire* pour la RDC, l'RBINS a intensifié en 2016 les discussions sur un Accord Cadre de Coopération avec le CSB. Un tel accord permettra aux deux institutions de collaborer d'avantage, en plein consensus avec le Ministère congolais en charge de l'environnement, sur le plan du développement des nouvelles activités CHM, à dérouler le système MRV à travers le pays, à renforcer les activités de sensibilisation, à renforcer les collaborations avec le ministère de l'éducation primaire et secondaire à travers le VVOB etc. Ce rôle sera être confirmé par la Direction de Développement Durable du Secrétariat Général à l'Environnement et Développement Durable du Ministère de l'Environnement et Développement Durable dans un accord de coopération entre ses services et le CSB.

Les premières discussions sur cet Accord Cadre ont eu lieu en novembre 2016 à Kisangani, en présence des représentants de la Direction du Développement Durable du Secrétariat Général de l'Environnement de de Développement Durable du Ministère national en charge de l'environnement et les représentants de la Coordination Provinciale de ce Ministère. Le document final sera signé début 2017.

Part III – Detailed output per strategic objective (SO)

SO 1. The RBINS strengthens the scientific and technical knowledge base on biodiversity and on its linkages with ecosystem services and poverty reduction.

Background

Despite technological advances such as DNA barcoding or cyber taxonomy and large scale programmes such as the European EDIT or the United States' PEET project, taxonomic knowledge remains scarce and there seems to be only little, if any, speeding up of the rates of species description. Capacity needed to maintain and build taxonomy and taxonomic collections is fragmented or even non-existing in developing countries where the bulk of biodiversity is situated. Governments, through the Convention on Biological Diversity, have acknowledged the existence of this problem and have termed it the "taxonomic impediment". To alleviate this obstacle the Global Taxonomy Initiative (GTI) has been installed and made operational. One of the staff of the DGD-unit at RBINS is the Belgian focal point for GTI.

In Belgium, the Royal Belgian institute of Natural Sciences, as the National Focal Point to the GTI, coordinates and organizes the activities needed to implement the objectives of the GTI.

Activities focus on the provision and/or facilitation of taxonomic training both in Belgium and in partner countries: transfer of technology to selected institutions, delivery of taxonomic expertise to colleagues in the South, and liberation of taxonomic data via our website (http://www.taxonomy.be/). Whenever possible, we orientated activities such as research projects so as to favour the integration of a poverty-reduction vision. Through two of its former sub-programmes, "Tackling the taxonomic impediment" (GTI) and "Supporting biodiversity inventories, monitoring and assessments" (IMAB), our cooperation programme has long been strengthening the scientific and technical knowledge base on biodiversity. It has been doing so by capitalizing on the robust expertise of RBINS in the following aspects: i) the identification, monitoring and assessment of components of biodiversity (from taxonomic identification to ecological studies), (ii) the study and modelling of ecosystem functioning and (iii) the scientific foundations of conservation biology. Our mission of building scientific capacities in developing countries has proven efficient and will remain central in the coming framework programme.

Biodiversity is essential for general human well-being. The ecosystem services, i.e. the benefits derived from ecosystems, offer an exceptional instrument for conceptualizing the links between human development and biodiversity. Acknowledging the relevance of this perspective for poverty reduction, we are resolute in addressing it in our capacity building activities for the 2014-

2018 programme. Specific objective 1 will strive to improve the scientific and technical knowledge on the above mentioned linkages.

It should be noted that the programme provides short term capacity building without the objective of obtaining a degree (Ms or PhD). However, many scientists are in the process of obtaining their thesis through research and the programme directly contributes to obtaining this degree through access to tools, material and knowledge. Therefore, in the log frame the number of graduates is given as a target, albeit being indirect or 'proxy'.

Expected results

1.1. Scientific and technical **expertise** is built
1.2. Quality scientific **knowledge** is produced
1.3. Monitoring data is fed into **national indicator processes**
1.4. Scientific **outputs** are made accessible to users

Expected result 1.1 Scientific and technical expertise is built

Log frame (partim)

Expected results (output)	Output indicators	Report 2016
1.1 Scientific and technical expertise is built	National authorities use the information provided by SO1 in the national indicator processes 12-18 students trained / year	13 trainees visited Belgium (see table 4) In February 2016, GTI alumnus Zéphirin Tadu successfully defended his PhDPhDat the Faculté des Sciences, Université de Yaoundé 1, Cameroon, on the theme: Organisation spatiale des communautés de fourmis arboricoles tropicales: rôle structurant et importance du comportement prédateur. Selection of scientific outputs of actual or former GTI trainees in 2016: • 'Structure and Composition of Macroinvertebrates during Flood Period of the Nokoue Lake, Benin' by Hamed Odountan and Youssouf Abou, published in the Open Journal of Ecology, 2016, 6, 62-73 • 'Can Macroinvertebrate Assemblage Changes Be Used as Biological Indicator of Water Quality of the Nokoue Lake (Benin)?' by Hamed

	will produce: 8 posters and/or oral presentations given at national or international events/ year; 5 publications in scientific journals or general media/ year; 3 who graduate (Master or Ph. D.)/ year;	Odountan and Youssouf Abou, published in the Journal of Environmental Protection, 2015, 6, 1402-1416 • 'Detecting intruders: assessment of the anthropophilic ant fauna (Hymenoptera: Formicidae) in the city of Abidjan and along access roads in Banco National Park (Côte d'Ivoire)', by Kolo Yeo, Lombart MM Kouakou, Wouter Dekoninck, Kaly Ouattara and Souleymane Konate in the 'Journal of Entomology and Zoology Studies (JEZS)', 2016; 4(4): 351-359. • 'Change in termite communities along a chronosequence of mango tree orchards in the north of Côte d'Ivoire', by Coulibaly, Tenon; Akpesse, Akpa Alexandre Moise; Boga, Jean-Pierre; Yapi, Ahoua; Kouassi, Kouassi Philippe and Roisin, Yves; in the Journal of Insect Conservation, December 2016, Volume 20, Issue 6, pp 1011–1019. • 'Influence de l'activité des termites sur les propriétés du sol dans la région de Lamto (Côte d'Ivoire): mesure de la vitesse d'infiltration de l'eau et de la quantité de matière organique en conditions expérimentales', by Kanvaly Dosso & Foundiéré Kone, in the Journal of Applied Biosciences 105:10203 –10214. In 2016, one of our alumni Jans Morffe Rodriguez (Cuba) was granted a one-year Fellowship from the Japan Society for the Promotion of Science (JSPS). On 14/12/2016, Joseph Lushombo Matabaro from D.R. Congo presented his work on the ecology of Lake Kivu introduced populations of the Lake Tanganyika Poecilid fish, Lamprichthys tanganicanus in Eastern Africa. Selection of the scientific outputs of actual or former GTI trainees in 2016: Lushombo M, Masembe C, Nshombo M, Verheyen E. 2016. Distribution and abundance of the Tanganyika introduced killifish, *Lamprichthys tanganicanus* in Lake Kivu. Abstract (presentation), Zoology2016 Congress, University of Antwerp, 15-17 December 2016
Activities	**Report 2016**	
1.1.1. organise the external call, selection and mobility of 12-18 trainees per year	done	
1.1.2. follow-up of the young scientists for scientific output and graduation	done	

Table 6: log frame (partim) for SO1, 1.1.

Activities

Early 2016, the Belgian GTI NFP officially launched its 13th external call for proposals for capacity building in taxonomy and access to collections in Belgium. The call was open only for trainees who already benefitted from our support in 2014 and/or 2015, this enabled continuity in the supported research. We selected 14 visitors among our alumni. Taxonomists were once more invited in Belgium for a short training (4 weeks). The eligibility was based on the country and institution of origin, and the selection criteria were the scientific quality of the trainee/project, planned dissemination of the results, contribution to the conservation of biodiversity and/or ecosystem services; and how the research can participate in fighting poverty in the South.

These 14 taxonomists were students (Master/Ph. D) or young researchers/assistants in Universities. It was mandatory for them to belong to an official institution (research institution, university,…).

They came from the following countries: Benin (3 people), Burundi (1), Côte d'Ivoire (3), D. R. Congo (3), Togo (1), Uganda (2) and Vietnam (1).

Our visitors were trained at the RBINS, Meise Botanic Garden (MBG) and Université Libre de Bruxelles (ULB). See table 7 for the full list of trainees and details.

Table 7: List of guest researchers for the taxonomic training and access to collections in Belgium in 2016 (sorted per country). Students with * received complementary funding by other institutions to extend their stay.

NAME	COUNTRY	VISIT PERIOD	RESEARCH TITLE	TAXA	RELEVANCE TO DEVELOPMENT	AFFILIATION	TRAINING LOCATION
LAGNIKA Moïssou*	Benin	26.09 to 04.12.2016	Taxonomie et systématique des Oligochètes dulçaquicoles du Benin	Oligochaetes	Assessment of drinkable water + health issues	UAC	RBINS
LOKO YEYINOU Laura Estelle	Benin	14.08 to 10.09.2016	Diversité des termites (Insecta: Isoptera), principaux ravageurs des tubercules d'igname (Dioscorea sp.) et résistance des variétés locales au Benin	Isopteres	Pest management	UAC	ULB
ODOUNTAN Olaniran Hamed	Benin	22.08 to 18.09.2016	Ecologie comparée des macroinvertébrés et bioindication de la pollution du lac Nokoué et du lac Ahémé.	Macro invertebrates	Assessment of drinkable water + pollution	UAC	RBINS
NDAYIKEZA Longin	Burundi	Visit postponed to 2017	« Etude de l'influence de l'anthropisation du milieu écologique sur la diversité des pollinisateurs autour des Parcs Nationaux de la KIBIRA ET RUVUBU au Burundi ».	Bees	Pollination + agriculture	UB	RBINS
DOSSO Kanvaly	Côte d'Ivoire	04.09 to 01.10.2016	Initiation à l'utilisation du microscope morphométrique et aux techniques de dissection pour une identification aisée et fiable des espèces de termites	Termites	Bio-indicators + agriculture	Université Nangui Abrogoua	ULB
KOUAKOU Lombart Maurice	Côte d'Ivoire	11.09 to 08.10.2016	Assessment of the diversity of native, exotic ant species and identification of	Ants	Invasive species	Station d'Ecologie de LAMTO	RBINS

			potential invasive ant species in Côte d'Ivoire				
YIAN Gouvé Claver	Côte d'Ivoire	06.11 to 03.12.2016	Taxinomie, Ecologie et Services Ecosystémiques des Macromycètes du Parc National du Banco	Mushrooms	Food	Université Félix Houphouët-Boigny	MBG
LUSHOMBO Joseph Matabaro	D.R. Congo	20.11 to 17.12.2016	Comparative molecular ecology of native and Lake Kivu introduced populations of the Lake Tanganyika Poecilid fish, *Lamprichthys tanganicanus*, Eastern Africa.	Fish	Food + sustainable fisheries	Université Officielle de Bukavu	RBINS
BIRINGANINE MUGOLI Elisabeth	D.R. Congo	06.11 to 03.12.2016	Diversité et écologie des champignons comestibles des forets à Michelsonia et Uapaca dans le massif d'Itombwe (R.D. Congo)	Mushrooms	Food	Centre de Recherche en Sciences Naturelles de Lwiro	MBG
KASONGO WA NGOY KASHIKI Bill*	D.R. Congo	16.10 to 15.12.2016	Etude de la systématique, la taxonomie et la microscopie des champignons du Katanga (RD. Congo)	Mushrooms	Food	Université de Lubumbashi	MBG
AGBESSENOU Ayaovi	Togo	06.11 to 10.12.2015	Establishing the taxonomic identity of sweet potato weevil Cylas species-complex (Coleoptera: Brentidae) in four West African Countries.	Insects	Pests + agriculture	University of Ghana	RBINS
NATURINDA Zerubabeeli	Uganda	04.09 to 01.10.2016	Sustainable land use and resilient livelihoods in the landslide-prone region of Mount Elgon, Uganda (SureLive)	Ants	Agriculture + sustainable land use	Busitema University	RBINS

MUHEREZE Ronald	Uganda	04.09 to 01.10.2016	Sustainable land use and resilient livelihoods in the landslide-prone region of Mount Elgon, Uganda (SureLive)	Ants	Agriculture + sustainable land use	Busitema University	RBINS
DO MANH Cuong	Vietnam	20.11 to 17.12.2016	Prioninae of Vietnam, Taxonomical Revision and Distribution	Insects	Conservation + management of protected areas	Institute of Prevention Medicine	RBINS

Fig. 4. Gouvé Claver YIAN from Côte d'Ivoire observing his mushroom dissections under the microscope at the MBG (Photo@M-L Susini)

The trainings were evaluated by having tutors and trainees filling out evaluation forms. Each trainee is asked to evaluate his visit (logistics, housing, tutoring, material he could use at the lab, etc.). A second evaluation form is sent to the Belgian tutors in order to have a feedback on the trainees. All the received reports so far give very positive replies, both from the trainees and the tutors. It encourages us keeping on doing our best to make the trips and stays in Belgium as smooth as possible and offer the best possible access to the rich knowledge and facilities offered in Belgium in the field of taxonomy.
We also ask each trainee to send a scientific report of his training at the latest one month after he returned to his home country.

An overview of the projects carried out by our visitors along with their scientific reports can be found on our website (projects going on since 2014 until now) http://www.taxonomy.be/gti_calls/grants_awarded/grants-taxonomists-partner-countries-2014).

In 2016, we continued our alumni programme and maintained contact with our former visitors and trainees. We are pleased to announce that Zéphirin Tadu, one of our GTI alumni, successfully defended his Ph.D at the University of Yaoundé I, Cameroon, in February 2016. He sent the Belgian GTI team his acknowledgements and expressed the fact his GTI trainings were decisive for his work.

We received information on other types of outcomes of our programme, such as scientific publications, popularisation communications and/or recommendations for management/action. All the relevant information is disseminated on the 'News' section of our website here http://www.taxonomy.be/news. For example, Dr Tenon Coulibaly, a GTI alumnus, got a lecturer position at the Université Peleforo Gon in Korhogo, Côte d'Ivoire. Dr Tenon Coulibaly benefitted from the GTI support twice in 2012 and 2013. He worked on the diversity of termites (Insecta : Isoptera) in mango orchards (Mangifera indica L. (Anacardiaceae)) of Côte d'Ivoire. He was trained at the Evolutionary Biology & Ecology Laboratory, Université Libre de Bruxelles, under the supervision of Dr Yves Roisin.
The full list of scientific outputs of actual or former GTI trainees for the year 2016 can be found online on our website here: http://www.taxonomy.be/gti_calls/grants_awarded/publis-gti/2016

In 2016, we organised our 1st GTI alumni workshop. It took place in Cotonou, Benin, from 6 to 9 June. We invited 12 participants among our best alumni. They came from Benin, Burundi, Côte d'Ivoire, D.R. Congo, Morocco and Togo.

The objectives of the workshop were to follow the evolution of our former trainees, help them produce material for public awareness in their homelands and set the base for the creation of a true GTI alumni network! Indeed, one of CEBioS's objectives is to help its partner's influence the politics linked to biodiversity management and improve the perception of biodiversity by the general public. This is why such workshops are crucial, because they contribute to the achievement of CBD-Aichi target n°1.

The workshop was a combination of plenary presentations and active group sessions. On the first meeting day, GTI alumni presented their work.

On the 2nd day, we worked together to help the alumni produce awareness texts about their research and how it helps for the conservation of biodiversity and for the development of their countries.

Fig. 5. Collaborative work to produce the awareness material (Photo@M-L Susini)

On the 3rd and last day, the short texts produced the day before were used to make posters with rich illustrations and graphs (see figures below).

Fig. 6. Examples of posters produced during the workshop

All the produced material was shared with the managers of the national CHM websites of the alumni who posted both the text and posters on their national CHM websites to reach a broader audience.

Participants were also interviewed and filmed to produce short videos that are used for public awareness in Belgium and in the South. See here for some videos: http://www.taxonomy.be/projects

Fig. 7. GTI alumni from Burundi and D.R. Congo proudly presenting their posters (Photo@M-L Susini)

All relevant documents produced during the workshop can be found on our website here: http://www.taxonomy.be/projects/gti-alumni-workshop-2016

M-L Susini Ondafe and 4 alumni also participated in a TV programme entitled 'Forum du jour' on the national Beninese channel (BB24) to speak about taxonomy and how it is important for a sustainable future in Benin.

Fig. 8. Participants of the GTI alumni workshop, Cotonou, Benin (Photo@M-L Susini)

At the end of the workshop, CEBioS launched a call for awareness open to all our GTI alumni. The objective was to fund awareness activities in the alumni's homelands, so that they can share their research results with relevant stakeholders. Those stakeholders were fishermen, students, local populations, etc. The list of the 10 projects funded through this call is given in Table 8.

At the time we are writing this report, not all the reports have reached us. They are available, along with awareness material (such as posters, brochures, radio interviews) on our website here:

http://www.taxonomy.be/gti_calls/grants_awarded/gti-awareness-projects/ (the section will be regularly updated).

One of the projects was achieved by Dr LOKO Laura Estelle Yêyinou, in Benin. Dr Loko works on termite species that behave as pests ravaging food crops in Benin. Thanks to our funding, Dr Loko organised 2 awareness sessions aimed at yam producers in 2 regions particularly affected by termite pests. She explained, with posters and brochures (see figure), that not all termites are pests. She explained which termite species are the most dangerous for crops and she presented alternative ways to destroy these termites. Indeed, at the moment, most farmers use a chemical called Endosulfan which is very harmful for the environment and for human health. Dr Loko explained that the farmers could choose yam varieties that are naturally resistant to termites' attacks.

At the end of the sessions, participants provided a list of recommendations, among them, they asked for more awareness sessions like this one!

Fig. 9. Poster developed and used by Dr Loko during her awareness sessions

Another project was executed by Héritier Milenge Kamalebo from D.R. Congo. His project was entitled 'Awareness and sharing of information on the use and importance of wild mushrooms in the Tshopo province (D.R. Congo)'. Héritier organised 4 restitution meetings and participated in 2 television and 1 radio programmes in order to explain his work on mushrooms and why they are important for livelihoods in D.R. Congo.

Fig. 10. Screenshot of tv programme where
Héritier Milenge Kamalebo spoke on his work

Table 8: List and details of the 10 awareness projects from GTI alumni

Country	Affiliation	Person in charge	Project title
Bénin	Faculté des Sciences Techniques de Dassa, UAC	Dr LOKO YÊYINOU Laura Estelle	Sensibilisation des producteurs d'igname du centre du Bénin sur les services écosystémiques des termites et l'impact des pesticides à base d'endosulfan sur la santé humaine et l'environnement dans le cadre de la gestion de ces ravageurs
Burundi	OBPE	NDAYIKEZA Longin	Sensibilisation du public sur les conséquences de la perturbation des forêts sur les insectes pollinisateurs au Burundi : Cas du Parc National de la Ruvubu
Côte d'Ivoire	Université Nangui Abrogoua, Abidjan	Dr DOSSO Kanvaly	Incitation du public à la connaissance des conséquences néfastes de la déforestation pour la biodiversité au centre de la Côte d'Ivoire
Côte d'Ivoire	Station d'Ecologie de Lamto	Prof. YEO Kolo & KOUAKOU Lombart	Sensibilisation aux espèces exotiques de fourmis envahissantes des habitats urbains en Côte d'Ivoire
Côte d'Ivoire	Laboratoire de Botanique Université Félix Houphouët-Boigny	YIAN Gouvé Claver & Dr TIEBRE Marie Solange	Projet de sensibilisation de la population d'Abidjan sur la diversité, l'utilisation durable et raisonnée des champignons comestibles rencontrés en zone forestière (Côte d'Ivoire)
R.D. Congo	Université de Kisangani	Héritier MILENGE KAMALEBO	Sensibilisation et partage d'informations sur les usages et l'importance des champignons sauvages en province de la Tshopo (R D Congo)
Togo	Université de Lomé	AGBESSENOU Ayaovi	Sensibilisation et partage d'informations sur l'impact du charançon de la patate douce sur la sécurité alimentaire en Afrique de l'Ouest: cas du Togo.
Bénin	Université d'Abomey-Calavi	Hamed Olaniran ODOUNTAN	Vers une sensibilisation effective pour une prise de conscience de l'état de pollution du lac Nokoué pour la préservation de ses ressources et une favorisation du tourisme à Ganvié, Bénin
R.D. Congo	Université Officielle de Bukavu	Joseph LUSHOMBO MATABARO	Distribution et variations phénotypiques chez le poisson *Lamprichthys tanganicanus* dans le Kivu
Bénin	Université d'Abomey-Calavi (LEA)	Dr NAGO Sèdjro Gilles Armel	Projet de sensibilisation, de diffusion des résultats de recherche et de renforcement de capacités des acteurs locaux pour la conservation durable des amphibiens au Bénin

Expected result 1.2 Quality scientific knowledge is produced and used for the better understanding and management of biodiversity in partner countries

Description

Collaborative projects will be organised with partner institutions that cover training, research support to improve small infrastructures (such as material for scientific collections, lab work, training in the use and application of models to manage ecosystem services) and networking. Such projects will be undertaken with well-established partners that have signed a partnership agreement; there are a number of selection criteria for such partnerships, such as a significant operational role and mandate in the national strategy and policies at national and international level, a positive track record of past cooperation (e.g. grants, work on archives, workshops, and trainings), requests for additional cooperation.

This expected result focuses on the generation and appropriate use of scientific knowledge related to taxonomy, ecology and ecosystems (function, services). Due to historical reasons, budget line and content reasons, it is subdivided into four parts (A to D), each dealing with one aspect and related to different partners and concepts of work (see below).

All activities undertaken to achieve this expected result, whether training workshops, research projects or equipment support, are developed in the framework of long-term partnerships. They all intend, in addition to the mentioned expected result, to consolidate partner institutions and enhance their role in their respective countries.

Log frame (partim)

Expected Results	Output Indicators	Report 2016
1.2 Quality scientific knowledge is produced (4 parts: A, B, C, D) 1.2.1.(A) taxonomic research is strengthened 1.2.2.(B). the monitoring of habitats for the management of ecosystems is strengthened	A number of trained students / year will produce ; publications in scientific journals and general media; graduates (Master or Ph. D.); in-country training courses as multiplier effect and additional people trained. Results will be valorised through publication in renowned science journals. They will also be used under SO1.4. A and B to produce vulgarisation tools. B At least one training per country is organized and is followed by two applications campaigns on the field. 30 people trained in the habitat monitoring, Syllabi produced and/or updated (see also 1.4.B) 4 articles published in peer reviewed journals, 4 lexicons will be finalized and used, see also SO1-4b. over 5 years : 2 PhD students, 6 master students finalised their thesis, 5 oral contributions (participation to meetings, conferences, lectures, seminaries…) 5 information exchange sessions have been organised in relation with poverty reduction related subjects of the studies.	The 3 projects selected in 2016 were: • Taxinomie, systématique et biodiversité des oligochètes des eaux souterraines du **Bénin** by P. Martin • Fostering Entomodiversity research in **Southeast Asia** by J. Constant • Etude de l'influence de l'anthropisation sur l'abondance et la diversité des insectes pollinisateurs au **Burundi** by B. Nzigidahera B HABIYAREMYE MUHASHY, F. & NZIGIDAHERA, B. 2016 -Habitats du Parc National de la Kibira (Burundi). Lexique des plantes pour connaître et suivre l'évolution des forêts dans le Secteur Rwegura. RBINS 144 PP. GBEFFE, A., HOUEHANOU, T., HABIYAREMYE MUHASHY, F.; ASSEDE, E., YAOITCHA, A. ; JANSSENS DE BISTOVEN, L. ; SOGBOHOSSOU, E. ; MHOUINATO, M ; SINSIN, B. 2016-Termite mounds Effects on Composition and Plant Species Functional Types and Traits in Pendjari Biosphere Reserve (Benin, West – Africa). African Jouirnal of Ecology SN -1365 – 2028 http/ dx.doi.org//10 1111/aje.12391 Rizinde Hakizimana, J. C. ; HABIYAREMYE MUHASHY, F.; FDEGREEF, J. 2016 – Contribution à l'inventaire et à l'étude de l'écologie des champignons comestibles du Secteur Nord du Parc National des Virunga (PNVi) en République Démocratique du Congo. Synthèse en poster ; Young Researchers' Overseas Day, Royal Academy for Overseas Sciences, Brussels, 13 December 2016, p.82-83. http://www.kaowarsom.be

1.2.3. (C). taxonomic research and the monitoring of lowland forests at the University of Kisangani is strengthened	C 3 PhD students identified 3 PhD students/year followed training supervised by expert in Belgium/ elsewhere (total=15) For 3 PhD students: 1 local visit/2years by supervisor (total=9) 1 'atelier de restitution'/year for the 3 PHD students after their training framed in the context of poverty reduction related subjects of the studies (total=4+the PhD defence) 2 publications in scientific journals/PhD student (total=6).	C In 2016 we organized research stays for three Congolese scientists. • Project titles: 1. Steve Ngoy Luhembwe: 'Le rôle des ticks comme vecteurs de zoonoses chez les mammifères dans la région de Kisangani (R.D. Congo)' 2. Casimir Nebesse Mololo: 'L'exploitation et commercialisation de la faune Mammalienne par les habitants du bassin du Congo et stratégies de conservation durable des espèces en forêt tropicale humide (R.D. Congo)' 3. Prescott Musaba Akawa: 'Phylogéographie, zoonose et biodiversité des chauves-souris de la forêt de basse Altitude (Kisangani, RDC)'. A1 publications · Falay D., Kuijpers L.M.F., Phoba M.-F., De Boeck H., Lunguya O., Vakanyaki E., Bertrand S., Mattheus W., Ceyssens P.J., Vanhoof R., Devlieger H., Van Geet C., Verheyen E., Ngbonda D., Jacobs J. 2016. Microbiological, clinical and molecular findings of non-typhoid Salmonella bloodstream infections associated with malaria, Oriental Province., Democratic Republic of the Congo. BMC Infectious diseases, BMC Infect Dis. 2016; 16: 271 · Musaba P. Akawa, Malekani A. Bendeki, Kirongozi F. Botelanyele, Shabani I, Nebesse C. Mololo, Van V. Cakenberghe, E. Verheyen; Gembu G.C. Tungaluna, Justin A. Asimonyio, Masengo C. Ashande, Koto-te-Nyiwa Ngbolua. 2017. A survey of the bushmeat trade of the straw-coloured fruit bat (Eidolon helvum Kerr, 1792) at Maele Island (Kisangani city, Democratic Republic of the Congo). J. of Advanced Botany and Zoology Volume 4 /Issue 4 ISSN: 2348 – 7313 · Van Caeckenberghe V., Gembu G.-C., Musaba P., Seamark E., Verheyen E. (in press) The bats of the Congo and of Rwanda and Burundi Revisited (Mammalia: Chiroptera). European Journal of Taxonomy Participations at international conferences · 23th edition of the Benelux Zoology Congress: Zoology2016 Congress, University of Antwerp, 15-17 December 2016 · International Bat Research Conference 2016, Durban, South Africa, 31st July – 5th August 2016 Abstracts in meetings 1. Ngoy S, Gembu G, Laudisoit A, Verheyen E, Rutakaza N. 2016. Inventory of Ixodidae and Phtiraptera of pigs (Sus scrofa domesticus) in a slaughterhouse of Kisangana (Tshopo, D.R.

1.2.4.(D) Application of the COHERENS model for integrated coastal management and monitoring of ecosystems	D review of the presentation of the specific research questions of the partner institutes Number of scientific output (presentations, conference) Number of qualified trainee ex-post reports within the visitors programme 3 policy briefs are to be produced by the partners Documentation of the Developed modules for COHERENS available.	Congo). Abstract (poster), Zoology2016 Congress, University of Antwerp, 15-17 December 2016 2. Nebesse C, Mbula M,Gambalemoke M S, Gembu T G-C, Verheyen E, Dudu A. 2016. A survey of the peri-urban bushmeat markets along the left and right banks of the Congo River in the region of Kisangani (D.R. Congo). Abstract (poster), Zoology2016 Congress, University of Antwerp, 15-17 December 2016 3. Musaba A, Malekani B, Kirongozi B, Verheyen E, Gembu T. 2016. A survey of the bushmeat trade of the straw-coloured fruit bat species (Eidolon helvum Kerr, 1792, Chiroptera) on Maele Island, Kisangani (D.R. Congo). 2016. Abstract (poster), Zoology2016 Congress, University of Antwerp, 15-17 December 2016 4. Victor Van Cakenberghe, Prescott Musaba, Guy-Crispin Gembu, Erik Verheyen, Ernest Seamark (2016). The bats of the Congo and of Rwanda and Burundi revisited. Abstract (poster) at International Bat Research Conference 2016 | 31st July – 5th August 2016 | www.ibrc2016.co.za D Training in Belgium • 2 students from Peru • 2 students from Vietnam Evaluation mission in Vietnam

Table 9: log frame (partim) for SO1, 1.2.

Activity 1.2.1. (A). Supporting taxonomic research

The 13th internal GTI call for proposals was launched in early 2016. This call was addressed to RBINS researchers. Projects must be built around the provision of training to students, scientists and/or technicians in the South. Selected projects must contribute to strengthen local institutions. It must also have an applied component that either targets the conservation or the sustainable use of biodiversity, that is essential to better understand the services provided by ecosystems.

We selected 3 high quality projects.

The selected projects are the following:

1. Taxinomie, systématique et biodiversité des oligochètes des eaux souterraines du Bénin by P. Martin
2. Fostering Entomodiversity research in Southeast Asia by J. Constant
3. Etude de l'influence de l'anthropisation sur l'abondance et la diversité des insectes pollinisateurs au Burundi by B. Nzigidahera

At the end of the projects, researchers were asked to provide reports (both narrative and financial) and a list of their outputs such as publications in scientific journals, posters, presentations given at international meetings, etc. The narrative reports and the outputs are published on our website (http://www.taxonomy.be/gti_calls/grants_awarded/grants-rbins-2014/) for public awareness purpose and knowledge dissemination.

BENIN

Project 1. 'Taxinomie, systématique et biodiversité des oligochètes des eaux souterraines du Bénin' by Dr Patrick Martin

Text in French, taken from the report submitted by Dr P. Martin (shortened):

Le présent projet se propose de combler un handicap taxinomique par la formation d'unspécialiste à la taxinomie et la systématique des Oligochètes dulçaquicoles, avec un accent particulier sur les eaux souterraines, et de construire une nouvelle expertise scientifique et technique (connaissance des oligochètes et de leur composante stygobionte, techniques d'échantillonnage du milieu souterrain, techniques d'étude morphologique et génétique).
Ce projet s'intègre dans un cadre de recherches plus vaste qui vise à utiliser la richesse spécifique de la stygofaune comme indicateur de la qualité des eaux souterraines. Par sa composante « bio-indicateur », il s'inscrit dans une optique de réduction de la pauvreté par amélioration de la santé publique.

Un total de 6 tâches ont été dévolues au projet, elles ont été réalisées sur 11 mois :

1. Campagne d'échantillonnage sur le terrain pendant 15 jours
2. Tri du matériel récolté au laboratoire de Parasitologie et d'Ecologie parasitaire de l'université d'Abomey-Calavi
3. Réalisation de clés d'identification des oligochètes du Bénin sous forme de bases de données en ligne
4. Identification du matériel récolté, description d'espèces et création d'une collection de référence
5. Formation du Dr Moïssou Lagnika à la taxinomie et systématique des oligochètes dulçaquicoles , notamment aux techniques de séquençage de l'ADN, durant son stage à l'RBINS en octobre 2016
6. « DNA barcoding » des oligochètes à l'RBINS.

Fig. 11. Dr P. Martin with a student while sampling in well N° BEN070 (location: Kokoro) (Photo@Moissou Lagnika).

Résultats obtenus à la fin du projet 2016 :

- Mise à jour de la base de données « Eaux souterraines du Bénin » initiée en 2015. Le but poursuivi est d'avoir une base de données de référence comprenant les caractéristiques géographiques, physico-chimiques et faunistiques de tous les puits traditionnels échantillonnés et étudiés au Bénin dans le cadre du partenariat entre l'université d'Abomey-Calavi et l'RBINS.
- Mise en place d'une banque de tissus de référence : Oligochètes du Bénin (226 spécimens au total)
- Conservation des tissus des autres groupes dans une banque de tissus de référence
- « DNA barcoding », diversité spécifique, répartition et capacité de dispersion des oligochètes des eaux souterraines du Bénin.
  Données sur la qualité de l'eau souterraine – éléments faunistiques. Grâce au travail réalisé, la connaissance des deux groupes principaux d'oligochètes présents dans les puits du Bénin, apporte des informations intéressantes dans la gestion de la ressource dans la mesure où :
  - Les stations à Haplotaxis sont potentiellement des sources d'eau de qualité en raison de l'origine phréatique de l'eau, attestée par la présence d'espèces stygobiontes ;
  - Sous réserve d'une meilleure compréhension des mécanismes de dispersion des Aulophorus, les stations où ils sont présents témoignent d'une mauvaise protection des puits contre des éléments exogènes, ce qui peut avoir une répercussion négative sur la qualité de l'eau.
- Données sur la qualité de l'eau souterraine – éléments physico-chimiques.
  Les résultats indiquent que la pollution azotée touche environ 25 % des puits. Elle concerne surtout l'ammonium et les nitrates.
- Données sur la qualité de l'eau – approche intégrée. Des analyses en composantes principales (ACP), suivies d'une classification hiérarchique ascendante réalisée à partir des données physico-chimiques permettra ultérieurement de caractériser les puits et d'établir une typologie des stations.

Perspectives – développement futurs :

Sous réserve d'un financement pour la prochaine année, ce projet sera étendu à d'autres régions du Bénin afin d'obtenir une image réaliste de la biodiversité des eaux souterraines à l'échelle du grand bassin versant de l'Ouémé : commune de Djougou (la plus grande à parcourir), Pèrèrè, N'Dali et une partie des commune de Parakou et Tchaourou.

Une collaboration internationale est développée avec le Prof. Świątek (Université de Silésie, Pologne) sur le genre *Haplotaxis*.

A plus court terme, les développements futurs envisagés sont les suivants :

• Poursuite de l'identification et du DNA barcoding de tous les spécimens d'oligochètes échantillonnés;

Fig. 12. Sampling at well n° BEN049 (location: Aklampa Alawenonsa) (Photo@Patrick Martin).

Fig. 13. Dr P. Martin giving a lecture to Master's students of UAC (Photo@Moissou Lagnika).

• Alimentation d'une base de données « DNA barcoding » de référence comme aide à l'identification des oligochètes des eaux souterraines ;

• Caractérisation de la qualité de l'eau des puits et établissement d'une typologie des stations par analyses en composantes principales, à partir de l'ensemble des données faunistiques et physico-chimiques récoltées depuis 2015.

• Préparation de publications scientifiques.

All relevant information is available on our website here:
http://www.taxonomy.be/gti_calls/grants_awarded/grants-rbins-2014/p-martin-benin .

Vietnam & Cambodia

Project 2. 'Fostering Entomodiversity research in Southeast Asia' by Jérôme Constant and Patrick Grootaert (report text shortened, LJDB)

1. A step further in the Entomodiversity of Vietnam (part VII) – Research in Vietnam

The mission took place in July 2016 for 3 weeks.

The following scientists actively participated in this part of the project: Mr. Jérôme Constant (JC), Expert in Collection Management, O.D. Taxonomy & Phylogeny, Entomology (RBINS) – 3 weeks field trip in Vietnam / mounting & identification (Fulgoromorpha, Phasmida) in RBINS / management of the project; Dr Hong Thai Pham (HTP), head of Collection Specimens Management Department (VNMN) – 3 weeks field trip in Vietnam / mounting & identification (Cicadidae) in VNMN; Mr. Joachim Bresseel (JB), Scientific Collaborator, O.D. Taxonomy & Phylogeny, Entomology (RBINS) – 3 weeks field trip in Vietnam / mounting & identification (Phasmida) in RBINS; Mr Van Dat Nguyen (VDN), Specimens Collections Department (VNMN) – training in entomology fieldwork; Mrs Thi Men Tran (TMT), researcher (VNMN) – training in Auchenorrhyncha taxonomy and fieldwork techniques; Mr. Pol Limbourg (PL), Collection Manager, Entomology (RBINS) – mounting & identification (Coleoptera Rutelinae) in RBINS. Two additional participants from the Forest Museum (Hanoi), Mrs Luu Hoang Yen (LHY) and Mrs Bui Thu Quynh (BTQ) also joined the team for training in fieldwork techniques and field taxonomy, at the costs of their institution. They participated in the two first sampled locations (two weeks) and the seminar in VNMN.

1.1 Entomological Inventories

Four sites were sampled: Muong Nhe Nature Reserve, Copia Nature Reserve, Ngo Luong Nature Reserve and Cuc Phuong National Park. The locations are more or less in a row along the Laos border, from the Laos-China-Vietnam contact region in Mung Nhe to the low altitude area of Cuc Phuong. Light trapping was done each night, whenever possible in 2 places the same night (when power sources were available). Sweeping, beating and sight collecting was done during all day and also during the night, using head torches and torches. The material brought back to be included in the collections of RBINS has been attributed the General Inventory number 33.282. Identified specimens, including Cerambycidae, Cicindelidae and Orthoptera identified by different specialists of the group, phasmids and Fulgoromorpha including holo- and paratypes of newly described species were brought to VNMN to be included in the reference collection by JC and JB. The rangers and authorities of the locations expressed great interest in the scientists' work and they helped a lot. About 1200 photographs documenting insects and biotopes were taken during the fieldwork. They will be used to illustrate scientific papers etc... The species lists will be provided to the authorities of the different sampled reserves and national park by H.T. Pham. Several papers by the participants dealing with new species collected during the GTI missions from 2010 to 2016, or illustrating the progress of our GTI

collaboration, were recently published or are submitted for publication.

See on GTI website for articles already published here: http://www.taxonomy.be/gti_calls/grants_awarded/publis-gti .

Fig. 14. Left to right: Staff at the rangers' station at Muong Nhe Nature Reserve, *Phyllium* nymp and sampling at night at Copia Nature Reserver (Photos@Jerôme Constant).

1.2 Assessment of the VNMN entomological collections

The VNMN collections have been relocated in bigger and better equipped rooms, what was necessary to reach the high standards of a national museum with international ambitions in terms of research and reference position. However, the situation is not yet completely satisfactory: there is still not much space between the shelves for technicians and researchers to work comfortably. New good quality drawers were purchased and will be very useful to store the growing entomological collections of the institution.

1.3. Seminars at the VNMN

Three seminars were given this year by RBINS visitors JB and JC. The audience (20+ persons) was from VNMN, IEBR, the Forest Museum and Hanoi University. All the given presentations are available online here: http://www.taxonomy.be/gti_calls/grants_awarded/grants-rbins-2014/constant-and-grootaert-vietnam/reports/teaching-material-2016 .

2. Developing regional cooperation between Vietnam and Cambodia in insect taxonomy - Research in Cambodia

The mission in Cambodia took place in October 2016 for 2 weeks. The study area is situated in SW Cambodia, a nearly completely unexplored zone in terms of entomological fauna.

List of participating scientists: Mr. Jérôme Constant (JC), Expert in Collection Management, O.D. Taxonomy & Phylogeny, Entomology (RBINS) – 2 weeks field trip in Cambodia / mounting & identification (Fulgoromorpha, Phasmida) in RBINS / management of the project; Dr Hong Thai Pham (HTP), head of Collection Specimens Management Department (VNMN) – 2 weeks field trip in Cambodia / mounting & identification (Cicadidae) in VNMN; Mr. Joachim Bresseel (JB), Scientific Collaborator, O.D. Taxonomy & Phylogeny, Entomology (RBINS) – 2 weeks field trip in Cambodia / mounting & identification (Phasmida) in RBINS; Mr Sophany Phauk (SP), lecturer (RUPP). Training in field collecting and taxonomy; Mr. Kangsun Sisonila (KS), student (RUPP). Training in field

collecting and taxonomy; Mr. Lorn Sokchan (LS), student (RUPP). Training in field collecting and taxonomy; Ms Rim Sochaeta (RS), student (RUPP). Training in field collecting and taxonomy; Mr. So Vicheth (SV), student (RUPP). Training in field collecting and taxonomy.

2.1 Entomological Inventories

Three sites have been sampled: Tatai, Peam Krasaop Mangrove and Phnom Samkos Wildlife Sanctuary. Light trapping was done each night, whenever possible in 2 places the same night (when power sources were available). Sweeping, beating and sight collecting was done during all day and also during the night, using headtorches and torches. As a general trend, the insects were fairly abundant and specimens belonging to most insect groups were collected. The rangers and authorities of the locations expressed great interest in the scientists work and helped them a lot. About 800 photographs documenting insects and biotopes were taken during the fieldwork. They will be used to illustrate scientific papers etc... The species lists will be provided to the authorities of the different sampled areas by SP.

2.2 Assessment of RUPP-CEI collections

The young collection of RUPP-CEI (started in 2014 by SP) already contains an impressive number of specimens. It is housed in a room with air conditioning and the specimens are well mounted and labelled. It is the first of its kind in Cambodia and will be a great source of discoveries (e.g. new species, new country records) in the coming years because the fauna of Cambodia is very poorly documented as compared to the fauna of neighbouring countries. JC, JB and HTP helped to sort and identify the material in their respective groups, and provided hands-on training to CEI students at the same time (recognition of families, arrangement of specimens, mounting etc.).

2.3 Seminars at RUPP

5 seminars were given at RUPP for a numerous audience (60+) of RUPP students and professors, staff from the Ministry of Environment and Institut Pasteur in Phnom Penh, and several European expats interested in entomology. Three seminars were the ones previously given by JC and JB in VNMN, and one was given by HTP on Cicadas from Vietnam and Cambodia, including new records for Cambodia from our expedition and from the material in RUPP collections. They are available online here: http://www.taxonomy.be/gti_calls/grants_awarded/grants-rbins-2014/constant-and-grootaert-vietnam/reports/teaching-material-2016 .

3. Communication/awareness efforts and conclusions.

3.1 Communication

The project leaders have been awarded several prizes for the communication efforts they have done to promote taxonomy, science, and the involvement of citizens in the scientific process (citizen-science). In July 2016, JB received the Ian Abercrombie Foundation Award at the Natural History Museum, London, for his work on the taxonomy of stick insect.

Fig. 15. Left to right Cycada in Cambodia (Phnom Samkos), seminar at RUPP, staff on 4x4 truck in the field (Photos@J. Constant).

In November 2016, JC & JB received the Science Communication Award from the Flemish Academy of Sciences of Belgium for their activity “phasmids in the classroom” aimed at promoting taxonomy with pupils of primary schools. In January 2017, JC received the “Prix Crèvecoeur” for the best paper published in the journals of the Royal Belgian Society of Entomology for the paper: Constant J., Phauk S. & Bourgoin T., 2016. - Updating lanternflies biodiversity knowledge in Cambodia (Hemiptera: Fulgoromorpha: Fulgoridae) by optimizing field work surveys with citizen science involvement through Facebook networking and data access in FLOW website. Belgian Journal of Entomology, 37: 1–16.

A project of documentary has also been discussed with the Belgian Flemish TV and will be produced in 2017.

3.2. Conclusion and perspectives.

This GTI project was very successful and has set up of a new cooperation between VNMN and RUPP staffs. Trainees from VNMN and RUPP all showed great interest during the fieldwork and capacities to spot the specimens in the jungle and to learn quickly from the “field taxonomy training”. After two/three weeks of fieldwork, they were able to identify many specimens to family level. Numerous new species were found during the 2016 expeditions. A number of species were described in the framework of this GTI project by member of the staff or by specialists abroad. Vietnam, Cambodia and Southeast Asia countries in general contain many more species of insects than what in currently recorded. Although they have collected and recognized a lot of new species, the lack of time and specialists (taxonomists) heavily impedes the progress of our knowledge of that amazing diversity, and hence prevents an efficient protection. In the meantime, habitats are destroyed or damaged and it is clear that there is an emergency to document and protect the natural richness of those countries.

The projects promoters wish to go further with their collaboration between the staffs of RBINS, VAST (VNMN + IEBR) and RUPP. Many projects of new papers are on their way and the staffs are very motivated to go on.

BURUNDI

Project 3. Etude de l'influence de l'anthropisation sur l'abondance et la diversité des insectes pollinisateurs au Burundi by Benoit Nzigidahera (OBPE, Burundi)

NB: compte tenu de la situation politique et générale extrêmement difficile actuellement au Burundi, aucun scientifique spécialiste des pollinisateurs n'a eu la possibilité de se rendre au Burundi dans le cadre de ce projet. Cependant, étant donné que nous connaissons bien le promoteur burundais du projet, Mr Benoît Nzigidahera de l'OBPE, nous avons fait une exception en acceptant de financer ce projet sans promoteur de l'RBINS. Mr Alain Pauly a accepté d'encadrer Longin Ndayikeza lors de sa venue en Belgique en 2017 pour analyser et identifier les spécimens récoltés durant ce projet.

Text in French, taken from the project submitted by B. Nzigidahera (shortened by LJDB):
Le projet s'étend sur une année entière. Il se terminera en aout 2017. Ainsi, à l'heure où nous écrivons ce rapport, nous ne disposons pas encore du rapport final du projet. En voilà une brève présentation: Selon des études de la PNUE (2011), certains insecticides et fongicides utilisés ensemble peuvent être 1000 fois plus toxiques pour les abeilles en affectant leur sens d'orientation, leur mémoire et le métabolisme de leur cerveau.

Au Burundi, des perturbations des milieux naturels s'intensifient à la suite de la recherche des milieux à Cultiver et à urbaniser. Cependant, il maque des informations suffisantes sur le niveau de perturbation des pollinisateurs par les activités humaines. Le présent projet est élaboré pour renforcer les connaissances sur l'influence de l'anthropisation sur la santé des pollinisateurs en vue d'élaborer un plan stratégique de protection des pollinisateurs au Burundi. Ainsi, l'objectif principal de ce projet est de montrer à quel point les perturbations d'origine anthropique affectent l'abondance et la diversité d'insectes pollinisateurs dans les écosystèmes du Burundi.

Ce projet sera réalisé dans seize sites répartis à 3 niveaux d'altitude à savoir la ville de Bujumbura et la plaine de la Rusizi pour les basses altitudes, la forêt de montagne de Kibira pour les hautes altitudes et les savanes de Ruvubu pour les moyennes altitudes. La récolte des échantillons sera étendue sur une période d'une année et sera faite au moyen des bocaux jaunes couplé par le filet entomologique. Ainsi, des pièges seront installés dans les milieux naturels, agricoles, urbains et périurbains. Les résultats de ce projet seront constitués par des abeilles pollinisatrices et leurs plantes-hôtes bien recensé et identifié pour établir un lien qui existe entre le gradient d'anthropisation et la diversité et l'abondance des abeilles pollinisatrices.

Activity 1.2.2. (B). Supporting the monitoring of habitats for the management of ecosystems

The annual reports for 2016 written by our institutional partners OBPE (Burundi) and UAC (Benin) are reported under Part II Institutional cooperation. The reporting here concerns the capacity building activities involving CEBioS staff, especially DrFrançois Muhashy on the monitoring of habitats in protected ICCN areas in R.D. Congo with scientific expertise from local universities.

D.R. CONGO

1. Monitoring of habitats dynamics

A regional workshop was organized in the 2014-2016 triennial program to share lessons learned on the monitoring of habitats during its implementation of this programme by the beneficiary institutions. The activities carried out in partnership with the ICCN in previous years focused on strengthening its capacities to collect data on habitat dynamics in order to use this information to improve the management of Biodiversity and the valorisation of Ecosystem Services (ES). Similar programs were implemented also in Burundi and Benin following institutional collaboration agreements between the RBINS and the 'Office Burundais de la Protection de l'Environnement' (OBPE) in 2010 and with the University Of Abomey-Calavi (UAC) in 2013. In each of these countries, RBINS already organized workshops for protected area staff so that they could make observations on the evolution of habitats and integrate the results into a database that can be used to interpret the interrelations between habitats and wildlife. The regional workshop held in 2016 was prepared and organized during two missions:

1.1. Mission in DRC, May 2016

- At the ICCN General Directorate

On this occasion, the above objective of the workshop was confirmed. We also decided that the ICCN members who would be participating in the workshop should be selected from those who were involved in previous training sessions and who conducted the subsequent LEM habitat campaigns in order to ensure continuity. The funding source for this workshop was also clarified; it was decided to use mainly the budget allocated to OBPE to organize the workshop in Burundi in 2015, where it could not be held due to the

unfavorable political climate. For these reason and with the agreement of the Burundian partner, we relocated the workshop to the Kahuzi-Biega National Park (PNKB).

- In Kivu province, Kahuzi-Biega National Park

We involved the UOB's team lead by Prof. Masumbuko N. Céphas (Fig. 16), whose previous research in the PNKB with the support of RBINS was based on permanent plots for the monitoring of forest dynamics in the PNKB, because we were planning to carry out demonstrations on these plots.

Fig. 16. Prof. Masumbuko N. Céphas (à droite), Mme Mbake Sivha (au milieu) et Dr Muhashy François (RBINS).

We explained the LEM habitats sheet (annex 2) to ensure that this team accustomed to the academic language can be familiarized with the descriptors of the habitats used during the monitoring carried out by the guards.

Collection of data on the habitats

This work took place in the localities of Bugulumiza, Nyamuhambaza, Madirhirhi, where the permanent plots for the monitoring of the habitats were installed previously. A view of the forest in one of the plots in Bugulumiza is illustrated by Fig. 17. Trees were labelled in 2010. The possibility of comparing new measurements of dbh with those previously taken and plant species Indicators of the succession of dynamic stages facilitates the evaluation of this process.

Fig. 17. Parcelle forestière délimitée le long d'un transect dans la localité de Nyamuhambaza ; les arbres ont été étiquetés en 2010 t leur dhb est mesuré régulièrement.

1.2. The regional workshop held from 14 to 30 August 2016.

The workshop was attended by 25 participants, 3 from Benin, 5 from Burundi and 17 from D.R. Congo. After an inaugural ceremony during which Ms. Buhendwa Germaine, the ICCN Director in South Kivu province, delivered a keynote address at the opening of the workshop, our sessions started with Oral communications at the Great Seminary of Murhesa on 23 and 24 August 2016. As an introduction to the workshop, Dr François Muhashy H., the RBINS delegate, outlined the issues of partnerships (Fig. 18).This communication led to the invitation of the other participants to share their experience regarding the results of their work to monitor the dynamics of the habitats during the period 2013-2016. The partners

Below are the titles of the themes of the interventions of the partners ' beneficiary of our programme.

Mr Cimanuka Buroko (ICCN) -"Process of appropriation of the methodology of monitoring the dynamics of the habitats at the PNKB".

Fig. 18. Présentation des enjeux des partenariats développés par l'RBINS pour le suivi de la dynamique des habitats dans les APs

Nzigidahera Benoît (OBPE) – "Establishment and implementation of the habitat dynamics monitoring system in Burundi".

Mr N'SERA Parfait and Prof Marcel R. B. HOUINATO (UAC) – "Experience in monitoring and management of habitats and wild fauna in the biosphere reserve of Pendjari in Benin"

A session on practical use of the LEM file on the field took place in the PNKB, in the Chivanga sector. It was also the first opportunity for them to see gorillas in their natural sanctuary (Fig. 19). For the Beninese, whose experiences are mainly about Sudanian savannas, it was a great opportunity to take part in demonstrations on the use of the LEM file in a tropical mountain forest ecosystem.
For the Beninese component and Congolese not affiliated to the PNKB, the workshop would be the opportunity to acquire experience in a didactic framework and on habitats different from those where previous training courses were organized (RDCBL and RDCBK).
The Congolese from the RDCBL, PNKL, PNU and RFO were delighted to acquire experience in the didactic framework of the PNKB where habitats are different from those where previous workshops were organized (DCRBL, DCRBK).

The direction of the observations was ensured progressively by one or another participant. The LEM file used previously to collect the data has therefore been re-examined and applied in secondary forests and in a bamboo forest. Finally, the descriptors previously mentioned on this sheet were confirmed by all the participants. Regarding the data base in which observations on the evolution of habitats should be integrated, we adopted the point of view of the OBPE team who insisted that the Excel software could continue to be used, especially because the other 2 software (MIST and MIKE) on which some rangers have been trained to monitor wildlife were also criticized. It was recommended to explore

in particular the possibilities of integrating habitats descriptors among the fields of the file used to monitor wild fauna.

Fig. 19. Gorilles du PNKB

Fig. 20. Séance introductive des observations et caractérisation des habitats dans le PNKB (F. Muhashy, 25 août 2016)

2. Activities with the ICCN, UOB, UNIGOM

2.1. Mission carried out to provide reference knowledge for the rehabilitation of Ruzizi Natural Reserve (RNTR).

This activity was undertaken in accordance with the wishes expressed by MM Kisuki Mr Mathe (Technical Director) and Paul Nlemvo (Director of National Parks) and Dr Wilungula Balongelwa Cosma (General Director) during our mission in DRC in September 2015.

Habitats are very varied. Far from the water, the soil is covered with grassy savannahs and wooded savannahs, dominated by *Borasus* and *Acacia* spp. Large, wet areas located in the meanders formed during the change of the bed of the river Ruzizi are covered

mainly by macrophytes including *Phragmites mauritianum, Typha angustifolia, Pennisetum purpureum, Nymphaea lotus* (Fig. 21).

Fig. 21. Les étangs de Kindava peuplés d'une diversité de macrophytes

Fauna

Crocodiles and hippos (Fig. 22) live in marshes that communicate directly with the Ruzizi River.

Fig. 22. Le marais de Kideheri, non-loin de la Ruzizi 2°/ KIDEHERI (Coord. UTM: 0749813 – 9659596, alt. 810 m)

Birds are very numerous and diverse, especially in the swamp of Ruvubura. Ninety species of them have been recognized and listed.

Threats

Mammals and birds of the Ruzizi valley and of the surrounding hills are very threatened especially on the Congolese side (Fig. 23a), unlike the Burundian part that is under protected area status. Habitats are subject to uncontrolled fires (Fig. 23b).

a

b

Fig. 23. Illustration des menaces sur l'habitat, chasse des oiseaux (a) et feu de brousse (b) dans la RNTR

2.2. Lexicon of habitats types and of the dominant plants in protected areas

A session of the presentation of the handbook dedicated to the habitats of the PNKB took place in Chivanga (Fig. 24). The authors explained to the public how to use this lexicon in habitat monitoring. This ceremony was broadcast by Muungano radio and Congolese national television.

Fig. 24. Remise des exemplaires du lexique des habitats du PNKB aux participants à la présentation de ce manuel

The lexicon of habitats types and of the dominant plants in the Itombwe Natural Reserve (RNI). The drafting of the manual entitled "Habitats Nature Reserve Itombwe" has made significant progress. It will be released in 2017.

3. Mushrooms in Virunga and Itombwe

3.1.In the Virunga National Park

With the support of the RBINS, Mr Jean-Claude Rizinde Hakizimana (UNIGOM) carried out a mission in the Watalinga area on Mount Ruwenzori; which allowed him to complete the

data of his DEA memoir at the UNIKIS on the “Inventory and Ecology of Edible mushrooms in the North Sector of the PNVi” (Fig. 25a & b). Local knowledge was collected through ethnomycological surveys that involved people of the three main local ethnic groups, namely the Nande, Mbuba and Mbuti (Fig. 26). This research was co-supervised by Prof. Honorine Ntahobavuka (UNIKIS), Dr Jerome Degreef (JBM) and Dr François Muhashy (RBINS).

Fig. 25. Prolifération de *Termitomyces microcarpus* à Kilya (a) . Photo Jean - *claude Rizinde 2016. *Termitomyces robustus* harvested by Rizinde (b)

Fig. 26. Mr Rizinde tenant des champignons (*Termitomyces robustus*) au milieu de deux de personnes ressources lors de la récolte des données ethnobotaniques

Furthemore he obtained an internship at the JBM and the RBINS during which he made considerable progress in identifying his specimens of fungi (Fig. 27) and determining the flowering plants that have served in the ecological descriptions of the habitats of this mycoflora.

Fig. 27. *Collybia aurea, Marasmius arborescens, Hypholoma subviride*

A total of 76 species of fungi were recognized as edible based on macroscopic, microscopic and ethnomycological investigations. Most of the mushroom species obtained. These results show that the diversity of edible mushrooms in Central Africa is well beyond that presented by Eyi Ndong et al. (2011) who listed 62 species for this region.Ethnomycological conclusion stressed that edible fungi from PNVi contribute much in feeding local communities and as source of their income.

3.2. In the "Réserve Naturelle de l'Itombwe »

Studies on mushrooms involved Miss Biringanine Mugoli Elisabeth under supervision of Prof Masumbuko N. Cephas (UOB). Investigations were specifically done at the Byonga station within the forests dominated by *Michelsoniamicrophylla*, *Uapaca* sp. and *Gilbertiodendron dewevrei*. The objective was to find species of edible mushrooms that were not seen during the May 2015 survey. As result, 27 edible fungi were recorded.


Fig. 28. Mushroom called 'Tetemeka' at Itombwe

4. Collaboration with UNILU

The cooperation is between the RBINS and UNILU, whose previous implementation led to the establishment of a system for monitoring the dynamics of habitats on "termitosols" and monitoring of the ecosystem services inherent in termite mounds in the Kiswishi clear forest, 30 km from Lubumbashi. The system includes 32 plots permanent along transects where research is carried out in the framework of doctoral theses focusing on ecosystem services:

PhD projects

- Ntumba Ndaye François «Quantification et la monétarisation des services écosystémiques d'approvisionnement inhérents aux termitières des écosystèmes du Miombo ».

This research is co-supervised by Professors Mujinya Bazirake basile and Prof Ngoie Schutcha (UNILU) and Dr François Muhashy Habiyaremye (l'RBINS);
The general objective of this study is to contribute to the conservation of termite mounds. This requires the assessment of services associated with these microecosystems and the possibility to loose these services and finally to provide the decision-making tools to manage these resources on a sustainable basis.

-Patrick Kasangiji A Kasangiji « Influence des interactions interspécifiques et des conditions environnementales sur le comportement de construction des termites du genre *Cubitermes* dans le Katanga méridional ». Supervision by Prof. Mujinya Bazirake basile (UNILU).

The drone provided by RBINS was used to complete the study of the spatial distribution of Cubitermes nests and that of the variability of the environmental conditions of the site. In this framework, the UNILU started a collaboration with Prof. Kristof Van Oost of the "Universé catholique de Louvain Louvain-la-Neuve". The latter trained researchers involved on the use of Unmanned Aerial Vehicles (UAVs). The data collected using the drone are being processed in Louvain-la-Neuve.

5 Implementation of the project funded by BELSPO 2015 to promote the international networking of federal scientific institutions (ESFS)

In accordance with the contract between the RBINS and UNIGOM, we implemented the first phase of the "Mycologists Network of the Great Lakes Region of Africa (RMGL). This project has been selected by Belgian Science Policy (BELSPO) in the context of strengthening the international networks of the Federal Scientific Establishments (ESFs), including the RBINS. A workshop was organized in Goma (DRC) and in the PNVi from 1 to

6 November 2016 (Fig. 29). Twenty mycologists from Burundi, D.R. Congo and Rwanda participated. On this occasion, they set up the RMGL by formalizing its organisation and they standardized methods to assess the productivity of mushrooms in the Great Lakes region of Africa. Details of these achievements are accessible at https://mycorgl2016.jimdo.com/ .

Fig. 29. Mise en commun des champignons et leur tri selon leur appartenance aux groupes différents (séance animée par le Dr Jérôme Degreef)

6. Publications

HABIYAREMYE MUHASHY, F. & NZIGIDAHERA, B. 2016 -Habitats du Parc National de la Kibira (Burundi). Lexique des plantes pour connaître et suivre l'évolution des forêts dans le Secteur Rwegura. RBINS 144 PP.

GBEFFE, A., HOUEHANOU, T., HABIYAREMYE MUHASHY, F.; ASSEDE, E., YAOITCHA, A. ; JANSSENS DE BISTOVEN, L. ; SOGBOHOSSOU, E. ; MHOUINATO, M ; SINSIN, B. 2016-Termite mounds Effects on Composition and Plant Species Functional Types and Traits in Pendjari Biosphere Reserve (Benin, West – Africa). African Jouirnal of Ecology SN -1365 – 2028 http/ dx.doi.org//10 1111/aje.12391

Rizinde Hakizimana, J. C. ; HABIYAREMYE MUHASHY, F.; DEGREEF, J. 2016 – Contribution à l'inventaire et à l'étude de l'écologie des champignons comestibles du Secteur Nord du Parc National des Virunga (PNVi) en République Démocratique du Congo. Synthèse en poster ; Young Researchers' Overseas Day, Royal Academy for Overseas Sciences, Brussels, 13 December 2016, p.82-83. http://www.kaowarsom.be

D.R. CONGO

Activity 1.2.3.(C) Cooperation with the University of Kisangani for the taxonomic study and the monitoring of lowland forests

This report summarizes the activities that have been specifically financed by the DGD-RBINS framework agreement. Reports on complementary activities carried out in Kisangani (REFORCO project) are provided in the annual report of the DGD-RMCA framework agreement for 2015.

Supervision of the work of three Congolese PhD students

In 2016 we organized research stays for 3 Congolese scientists.

Project titles:

1. Steve Ngoy Muhembwe: 'Le rôle des ticks comme vecteurs de zoonoses chez les mamifères dans la région de Kisangani (R.D. Congo)'.
2. Casimir Nebesse Mololo: 'L'exploitation et commercialisation de la faune Mammalienne par les habitants du bassin du Congo et stratégies de conservation durable des espèces en forêt tropicale humide (R.D. Congo)'
3. Prescott Musaba Akawa: 'Phylogéographie, zoonose et biodiversité des chauves-souris de la forêt de basse Altitude (Kisangani, RDC)'.

Activities

Casimir Nebesse Mololo and Prescott Musaba Akawa returned for respectively the fourth and third time to the laboratories of their Belgian supervisors (Erik Verheyen, at the RBINS/ UAntwerpen & external expert Victor van Caeckenberghe UAntwerpen). Instead of focusing on generating more results in the laboratory, their last stay intended was to organize their data sets in to subjects that would be publishable, and useful as the template to write their master (DES) theses.

To ensure that their stays would be as efficient as possible, Casimir Nebesse Mololo and Prescott Musaba were asked to prepare a detailed overview of the status of their work, including a detailed planning before coming to Belgium. In Belgium, both were subjected to weekly sessions to accompany them with the drafting of their theses. They were also assisted with the actualisation of their literature database, and were asked to list the missing links (data, analyses) that may be required to make their data publishable in

international scientific journals. In the meanwhile, both have published part of their work, and presented their results at one or more international scientific gatherings.

Briefly after his return to Kisangani, Casimir Nebesse defended his master thesis (see publication list). Since then, the master thesis of Prescott Musaba has been submitted and will be defended before the end of this academic year (2017).

After Casimir Nebesse defended his master thesis, he was assisted to submit a PhD grant proposal (submitted on 28 May 2017) *for Projet FORETS « FOrmation, Recherche, Environnement dans la TShopo » qui propose de recruter une cohorte de maximum cinq doctorants sur la base d'un appel national « fonds compétitifs ». L'Action se définit comme une contribution substantielle de développement intégré du paysage comprenant la Réserve de Biosphère de Yangambi en République Démocratique du Congo. Elle vise des objectifs spécifiques ayant trait à la conservation et à la valorisation de la biodiversité et des services écosystémiques afin de contribuer au développement durable des populations riveraines. Les activités qui sont définies sur l'axe Yangambi – Kisangani dans la Province de la Tshopo concernent non seulement l'appui aux communautés locales à travers des actions de sensibilisation, de vulgarisation et d'encadrement mais aussi le renforcement des ressources humaines nationales, notamment par le biais des formations formelles universitaires du type LMD. L'Action vise à embrasser une série d'opportunités de développement socio-économiques au sein d'un paysage d'environ quatre cent mille hectares et touchant directement ou indirectement une population rurale et urbaine d'environ un million de personnes. Le Centre de Recherche Forestière Internationale (CIFOR) est l'Organisation Internationale qui met l'Action en œuvre, avec l'aide de partenaires locaux et internationaux*.

During his second stay at the RBINS, Steve Ngoy Luhembwe was given the opportunity to visit Dr Laetitia Lempereur du Service de Parasitologie et Pathologie des maladies parasitaires de l'Université de Liège to be assisted with the identification of his specimens. He was also coached in drafting a work plan for his master thesis defence that we agreed to needs to be scheduled for academic year 2018-2019. Also Steve Ngoy presented part of his preliminary results at an international conference.

The three trainees are involved in the fieldwork programmed for the VLIR South Initiative project Renforcement des capacités académiques face à la réponse et riposte aux épidémies de Monkeypox: discrimination et origine des fièvres éruptives en République Démocratique du Congo (RDC) coordinated by prof Nauly Ngbonda and Erik Verheyen (RBINS-UAntwerpen).

Ce projet est axé au renforcement des capacités académiques de l'Université de Kisangani face à la réponse et riposte aux épidémies de fièvres éruptives en RDC en formant du personnel et des étudiants en épidémiologie et en gestion d'épidémies, et en exécutant un

projet pilote qui cible le virus du Monkeypox, avec le personnel de santé de la Zone de Santé d'Aketi (Province de Bas-Uélé). Le projet est composé d'un volet de recherche qui tracera l'origine zoonotique de du virus Monkeypox (chauve souris: Prescott Musaba, viande de brousse: Casimir Nebesse & ticks: Steve Ngoy). Les résultats du volet recherche conduiront à une amélioration des capacités de recherche et de gestion pour mieux contrôler des épidémies de fièvres éruptives en RDC.

Outcomes

The outcome of the last visit of Falay Dadi Sadiki was an unsuccessful grant application (Individual PhD Sandwich Scholarship Programme (ITM-DGD)) that would allow him more facilities to continue his PhD research project. With the support of Jan Jacobs (ITM) his application was improved and resubmitted at the Marc Vervenne Fund.
The PhD Committee KU Leuven has approved the proposel and the selection committee of the Interfacultary Council for Development of the KU Leuven has approved his grant application. The Marc Vervenne Fund will now shortly grant the scholarship (administrative formality)

For Casimir Nebesse Mololo: the defence of his master thesis, the publication of his first international publication, and the submission of an application for a PhD fellowship funded by the EU (promoters: Erik Verheyen (RBINS-UAntwerpen, Guy Crispin Gembu Tungaluna (UNIKIS-CSB) and Anne Laudisoit (consultant).

For Prescott Musaba: the submission of his master thesis, a template for his planned PhD proposal, and the publication of his first international publication.

For Steve Ngoy: the identification of his tick collection, a prerequisite for the finalisation of his master thesis at the end of next academic year (2017-2018), and his first attendance at an international scientific gathering and a workshop

Publications

Falay D., Kuijpers L.M.F., Phoba M.-F., De Boeck H., Lunguya O., Vakanyaki E., Bertrand S., Mattheus W., Ceyssens P.J., Vanhoof R., Devlieger H., Van Geet C., Verheyen E., Ngbonda D., Jacobs J. 2016. Microbiological, clinical and molecular findings of non-typhoid Salmonella bloodstream infections associated with malaria, Oriental Province., Democratic Republic of the Congo. BMC Infectious diseases, BMC Infect Dis. 2016; 16: 271

Musaba P. Akawa, Malekani A. Bendeki, Kirongozi F. Botelanyele, Shabani I, Nebesse C. Mololo, Van V. Cakenberghe, E. Verheyen; Gembu G.C. Tungaluna, Justin A. Asimonyio, Masengo C. Ashande, Koto-te-Nyiwa Ngbolua. 2017. A survey of the bushmeat trade of the straw-coloured fruit bat (Eidolon helvum Kerr, 1792) at Maele Island (Kisangani city,

Democratic Republic of the Congo). J. of Advanced Botany and Zoology Volume 4 /Issue 4 ISSN: 2348 – 7313

Van Caeckenberghe V., Gembu G.-C., Musaba P., Seamark E., Verheyen E. (in press) The bats of the Congo and of Rwanda and Burundi Revisited (Mammalia: Chiroptera). European Journal of Taxonomy

Participations at international conferences

EUROPEAN ONEHEALTH/ ECOHEALTH WORKSHOP, Workshop initiated by the Community of Practice on Biodiversity and Health/ Community of Practice facilitated by the Belgian Biodiversity Platform, Brussels 6-7 October 2016

23th edition of the Benelux Zoology Congress: Zoology2016 Congress, University of Antwerp, 15-17 December 2016

International Bat Research Conference 2016, Durban, South Africa, 31st July – 5th August 2016

Abstracts in meetings

Ngoy S, Gembu G, Laudisoit A, Verheyen E, Rutakaza N. 2016. Inventory of Ixodidae and Phtiraptera of pigs (Sus scrofa domesticus) in a slaughterhouse of Kisangana (Tshopo, D.R. Congo). Abstract (poster), Zoology 2016 Congress, University of Antwerp, 15-17 December 2016

Nebesse C, Mbula M,Gambalemoke M S, Gembu T G-C, Verheyen E, Dudu A. 2016. A survey of the peri-urban bushmeat markets along the left and right banks of the Congo River in the region of Kisangani (D.R. Congo). Abstract (poster), Zoology2016 Congress, University of Antwerp, 15-17 December 2016

Musaba A, Malekani B, Kirongozi B, Verheyen E, Gembu T. 2016. A survey of the bushmeat trade of the straw-coloured fruit bat species (Eidolon helvum Kerr, 1792, Chiroptera) on Maele Island, Kisangani (D.R. Congo). 2016. Abstract (poster), Zoology 2016 Congress, University of Antwerp, 15-17 December 2016

Victor Van Cakenberghe, Prescott Musaba, Guy-Crispin Gembu, Erik Verheyen, Ernest Seamark (2016). The bats of the Congo and of Rwanda and Burundi revisited. Abstract (poster) at International Bat Research Conference 2016 | 31st July – 5th August 2016 | www.ibrc2016.co.za

Issues encountered - addressed

With the facilities of the CSB fully functional on the Science faculty campus, the local scientific staff enjoys a more reliable internet and electricity supply, which allows them to carry out their academic and scientific tasks more effectively than before. Since March 2016, however, the financial support for the daily functioning of the CSB is no longer assured via external funding. This will also not be the case via the much awaited WorldBank support to UNIKIS.

As a result the CSB finds itself in a financially precarious situation with gradually deteriorating working conditions for its own staff and for the staff of the Science Faculty, which is frequently using its internet connection, laboratories, library, meeting rooms and so on. This situation requires our attention in order not to lose the investments done in previous years by the Belgian Development Cooperation and by Belgian Science Policy, but also to make sure that the CSB can continue to play its role as Secondary CHM for the DRC, an important factor in CEBioS' activities in the DRC. A discussion on a financing model for the centre has been launched with the CSB directors and other interested partners. At the same time, discussions on the revitalisation of its 'Conseil d'Administration' and the reinforcement of its governance structure, have been taken on. CEBioS can play a role as facilitator for all those factors. It will also continuously stimulate more intensified collaborations of the CSB with external partners and facilitate the professionalization of the centre's staff through these collaborations and other activities .

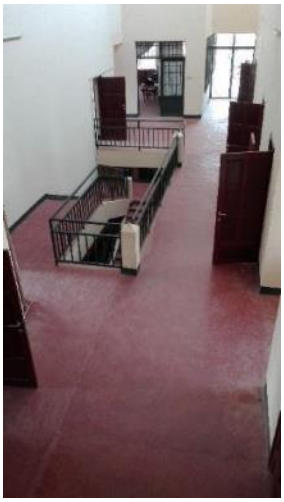


Fig. 30. View on the first floor of the CSB

Many Congolese researchers, read, write and speak English insufficiently well to independently write manuscripts that are acceptable for international scientific journals. Since last academic year, the CSB and the Science faculty have followed our suggestion follow the 'Academic English' modules that are offered in UNIKIS through the VLIR CUI project, and to organize workshops where every participant has to express him/herself in English. The fact that this young group of researchers has been able to partly overcome this hurdle can be deduced from the fact that at least 35 papers, many of which written in English have been published over the last 18 months.

The lack of basic skills of Congolese trainees to analyse data remains a real concern. Basic statistical skills are very limited, and the lack of experience using software packages to

statistically analyse results is a fundamental issue. As decided last year, we continue to provide every trainee with the following free software packages:

- PAST (http://folk.uio.no/ohammer/past/) and accompanying training to ensure improved data analysis, with functions for data manipulation, plotting, univariate and multivariate statistics, ecological analysis, time series and spatial analysis, morphometrics and stratigraphy.

- MEGA (http://www.megasoftware.net/) is an integrated tool for conducting sequence alignment, inferring phylogenetic trees, estimating divergence times, mining online databases, estimating rates of molecular evolution, inferring ancestral sequences, and testing evolutionary hypotheses. MEGA is used by biologists in a large number of laboratories for reconstructing the evolutionary histories of species and inferring the extent and nature of the selective forces shaping the evolution of genes and species.

Activity 1.2.4. (D). Application of the marine modelling to integrated coastal management and monitoring

Activities of 2016

1. Missions

BENIN

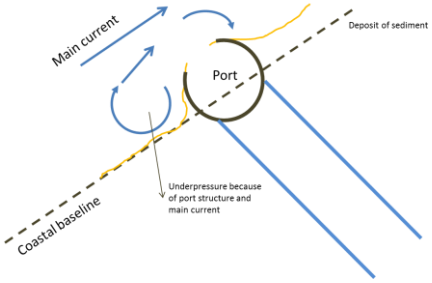
a. Formulation mission Benin (1-3 June 2016)

In 2016 we focused on establishing a cooperation with Benin, more specifically with IRHOB (Institut de Recherches Halieutiques et Océanologiques du Bénin, Cotonou, contact person: Zachary Sohou). A formulation mission was organized (1-3 June 2016) in Cotonou with representatives from several stakeholder institutes. During that it was decided to start with a small one year project in which an introductory modelling will be given. The main focus will be on sediment models as the Cotonou region suffers from erosion issues. This was decided after analysis of the problem tree constructed with the participants of the workshop.

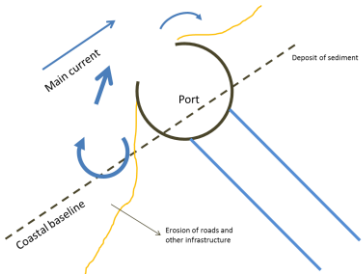
Fig. 31. Visiting Cotonou's coastline. On the left it is shown how erosion has destroyed a building that was educating future mothers, in the middle the plastic problem is illustrated with on the background the port of Cotonou in full development. On the right some local fishermen are budy working. (Photo@K. Baetens and M.L. Susini Ondafe)

Formulation mission in Benin, June 2016

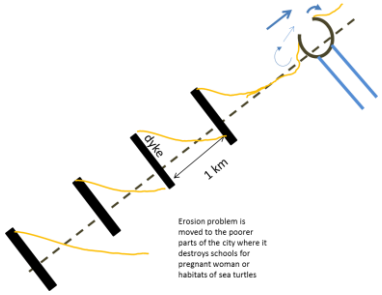
The regional analysis made during the the stakeholder meeting of the mission revealed several issues of which coastal erosion was the most pressing one with regards to poverty reduction (preservation of livelyhoods of local fisherman versus economic development of the port) and conservation of some key ecosystem species such as sea turtles.
The sketches below show what the current hypothesis is for the ongoing coastal erosion problems. When a complete project is started we hope to verify this with scientific data and to provide alternative solutions for prot enhancement.
Original situation:



In 2013 there was an extension of the port which caused important erosion at the neighboring infrastructure:



To solve this problem a series of dykes was built. However, this moved the problem to the poorer parts of the city where it resulted in schools that are washed away or habitats of marine life that are destructed.



PERU & VIETNAM

b. Midterm seminar Vietnam

The meeting was entitled 'Modeling Halong Bay for sustainable ecosystem management in Vietnam'. There were 16 participants. ML Susini & K Baetens represented CEBioS.

Fig. 32. Opening speech by Dr Nguyen Van Quan, head of the biological team of IMER

The major conclusions of the workshop:

- The ecological model (NPZD) was presented to start the discussion on how to make the link with biodiversity. This because some members of the biology team wanted some extra background on biological modelling.
- According to the Dr Nguyen Van Quan the modelling team of IMER needs to be in closer contact with the biological department, more attention to this will be paid in the next phase of the project.
- Availability of data:
    - The remote sensing team mentioned they have satellite data for the last 10 years that will be useful.
    - The biology team but believes the current data on benthos are not sufficient. It was planned to link sediment to bacteria attached to sediment particles (IR3 of the log frame)
- Suggestions for the future:

- Redirecting the focus of the project to interpret the causes of coral bleaching and discriminate between these different causes: human impact- pollution, higher turbidity, fishing -, climate change, sediment...

Status of activities

IR 3 Linking sediment and particle tracking model with ecosystem health

3.1 sampling of organisms attached with sediments

IMER organized a sampling campaign in April 2016. See report written by Vu Duy Vinh in attachment

IR 5 IMER staff is trained in sediment model applications

5.1 Hydrodynamic model reassessment

A full 3-D hydrodynamic set-up is finalized. The set-up includes the influence of tides, rivers, wind and a customized output. In 2016 the river boundary conditions still should be improved and the implementation of initial conditions to improve model performance.

5.2 sediment model

Plankton model is upgraded to V 2.10.1, this is not mentioned in the agreement but is at courtesy of RBINS, because of a previous cooperation between our institutes. Katrijn Baetens will put in on the server with shared files.
General set-up of the sediment model with mud is constructed.
A threat to the model set-up is a bug found in the code regarding the usage of curvilinear grids. A solution is solving the bug as a last resort the grid should be switched to rectangular. IMER and RBINS agreed to stay in close contact about that and exchange information each month. In August 2016 the bug was solved and we can work without any problem with curvilinear grids.

IR 6 Participation to external RBINS calls

Pham Hai An and Vu Duy Vinh participated at the JONSMOD conference 2016, Oslo, Norway. Both gave an oral presentation.
See https://publicwiki.deltares.nl/display/JONSMOD/Presentations+2016 for their powerpoints.

IR 7 Awareness about implications of model for conservation of biodiversity and sustainable use

7.2 several IMER seminars

Katrijn Baetens and Marie-Lucie Susini went to Vietnam to finalize the work for 2016 and to have a mid-term seminar. The central theme of the seminar was “how to link biology and physical model”.

The original idea to link sediments to micro-organisms was abandoned due to delay and technical problems with the sampling campaigns. It was decided to focus on coral bleaching. The research question is if we can show the relative impact of turbidity of the water column (due to sediment runoff from the coal mines, hence due to local anthropogenic causes) and of the temperature changes (due to climate change, hence due to global anthropogenic causes) on coral bleaching.

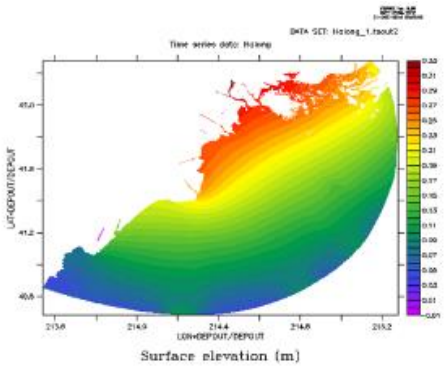


Fig. 33. More flexibility in the shape of the domain study is no problem.

2. Improving capacity building skills
    a. Introduction of 'How to' files

Introduction of 'How to' files.

The idea of these files is to provide a protocol for users on how they should include certain features in their model. Available files are:

- How to include rivers
- How to include wind
- How to include sediment
- How to include biology
- How to include temperature

The goal is to make more files available as the courses progress

3. Training
    a. Visitors from Peru: Introduction to hydrodynamic models and advanced hydrodynamic modelling (11 June 2016 till 15 July 2016)

    Three persons (Jorge Quispe, Sebastian Cisneros, Juver Periche) visited our institute for a month. Two of them were new to the programme, this slowed down the project progress, but in terms of capacity building this means more people are trained. They worked with the models developed by the previous students.

b. **Visitors from Vietnam: advanced course on implementing sediments in a hydrodynamic model (7 May till 28 May 2016).**
Vu Duy Vinh and Pham Hai An visited Belgium and took advantage of the opportunity to attend the highly specialized seminar JONSMOD (https://publicwiki.deltares.nl/display/JONSMOD/) were both of them held a well perceived oral presentation. Before and during their visit they were coached on how to present and defend a scientific presentation in a European context.

Fig. 34. Vu Duy vinh (left) and Pham Hai An (right) presenting their work at the Jonsmod conference 2016 Oslo, Norway

After the presentation they continued to work on the sediment model of Halong Bay.

Status of activities in Peru

See the picture below for the of the Peruvian project

Activity	Year 1	Year 2	Year 3
Training in Belgium on the use of marine numerical tools	x	x	
look for correct physical boundary conditions (bathymetry, tides, wind, rivers, …)	x	x	
run the model for different periods and validate the results	x	x	
writing a thesis	x	x	
e-consultation	x	x	
setting up a plankton model		x	
do the necessary adjustments to the plankton code		x	
train people in the use of plankton models		x	
e-consultation		x	x
setting up a sedimentation model		x	

do the necessary adjustments/manipulations to the code	x	
train people in the use of sedimentation models	x	
e-consultation		x
setting up a particle tracking model		x
do the necessary adjustments to the code		x
train people in the use and manipulations of these type of tools		x
e-consultation		x

Hydrodynamic setup

The four studied bays are briefly described:

Bahía de Sechura

The Sechura Bay project was mainly developed in Peru, as the Peruvian student Edward Gomez developed this for his thesis 'Modelamiento óptimo de la Hidrodinámica y el Patrón de Circulación Costera en la Bahía de Sechura; Implicaciones en el Transporte de Nutrientes'

Bahía del Callao

The hydrodynamic model was picked up by another student, so some delay in the development of this case study was experienced. However, the influence of a waste water pipeline on the currents was studied this year. With this study the impact of the pipeline on the biology can be studied. This case study is part of the bachelor thesis of Sebastian Cisneros 'Seasonal numerical modeling of coastal sirculation applied to management and conservation in the callao bay, using the COHERENS model'.

Bahía de Chimbote

The Chimbote Bay case study is relatively well developed and validated. This area was studied by Juver Periche, however he was unable to finish his year, so at the end of 2016 it was continued by Pedro Ramirez.

Bahía de Paracas

It is expected to develop, the implementation and adaptation of COHERENS model, related to biological part to simulate the discharge of pollutants with emphasis on the impacts that can produce in the ecosystem of the Paracas Bay.

Fig. 35. Illustrations of the ecological challenges each of the case studies is dealing with. On the left you see the oil exploitation in Sechura. The second picture shows the enormous biodiversity of Paracas bay which is endangered by overfishing, overexploitation of tourism and an area sensitive to earth quakes. The third picture shows some of the waste water pipes flushing fish meal factory by products into the sea. This is also a problem in Callao bay which is close to Lima so suffers a lot from household water pollutants.

Conclusions

During 2016 a lot of changes happened with the people working on the project, but this enforced the capacity side of the project a lot. For Peru, everything is ready for the final closure workshop which will take place in March 2017. During that workshop a lot of attention will be paid to the dissemination of the results and support of the continuation of the work.

Expected result 1.3. Monitoring data is fed into national indicator processes

Description

Pilot projects enable biodiversity monitoring data to be fed into national indicator processes. The goal is, in partner countries, to link scientific teams who monitor biodiversity with partner administrations (e.g. CBD or CHM NFPs who have already collaborated with CEBioS under other SOs) who are involved in biodiversity policy. Under this approach, data can become useful for, and be used in, current indicator processes on the status of biodiversity. This will enable science based communication in various national and international bodies and documents and reinforces the link between the academic and policy scenes active in the field of biodiversity in the respective partner countries. Sound baselines and measurements of biodiversity are needed to be able to provide meaningful trends. To enable our partners to contribute to these indicator processes, training and dedicated follow-up will be required to ensure the quality of the produced data.

These capacity building activities also directly contribute to fulfil specific objective 5, on measurement, verifying and reporting processes (MRV).

Log frame (partim)

Expected Results	Output indicators	Report 2016
1.3 Monitoring data is fed into national indicator processes	in at least 4 partner countries of the Belgian development cooperation data from monitoring activities are integrated in at least one of the indicators for the follow up of the respective national strategy.	Within a competitive MRV call, five projects were selected in 2015 and 2016 to work on indicators at different levels (from feeding local data into indicators, to indicator policy at the national level), from: Benin (2x), Burundi, the D.R.Congo and Morocco. These projects were finalised in 2016. Also in 2016, a new call was launched and 11 projects were selected with a focus on the D.R.Congo, to support the contribution of the regional level to national reporting

		processes. These projects are ongoing.
Activities	Report 2016	
1.3.1.Launch call for project on Aichi target indicators	Done, selected projects finished (2015) or ongoing (2016).	

Table 10: log frame (partim) for SO1, 1.3.

Activities

By 2016 at the latest, all parties to the Convention on Biological Diversity will be required to present a National Biodiversity Strategy and Action Plan (NBSAP) in line with the **Strategic Plan for Biodiversity** 2011-2020 and including specified national Aichi targets with relevant **indicators**. When national targets and indicators are determined by partner countries, collaboration with academic partners and partner authorities will be established in order to draw on our expertise in collecting data to feed the indicator processes. In addition, research projects carried out by students or early-career scientists associated with partner institutions, which are promoting the collection of data that are relevant for achieving Aichi targets, are being supported. Results will be valorised through their validation and publication in renowned science journals as well as through the national strategy monitoring systems that will be promoted under specific objective (SO2)2: enhancement of the information base on biodiversity.

We launch each year a **call for projects** that work on gathering indicator data for Aïchi objectives related to habitat/ecosystem monitoring, species data and have a relation with poverty eradication. To promote national and regional South-South collaboration, we alternate between calls targeting (1) French-speaking African countries (2015), (2) the D.R. Congo (in view of our structural partnerships with several institutions throughout the country, combined with the existence of provincial antennas for biodiversity)(2016) and (3) English-speaking African countries (2017).

Expected result 1.4. Scientific outputs are made accessible to users

Description

Tools will be produced and contribution will be made to processes that support research and its dissemination (publications, websites, end-user meetings, participation in communities of practice...).

The relevance of all these scientific activities for development is to be ensured by prioritizing the acquisition of knowledge and the establishment of projects in sectors that contribute to development policies, such as sustainable forest management, sustainable use of natural resources (including for agriculture and energy), sustainable water management, sustainable coastal and marine management (including use of natural resources from the marine environment), issues linked to health policy, management of invasive alien species and pest species, biodiversity conservation, ecotourism and trade. At this stage, we prefer not to provide a restricted list, as to ensure a maximal adequacy with the national priorities of our partners.

Log frame (partim)

Expected Results	Output Indicator	Report 2016
1.4 Scientific outputs are made accessible to users	• At least 5 Abc Taxa manuals have been produced during the 5-year period dissemination per volume • Supporting/disseminating materials formerly produced • 4 lexicons, • Syllabuses produced and/or upgraded, • participation by staff members in 5 events relevant to taxonomic popularisation tools development/capacity building. • feedback on the use of courses available. • results of at least 5 projects and public awareness activities under SO1-1 and SO1-2 are published on the internet on www.taxonomy.be or a national CHM website if available.	Guest lecture by L. Janssens de Bisthoven at the VUB (ICP Master Human Ecology) Guest lecture by H. de koeijer about taxonomic research at UGent. Lexicon in Burundi: finalising, publication February 2017 AbcTaxa: publication in 2016-2017 about diatoms in Congo and zambezi basins Posters at conferences

Activities	Report 2016

1.4.1. Taxonomic scientific tools production and dissemination of AbcTaxa manuals **1.4.2.** Popularization tools production of lexicons production/upgrade of syllabi dissemination of tools (other than Abc taxa) participation in international congresses on taxonomy and/or ICT for development and training follow-up on feedback of use of courses archiving output on GTI and CHM websites	See above

Table 11: log frame (partim) for SO1, 1.4.

Activity 1.4.1. Taxonomic scientific tools

Abc Taxa*: a series of manuals for taxonomic capacity building*
For 2016, we provided funding for the publication and distribution of one volume on sawflies and a new volume on diatoms and for the distribution of the already published manuals.

The planned volumes of Abc Taxa are the following

- Polystomes of the world
- Field guide for molecular studies of invertebrates
- Guide to the taxonomy of ants, worldwide
- Reptiles of Cuba (will be a massive volume)
- Sponges of Peru, S America
- Fish parasites in Africa

Activity 1.4.2. Popularization tools

Over the years, the collaboration with partner institutions for the monitoring of habitats has led to the production of popularization tools of high relevance for the management of ecosystems, especially protected areas. The development of such tools will continue to be encouraged and supported in the following years. Drawing on the successful experience of the « Habitats de la Réserve et Domaine de chasse de Bombo-Lumene - Lexique Kiteke des plantes observées dans ces milieux », it is planned to produce and publish about 4 additional lexicons: one in R.D. Congo in partnership with ICCN on the Itombwe, two in

Burundi in partnership with INECN (one on Kibira is published in 2017) and one in Benin in partnership with UAC. The production of syllabuses is also foreseen: one in R.D. Congo (ICCN), two in Burundi (INECN) and two in Benin (UAC).

Taxonomic popularization tools, policy briefs and video recordings resulting from scientific work supported by CEBioS are also expected to be developed as the result of projects supported under expected result SO1.1.

Indeed, as applicants will be required to demonstrate their direct or indirect contribution to the conservation of biodiversity and/or ecosystem services and to the fight against poverty in their country, one means of meeting this criteria is the development of tools destined for a wider audience (including competent authorities, local populations, etc.).

In order to continuously update internal capacities in dissemination technologies and methods, participation to international workshops or conferences will be necessary. One event per year will be selected for its relevance and attended to by a staff member (see table milestones).

SO 2. The RBINS plays a leading role in the enhancement of the information base on biodiversity, on its linkages with ecosystem services and poverty reduction and on associated governance processes

Background

The CBD's 'Clearing-House Mechanism' (CHM) is an essential tool for the implementation of biodiversity policy. It develops and strengthens cooperation and networking between stakeholders of various fields of biodiversity – governments, NGOs, consultants, academic institutions, environmentalists and others. By doing so, it enables the mainstreaming of scientific information into policies and plays a role in raising the awareness of all types of audiences on the importance of biodiversity.

The development of networks of websites forms the main pillar of the CHM approach for this programme. These websites are designed to host electronic information (policies, best practices, scientific papers, etc.) and databases (species, habitats, experts, etc.). As a corollary to the electronic networks, the CHM also fosters strong and active human networks, which are crucial for the gathering and restitution of the information and data

The Belgian CHM partnership is unique under the Convention on Biological Diversity and has proven its usefulness over the years. We will therefore continue our work, taking into account both the requirements from the new CBD Strategic plan 2011-2020 and the newly formulated strategy for our framework programme.

The 2016 programme has continued providing several **training opportunities at national level**, as well as its **recurrent support to CHM**. A **regional workshop** has been organised for mostly new Anglophone partner countries to familiarize them with our programme, opportunities through calls, prerequisites for project formulation and reporting, as well as assist them in improving their first submissions to the CHM call 2015.. We initiated a multi-annual work programme, particularly towards the consolidation of our contribution to governance processes.

Expected results

2.1. Expertise in information management is built.
2.2. Information flows are improved.
2.3. Information is used to advise governance processes.

Expected result 2.1. Expertise in information management is built

Log frame (partim)

Expected results (ER)	Output indicators	Report 2016
2.1. Expertise in information management is built	• 10 national training workshops, • 120 persons trained, • follow-up training has been organised in at least 8 partner countries. • 5 countries participate in the information management/ CHM network through South-South Cooperation (SSC) with one of our partner countries. • 70 % of the partner CHM sites have 20 pages added or updated /year. • Tool to follow-up the implementation of the national strategy is actively used in at least 5 countries	4 national training workshops 116 persons trained Follow-up training in 3 partner countries 4 countries participate in SSC 80% of partner countries have added >20 pages in 2016 Tool is actively used in 3 partner country and started in 2 others. Procuration of solar panels for continuous supply of renewable energy for CHM activities and other ICT activities. Due to civil strife these still haven't been installed.

Activities	Report 2016
2.1.1. two national training workshops per year 2.1.2. 1-2 follow-up trainings per year 2.1.3. one south south collaboration/yr initiated 2.1.4. Promotion of tool in at least 1 country /year	2.1.1.: 4 national training workshops (D.R. Congo, Morocco, Jordan, Côte d'Ivoire) 2.1.2.: 3 follow-up trainings (Togo, Niger, Tanzania) 2.1.3.: 4 south/south collaboration projects (Niger/Morocco, Morocco/Gabon, Morocco/Jordan, Morocco/Syria) 2.1.4.: promotion of tool in Burundi and during regional meetings with partner countries.

Table 12: log frame (partim) for SO2, 2.1.

To build expertise in information management we are offering several types of capacity building activities related to the CHM to our partner countries. These activities are described in our plan 2015. Depending on their existing capacity the partners will have to express their interest to participate in or organise one of the capacity building activities in their country.

Most of the official partner countries have already received training in the use of the PTK, be it training of the national focal point or a national training and follow up workshops.

National training in the use of the TCT tool was asked for by Morocco. This training was organised in collaboration with UNDP and was financed by GEF funding. Niger also asked an additional training for the use of the species database that was developed by Morocco as well as training for their new CHM focal point. We decided to ask Morocco to give this training in Niger. A national training was given in Côte d'Ivoire to train the additional people that replaced those trained in 2010. Through the CHM yearly call Morocco proposed a project for a national training in Gabon. Due to civil strife in the weeks following their national elections this training was cancelled and moved to 2017. A national training in Guinea Conakry couldn't take place as the official CHM focal point died unexpectedly in the first half of 2016 and still wasn't replaced towards the beginning of 2017.

In 2016 we received the request from Togo for follow-up training after the national training in 2015. We decided that it would more cost-effective to use a South-South collaboration as the national CHM of Benin is more than apt to give a training in Togo. Due to complications with the bank transfer as well as the long period to get a correct budget and the contract signed, this follow up training will take place in January 2017. As a follow up to the national training in D.R. Congo in September 2015 2 follow up trainings were organised at the CSB in Kisangani in 2016.

Table 13: Training courses organised with 100 % CEBioS funds

Dates	Type of activity	Place	Country	No part	Lang.	Trainer
05-07.01	Follow-up training course	Kisangani	D.R. Congo	20	fr	A. Mutombo
09-10.03	Follow-up training course	Kisangani	D.R. Congo	23	fr	A. Mutombo
21-24.03	National training course	Niamey	Niger	7	Fr	M. adbouhi
04-06.04	National training course for information exchange through the CHM	Abidjan	Côte d'Ivoire	23	FR	M.-L. Susini Ondafé and D. Ouatara

Table 14: Training courses organised through South-South cooperation or GEF funding in 2016

Dates	Type of activity	Place	Country	No part	Language	Funding	Trainer
17-18.02	National training course for information exchange through the CHM and the TCT	Rabat	Morocco	23	Fr	GEF	H. de Koeijer and A-J Rochette
25-28.07	Regional Training Course CHM	Amman	Jordan	20	EN	GIZ and CEBioS	H. de Koeijer and M. Madbouhi

The results of the capacity building efforts can be seen in the development of the number of visitors to the different national CHMs as well as the number of pages added to the site. The countries that have received capacity building in 2015 – 2016 show a substantial increase in the number of visitors.

Expected result 2.2. Information flows are improved

Log frame (partim)

Expected results (ER)	Output indicators	Report 2016
2.2. Information flows are improved	• CHM websites running and regularly updated: 50% of websites updated Alternative indicator : information added on the CHM partner websites during 2014-2018 has increased with 20 % compared to the period 2008-2012. • Number of information meetings with different stakeholders in partner countries • OBPE strengthened : CHM website updated on a regular base (pages added/year and number of visitors	All websites have been updated with new information. Through the different projects meetings were held in country with different stakeholders. OBPE: Website has been updated with more than 400 pages. Due to civil unrest and

	per year compared to baseline of 2012), Library documented and used (number of books added in the library database, number of visitors to the library), 5+ scientific bulletins published	the person responsible for the library having taken refugee status in Belgium no information on the library is available. The first scientific bulletin of the OBPE has been published.
Activities		Report 2016
2.2.1. one call per year for CHM consolidation		The call was launched in 2016. 4 countries have started to work on 4 projects for CHM consolidation. 8 projects from 2014 and 2015 are still running or closing in 2016

Table 15: log frame (partim) for SO2, .2.2.

This activity offers support to raise awareness of the existence of the national CHM, the importance of information sharing, to build networks of users, and stimulate the use of the CHM through various means such as helping installing appropriate equipment, providing opportunities to organise national 'data providing' meetings, hosting of websites on the RBINS server, providing a helpdesk for partners who encounter difficulties in using the 'Portal Toolkit' web content management tool, etc. Projects are selected on a yearly basis, through calls for project proposals.

Introduction

In 2016, the ninth call for proposals was launched for the reinforcement of CHM websites. six of the seven projects submitted have been selected: **Burundi, D.R. Congo, Ghana, Guinea-Conakry, Morocco/Gabon,** and **Kenya**. This year for the second time we have invited a person from outside CEBioS, Olivier de Munck, CHM officer at the CBD, to take part in the jury. His choice in projects and his reasoning were a refreshing addition for the other jury members.

The project with Ghana was accepted however they never improved the project proposal as was asked for. During talks with the CBD focal point of Ghana in Cancun, Mexico he informed us that the person responsible for the project proposal was replaced and her successor would continue to work on the project. They were informed that they would have to re-submit the project under the 2017 call as too little follow up too late. The project of Guinea Conakry was accepted as a national training, not as a project under the call. See SO2-1 for more information.

Some projects that started under the 2014-2015 calls were still running in 2016. Due to civil unrest in Burkina Faso an extension was granted first till August 2015, it was extended for the second time till 3 months after the inauguration of the new president. However due to problems with the formation of the new Government it was extended again till February 2017. The project with Madagascar was extended due to illness of the CHM webmaster till August 2016. Table 16 lists the projects under the 2014, 2015 and 2016 calls running in 2016.

Table 16: The projects selected in the framework of the reinforcement projects 2014-2016

TITLE OF PROJECT	DATES	PARTNERS
Renforcement des capacités du CHM-Burundais	Project part of the institutional capacity building activities for the OBPE	Office Burundais pour la Protection de l'Environnement, **Burundi**
National training for the CHM in Gabon	Project signed on 25 August 2016, extended till April 2017	Direction General de l'Environnement et la protection de la Nature (DGEPN), **Gabon** and Ministère de l'Environnement, **Morocco**
Appui à la numérisation des documents pertinents relatifs à la biodiversité présents au CSB	Project signed on 08 November 2016, end foreseen 31 July 2017	Centre de Surveillande de la Biodiversité (CSB), **D.R. Congo**
Amélioration du contenu et de l'audience du centre d'échange d'informations du Bénin	Project signed on 16 November 2016, end foreseen 31 November 2018	Direction Générale des Eaux, Forets et Chasse (DGEFC), **Benin**
RCEs Stakeholder Awareness and Sensitization on Biodiversity CHM Website	Project signed on 08 March 2017, end foreseen 28 February 2018	Nature Kenya and National Environment Management Authority (NEMA), **Kenya**
Projects signed in 2015 and supposed to end in 2016		
Promotion and operationalization of Tanzania national chm	Signed fourteenth of July 2015, end foreseen 30th of March 2016, will be extended	Vice President Office, Dar es Salaam, **Tanzania**

	as funds have been transferred only in November 2015	
Projects started in 2015 and finished in 2016		
Collecte de données scientifiques sur la flore, la faune et les services écosystémiques de la zone refuge de la Biodiversité d'Agbaou (sud-ouest ivoirien) et Enrichissement du site CHM de la Côte d'Ivoire à partir des données collectées	Signed 12th of June 2015, end foreseen 31th of January 2016 **Extended till August 2016 due to account difficulties**	Laboratoire botanique, Université de Felix Houphouet Boigny, **Côte d'Ivoire**
Project 2014 started in 2014 and still running in 2016		
Promotion de la coopération sous régionale pour la mise en œuvre du centre d'échange d'informations sur la biodiversité (CHM)	Project signed on 30 September 2014, end foreseen 31 November 2016	Direction Générale des Forêts et des Ressources Naturelles (DGFRN), **Benin**
Mise en œuvre du volet CHM du Programme de coopération scientifique UAC – RBINS: Phase 1	Project signed on 18 August 2014, end foreseen 31 November 2016 (ends in April 2017)	Direction Générale des Forêts et des Ressources Naturelles (DGFRN), **Benin**
Amélioration de la connaissance et de l'engagement des acteurs nationaux et du contenu du centre d'échange d'informations (CHM) du Burkina-Faso	Project signed on 9 September 2014, end foreseen 28 February 2015 (Has to end in April 2017)	Secrétaire Permanent – Conservation de la Nature et le Développement durable (SP/CONEDD), **Burkina Faso**
Mise à jour du CHM pour le thème biodiversité côtière et marine et renforcement de la	Project signed on 12 August 2014, end foreseen 30 June 2015 **Finished December 2016**	Office national pour l'Environnement, **Madagascar**

collaboration avec la République des Comores		

Details per country

2016: Burundi, Benin, D.R. Congo, Morocco/Gabon, Kenya

Burundi

The project had the following goals:

- Consolidation of the functioning of the website for the CHM of Burundi;
- Strengthening of the collecting and posting information systems on the web site of the CHM-Burundi ;
- Strengthening systems of collecting, sharing and diffusion, and exploitation of information through non-web based means;
- Improving the use of the library of the INECN through an awareness campaign.

The project report 2016 is expected towards June 2017. This is due to problems in the country that made that in 2015 and 2016 some of the activities couldn't be undertaken.

Results:

The results of the long-term reinforcement activities are more difficult to measure. However one can note several mile stones: Burundi got a reward for being among the 10 best CHM websites; the distribution of number 1 and 2 of the scientific journal of the OBPE; more than 400 additions on the CHM website; the CHM website attracted 10783 visitors over the reporting phase, with 73943 pages consulted. This is a 20 % increase of the number of visitors and 103 % decrease in page views compared to the 2015 reporting phase. The installation of the solar panels was put on hold in 2015, finally in October 2016 the clearing was received that a start could be given with getting the materials ready for shipping again towards the end of 2017. At the moment of writing of this report a container is being prepared for shipping. More information is available in the section on institutional cooperation of this report.

BENIN

The project has the following goals

Objectif global

L'objectif global de ce projet est d'améliorer l'engagement des acteurs et décideurs pour le centre d'échange d'informations du Bénin afin de permettre sa mise en œuvre efficiente pour l'atteinte des objectifs de la Stratégie et Plan d'Action National pour la Biodiversité (SPANB) 2011-2020

Objectifs spécifiques

- Améliorer aux plans quantitatif et qualitatif le contenu du CHM Bénin.
- Améliorer l'engagement des parties prenantes à utiliser et contribuer au CHM Bénin.
- Utiliser les informations du centre d'échange pour faciliter le rapportage en ligne sur la stratégie nationale biodiversité.
- Utiliser le contenu du CHM pour produire des outils d'information thématiques synthétiques accessibles et facile de lecture

Activités

Activité 1 (A1) : Amélioration du contenu du CHM-Bénin aux plans quantitatif et qualitatif.

R A 1 : le contenu du CHM est amélioré aux plans quantitatif et qualitatif

Activité 2 (A2) : Amélioration de l'engagement des parties prenantes à utiliser et contribuer au CHM Bénin.

RA 2 : Les différentes parties prenantes ont pris connaissance de l'importance du CHM-Bénin et ont adhéré à son alimentation.

RA 3 : Les liens entre les sites web des structures et le site web CHB sont créés.

R A 4 : le Réseau des contributeurs site web CHM-Bénin est actualisé et opérationnel

R A 5 : Au moins 100 étudiants utilisent le site web CHM comme un puissant outil bibliographique durant la période du projet

RA 6 : Les cours de recherche bibliographiques donnés aux étudiants en fin de formation dans nos universités intègrent l'enseignement du site web- du CHM-Bénin, de la CDB et des autres conventions connexes.

Activité 3 (A3) : Utilisation des informations du centre d'échange pour faciliter le rapportage en ligne sur la stratégie nationale pour la biodiversité.

RA 7 : le rapport sur la mise en œuvre de la Stratégie et Plan d'Actions National pour la biodiversité est élaboré à partir de l'outil TCT.

Activité 4 (A4) : Utilisation du contenu du CHM pour produire des outils d'information thématiques synthétiques accessibles et facile de lecture.

RA 8 : Les outils d'information selon les thématiques synthétiques accessibles et facile de lecture sont produits sur la base du contenu du CHM.

Results:

This is a three year project with the first reporting foreseen towards the end of May 2017.

Morocco-Gabon

This is a South-South collaboration project with the aim to organise a national training workshop to train national contributors. The training was supposed to take place in 2016, however due to civil strife after the elections it had to be postponed till March 2017.

Results:

The training took place from 6 to 10 March 2017. 2 trainers, M-L Susini Ondafe and Mostafa Madbouhi from Morocco facilitated the training, thanks to the help of the CHM national focal point, Chimène Michelle Milendji. A total of 15 new users, coming from Ministires and Universities, were trained in the use of the Portal ToolKit (PTK) in order to contribute to the national CHM website of Gabon (http://ga.chm-cbd.net/). For the last 2 days of the training, managers were trained on the administration of the PTK. A follow-up training is foreseen before the summer so that contributors can give their feedback and explain where they encountered problems when adding data to the nationalCHM website.

D.R. Congo

Un projet développé par le Centre de Surveillance de la Biodiversité, en collaboration avec le Point Focal CHM : 'Appui à la numérisation des documents pertinents relatifs à la biodiversité, présents au CSB'

RA1.A1 : Sélection des personnes parmi les chercheurs du CSB formées en 2015 et 2016, pour la sélection, la numérisation et le travail sur le site web du CHM ;

En octobre 2015 et en janvier 2016, avec l'appui de CEBioS, des formations sur le CHM ont été organisées au sein du CSB. Non seulement des chercheurs du CSB ont suivi ces formations, mais également un nombre de représentants des antennes du centre ainsi que quelques membres de la Faculté des Sciences de l'UNIKIS. Parmi les membres du personnel du CSB ainsi formés, 2 personnes sont désignés à l'exécution de ce projet. Ces personnes seront connues avant la réunion de pilotage du projet

RA1.A2 : Formation de l'équipe pour la sélection, numérisation et le 'posting' sur le site web du CHM ;

Les personnes désignées au projet, travaillent avec un expert du CSB (désigné par le CSB) pour assurer la sélection qualitative des documents selon les critères identifiés, ainsi que pour la numérisation et le 'posting' sur le site web du CHM.

RA1.A3 : Formation avancée pour la sélection et ''posting'' sur le site web du CHM des nouvelles informations

Pour la formation avancée sur le système CHM et la sélection de nouvelles informations issues par les antennes, par les membres du CSB ou de la Faculté de Sciences, l'assistance du Point Focal CHM National est indispensable. Pendant sa présence pour la réunion de pilotage du projet il a pu expliciter certains aspects détaillés du travail. En outre, un budget de voyage à Kisangani supplémentaire est prévu dans le budget pour permettre au Point Focal de bien suivre l'exécution du travail et d'agir en cas de problèmes.

RA2.1.A1 Détermination des critères pour la sélection des documents à numériser

Pendant la réunion de pilotage du projet, les critères pour la sélection des documents à numériser ont été identifiés.

RA2.1.A2 : Sélectionner les documents à numériser et établir une liste organisée

La sélection des documents à numériser s'est fait sur base des critères qui ont été définis de commun accord avec le CSB et le représentant de la Direction du Développement Durable (DDD) du Secrétariat Général à l'Environnement et Développement Durable (SGEDD) pendant la réunion de pilotage du projet. Dans tous les cas, il s'agit des documents qui ont un lien avec la SPANB et qui peuvent contribuer à sa mise en œuvre.

RA2.1.A3 : Numérisation des documents sélectionnés

Le CSB met à la disposition du projet des appareils de scannage. La direction du CSB assure qu'il y aura une pièce disponible pour effectuer ce travail.

RA2.1.A4 : Poster les documents numérisés sur le site du CHM

Les documents numérisés seront postés sur le site web du CHM pour faciliter leur diffusion.

Le CSB est responsable pour ses propres connexions internet, financièrement tant que physiquement et en termes de gestion. Il dispose d'une quarantaine postes de travail câblés ainsi que d'un réseau WIFI qui permet de connecter un nombre d'ordinateurs encore plus élevé. En ce moment le coût mensuel de cette connexion est de 700€ par mois. Avec des revenues limitées et incertaines et par manque d'une allocation de budget pour son fonctionnement par les autorités, le CSB se retrouve de temps en temps dans des difficultés de paiement. Pour assurer le bon déroulement des activités prévues, une contribution à la connexion internet du CSB est prévue pendant la durée du projet.

RA2.2.A1 : Poster des nouvelles informations sur le site du CHM

A tout moment, des nouvelles informations peuvent être issues par les antennes et par les membres du CSB ou de la Faculté de Sciences. La formation donnée par le Point Focal CHM National apprend aux collaborateurs du CSB d'exécuter une première sélection et d'ensuite arranger pour le 'posting' de ces nouvelles sur le site web du CHM.

RA3.1.A1 : Effectuer des communications sur les nouveaux 'posting'

Il est clair que la communication sur ce qui se passe sur le site web du CHM devrait être bien organisée. Un système de listes d'adresse mail, basé sur les listes disponibles dès l'organisation de la 1st International Conference on Biodiversity in the Congo Basin en 2014, et complétée par d'autres listes disponibles, sera employée pour organiser la distribution des annonces.

RA3.2.A1 : Organiser une réunion de pilotage

Comme tout projet, son lancement a été organisé au cours d'une réunion avec les parties prenantes concernées pour notamment lever les principales options concernant sa mise en œuvre, entre autre sur la définition des critères pour la sélection de documents à numériser.

A l'occasion de cette réunion, les premières discussions sur le Protocol d'Entente entre le CSB, le SGEDD et l'RBINS ont été menées avec les représentants du SGEDD-DDD, la direction provinciale du SGEDD et la direction du CSB et un représentant de l'RBINS.

RA3.2.A2 : Chercher du feedback' mutuel pendant le projet

L'équipe au sein du CSB tient au courant le Point Focal CHM National par téléphone et par mail des développements, du progrès, des éventuelles difficultés. De son côté le Point Focal National CHM donne des appuis techniques, des conseils….

Chaque mois, un rapport est préparé par le Point focal CHM et son assistant pour rapporter ces discussion auprès de Point Focal CBD et afin d'indiquer les progrès accomplis par le projet conformément aux objectifs établis et aux activités planifiées. Ces rapports feront partie du rapportage du projet.

RA3.2.A3 : Organiser l'auto-évaluation commune par le CSB, SGEDD et sa direction provinciale

Une auto-évaluation électronique, éventuellement complémentée avec des entretiens par téléphone, sera organisée par le Point Focal National CHM à la fin du projet pour notamment déterminer quelles pourraient être les activités en perspectives. Le rapport d'auto-évaluation sera inclus dans les rapports de projet.

RA4.A1 : Le représentant de la direction provincial du SGEDD participe à la réunion de pilotage

Bien évidemment, la Direction provinciale du SGEDD est une partie prenante importante dans ce projet. Leurs représentants ont été invités à participer à la réunion de pilotage, non seulement pour être mis au courant de l'existence du projet, mais également pour participer à l'identification des critères de sélection des documents et pour s'informer profondément sur le CHM et ses buts.

RA4.A2 : L'organisation d'un séminaire d'information pour les membres de la direction provinciale

Une bonne partie des documents qui seront postés sur le site CHM pendant ce projet, traitera sur la biodiversité de la province de la Tshopo et les provinces voisines. La Direction provinciale du SGECN a donc un intérêt direct dans les résultats de cet exercice. Afin de mettre l'accent sur l'existence et l'envergure acquis du CSB et de stimuler l'appropriation des connaissances sur le CBD et le CHM par les différents membres de la direction, une séance d'information sera organisée au CSB. Pendant cet atelier, un aperçu des documents postés au cours du projet sera également présenté.

RA4.A3 : La direction provinciale du SGEDD participe à l'auto-évaluation du projet

Comme partie prenante locale la plus importante dans ce projet, et parce que elle a été impliquée dès le début dans ce projet (participation à la réunion de pilotage), il est évident que la direction provinciale participe à l'auto-évaluation du projet.

Results:

Le 22 novembre la réunion de Pilotage du projet a eu lieu au CSB : explication général du projet, définir et organiser le travail à exécuter par le CSB, sous la guidance et avec l'appui du DDD. Rédaction d'un organigramme et une planification. Le même jour un réunion de travail sur la structure des pages à remplir par le CSB sur le site web du CHM a eu lieu.

Note importante :

Le 23 novembre une première discussion formelle sur un **Accord Cadre de Coopération entre le CSB et l'IRSNB** a été organisée en présence des représentants de la Faculté de Sciences et des ministères nationaux et provinciaux en charge de l'environnement. L'IRSNB souhaite développer un Accord Cadre de Coopération avec le CSB dans un effort d'intensifier la collaboration avec le CSB afin de le renforcer dans son rôle comme *CHM secondaire* pour la RDC, un rôle qui devrait être reconnu formellement par la **Direction de Développement Durable du Secrétariat Général à l'Environnement et Développement Durable du Ministère de l'Environnement et Développement Durable dans un accord de coopération entre ses services et le CSB.**

Une première session de travail pour la rédaction du document portant sur la collaboration entre l'IRSNB et le CSB a eu lieu le même jour. Une deuxième et troisième session de travail ont eu lieu le 24 novembre et le 26 novembre. Les discussions sur la rédaction dudit document se sont poursuivies par mail jusqu'à leur finalisation en février 2017.

Kenya

This project has the following objectives:

- Organise and hold CHM website awareness stakeholder meetings with the 4 RCEs
  - Constitute a 12 member taskforce at NEMA in Nairobi and hold 5 meetings.
- Members draw from education and research departments.
  - Hold CHM awareness stakeholder 4workshops in the 4 RCEs
- To develop and disseminate CHM awareness materials brochures
  - Develop colour brochures
- Develop a biodiversity dataset questionnaire and circulate
  - Meetings to develop a biodiversity dataset questionnaire content and circulate

- Data entry from the questionnaires

Results:

Due to problems to transfer the money to the National Environment Management Agency (NEMA), it took some time to find a solution. The contract had to be rewritten and now Nature Kenya is the principal contractor while NEMA does most of the work. The contract was only signed in March 2017 with the activities starting in April 2017.

2015: Côte D'Ivoire, Tanzania

Côte d'Ivoire

Global objective

To add to the CHM a part of the collected data on the fauna, flora and ecosystem services of the "zone refuge de Biodiversité d'Agbaou" located in the South-West part of Côte d'Ivoire.

Specific objectives

- Make an inventory of the fauna, flora and ecosystem services of the "zone refuge de Biodiversité d'Agbaou";
- digitalise the scientific data (scans, digital photos, development of tables in Excel) of the "zone refuge de Biodiversité d'Agbaou"
- Organise and structure the collected data in databases;
- Make the collected data available on the CHM (Tables, scanned herbarium specimen, and photos of the flora);
- Put in place a follow-up system to update this information on the CHM;
- Raise the awareness of the public on the information available on the site.

Activities

Activity 1 : make an inventory of the fauna, flora and ecosysteme services (collection mission in the field)

Activity 2: digitalise the collected data

Activity 3 : Analyse and treat the data

Activity 4 : Organisation/exploitation of the data/blog

Activity 5 : Workshop to vulgarise the results of the project and to raise awareness on the CHM to the targeted audience (researchers, students, media, etc.)

Activity 6 : Writing of the activities report.

Results:

Due to problems with the transfer of the money to a wrong account the project has started later than foreseen. It was granted additional time to finalise the activities that were planned. The final report can be found on the website of the CHM of Côte d'Ivoire.
http://ci.chm-cbd.net/cooperation/articles-scientifiques-et-techniques/conservation-de-la-diversite-vegetale-sur-les-sites-miniers-cas-de-la-reserve
http://ci.chm-cbd.net/cooperation/articles-scientifiques-et-techniques/diversite-vegetale-et-valeur-pour-la-conservation-de-la-reserve-botanique-d
http://ci.chm-cbd.net/cooperation/articles-scientifiques-et-techniques/la-reserve-botanique-de-dekpa-un-exemple-d-innovation-contre-la-degradation-des
http://ci.chm-cbd.net/cooperation/articles-scientifiques-et-techniques/rapport-de-mission-sur-l-etude-de-l-evaluation-des-services-d-approvisionnement
http://ci.chm-cbd.net/cooperation/articles-scientifiques-et-techniques/rapport-provisoire-sur-le-carbone-de-la-reserve-de-dekpa
http://ci.chm-cbd.net/cooperation/articles-scientifiques-et-techniques/un-cas-de-compensation-ecologique-dans-le-secteur-minier-la-reserve-forestiere

Tanzania

General Objective

Operationalize CHM with up to date biodiversity information accessible to the general public.

Specific Objectives

- To popularize the National CHM.
- To have relevant biodiversity information/publications accessible on the CHM website

Activities

- To popularize the National CHM

1) Conduct Stakeholders meeting/workshops to create awareness on CHM.

This will involve bringing together key/important stakeholders to get to know of the existence, significance and make use of the CHM website.

2) Prepare and disseminate CHM awareness raising materials (CHM fliers, Brochure, Posters).

This will involve designing and producing – fliers, brochures, and posters; and dissemination of these materials in national public events such as world environment day and other national environment awareness campaigns.

- To have relevant biodiversity information/publications accessible on the CHM website

1) Identification and Preparation of relevant documents/publications to be shared on the CHM website. This will involve identification, sorting, and digitalization of available relevant biodiversity documents to be shared on the website.

2) Synthesis and Translation (into popular version) of key biodiversity documents. Translation into Swahili of the identified biodiversity documents for the general public.

Results

Due to problems with getting the financial reports for the regional workshop as well as the national training it was decided that the project finances wouldn't be transferred till these financial reports were approved. The project therefore started only in December 2015. We have several times sent emails to the people responsible for the project at the Vice-President Office. We understand that the main contact persons have started MSc training and aren't working anymore in the office. We will continue trying to get a reply from the national focal point CBD however taking into account the lack of follow up they won't be granted projects under the call 2017.

2014: Benin, Burkina Faso, Madagascar

BENIN

The project had as **objectives**:

- Global Objective
    - Development of a sub-regional concentration for the CHM between: Benin, Burkina Faso, Côte d'Ivoire, Niger and Togo.
- Specific objectives
    - Elaborate, implement and evaluate an Action Plan for the CHM for the 5 countries that participate in the project;

- Share and replicate best practices of countries in ways to manage the CHM;
- Build capacity in Togo for the implementation of the CHM;

- Activity 1 (A1): Development of an action plan for the 5 countries.
- Activity 2 (A2): Evaluation of the Action Plan (2014- 2016) and development of an action plan (2017 -2020) for the implementation of the CHM.

This will be done by organising two workshops, one in Benin, 2014, and one in Niger in 2016.

Results:

In 2016 the project had foreseen a meeting in Niger. Due to the change of national focal point, Benin and Niger decided that it would be better to hold the workshop in Benin to ensure a correct preparation. The workshop took place in Cotonou, Benin from 02 to 03 November 2016. The final report of the project can be found on the CHM of Benin. The regional cooperation under the project was a good start of regional cooperation. However it was clear that much could still be learned from each other. A new project proposal for joint activities was discussed and a working group was proposed to finalise this proposal before the CHM call in 2017.

Burkina Faso

The general objective of the project is « To improve the knowledge and the engagement of national stakeholder as well as the content of the CHM of Burkina Faso. »

The objectives are:

- To inform and raise awareness of the people that are in charge of information management at the sectoral Ministries and other stakeholders, like professional networks and associations, on the importance of the CHM and their implication in its functioning.
- Collect and validate data in the section that will receive special attention during the project.
- Elaborate a strategy for the CHM of Burkina Faso with the aim to revamp it.

The end of the activities of the project was foreseen in February 2015. Due to civil unrest the implementation of the project has encountered some delays. A project extension has been asked for by the Government of Burkina Faso. A first extension has been granted however due to the new director not able to release the funds a second extension has been granted till the new Government is in place (foreseen 2016) and the different Ministries are functioning properly again. An interim report is available however not yet available on the national CHM of Burkina Faso. The report mentions the difficulties encountered when trying to involve other stakeholders to release information about their work on biodiversity to the national CHM. There are still two activities that haven't been finalised due to problems releasing the funds from the budget of the SP/CONEDD. In November 2016 the responsible person informed us that he isn't getting any support from his organisation and has taken the position that he will stay put and continue to try to resolve the problem. It might be necessary to organise a mission to Burkina in 2017 to un-block the situation.

Madagascar

The project has for general **objective** "the development of the section in the CHM under the theme « coastal and marine biodiversity » and capacity building activities with the Republic of the Comoros". The specific objectives are to:

- Improve the knowledge on the CBD and especially on the theme of marine and coastal biodiversity. Amélioration de la connaissance du CDB et du thème biodiversité marine et côtière.
- Improve the management of the CHM of Madagascar (section on marine and coastal biodiversity).
- Continued collaboration between Madagascar and Comores for the CHM.
- Capitalise and share information between the CHMs of the 2 countries.

The training in the use of the CHM has taken place in Moroni, Republic of the Comoros, from 23 to 25 September 2014. 17 people from different ministries and NGOs participated in the training. The project end was foreseen in August 2015 however due to illness of the person responsible for the project an extension was granted till January 2016. In April 2016 we finally received the information from ONE that due to the fact that their financial manager had died in January 2016, they weren't able to submit their financial report till December 2016. Their narrative report had been received one day before the finalization of the 2015 report and is available on the http://mg.chm-cbd.net/ of Madagascar.

Web statistics

Like each year, web statistics are provided for a number of our CHM partner countries (see Table 17). They show trends and enable to reflect on the evolution of the websites. As we are starting a reporting under a new five year programme we have decided to use the statistics for 2013 in order to have a baseline. This will assist us in comparing the results of all our activities over the duration of the programme. We have also added the statistics of Cameroon and Madagascar as they are not eligible any longer after 2014 to be able to compare the development of non-partner countries with those of partner countries.

For this reporting period, there are two striking numbers:

- The CHM of Mali isn't functioning anymore. The person who was trained has left his office and nobody has taken over the position. This problem was discussed during COP 13 in Cancun with the national focal points CHM and CBD. The only solution that they proposed was to train again a person to become web manager for the CHM. This doesn't seem a very sustainable proposal, normaly the CHM focal point should be able to add items to the CHM, which he is clearly not doing. We have suspended for the time being the cooperation with Mali and they won't be invited to regional activities any longer.

- Quite some countries have more than 40 % of pages visited. Some of them are countries that had CHM projects, were revamped or had other major activities in the country.

Table 17: Web statistics on visitors for a selected number of CHM websites

	2015			2016			Percentage of change		
	Visits	Pages visited	Pages added	Visits	Pages	Pages added	Visits	Pages	Pages added
Burkina Faso	889	1893	6	2732	4529	1	207.31	139.25	-83.33
Burundi	8872	36318	>400	10783	73943	>400	21.54	103.60	> 25%
Benin	10726	25310	54	9766	27429	15	-8.95	8.37	-72.22
R.D. Congo	8148	17522	8	9567	26631	>200	17.42	51.99	>600
Côte d'Ivoire	12231	25180	12	14729	41224	78	20.42	63.72	550.00
Madagascar	18354	60605	>300	20548	72423	>150	11.95	19.50	0.50
Niger	12368	38837	0	13329	43879	15	7.77	12.98	>600

Cameroun	5167	24545	10	0	0	23	-100.00	-100.00	130.00
Morocco	25830	83043	67	18108	70533	40	-29.90	-15.06	-40.30
Rwanda	1517	14846	49	1428	11446	19	-5.87	-22.90	-61.22
Mali	1090	2561	9	3146	5681	0	188.62	121.83	
Togo	1114	8027	41	2054	13753	45	84.38	71.33	9.76
Belgium	37874	67850	150	50527	90815	97	33.41	33.85	-35.33

Expected result 2.3. Information is used to advise governance processes

Log frame (partim)

Expected results	Output indicators	Report 2016
2.3. Information is used to advise governance processes	• Level of activity of the network of partners: One regional workshop organised, • number of participation in EU and global governing activities by Be and partner countries. • EU tool for the follow up of the reporting on the national strategies is used in at least 5 countries for the reporting to CBD, related biodiversity Conventions and agreements. • Number of information meetings with different stakeholders in partner countries.	Regional Workshop for Francophone countries 5 EU Target Crosslinking tool used in 3 countries (Morocco, Benin, Burundi) see reports

Activities	Report 2016
2.3.1. Networking and organising 1 meeting/yr of CHM NFP of partner countries and governance	Benin
2.3.2. one Mission /yr international meeting	Several international meetings: SBSTTA 20, SBI, CHM-IAC, COP13

Table 18: log frame (partim) for SO2, 2.3.

Activities

In the work plan 2016 it is mentioned that under this point the activities will be: to organise at least one regional meeting to prepare partner countries for governing processes; enable Be and partner countries to participate in the governing processes; promote the usage of the EU target cross-linking tool in partner countries as well as information meetings in country to promote the use of available information.

Regional meetings

Regional Workshop for Francophone countries

Every 2 years a regional meeting is organised for the Francophone partner countries to exchange experiences. In 2016 the meeting took place in Cotonou, Benin from 1-3 February 2016. It was also the occasion to visit some of the projects that are taking place in relation to the CHM, Public Awareness and monitoring of habitats around the Pendjari National Park for the participants from CEBioS. Results of the meeting: the participants exchanged best practices that they had undertaken since the last regional meeting of 2014 at Bouea, Cameroon. They received training in using the TCT toolkit; the international CHM and ABS-CH by Olivier de Munck from the CBD Secretariat. Olivier de Munck and Han de Koeijer informed the participants about the major international events in 2016, being SBSTTA 20, SBI 1 and COP13. The participants were also reminded about the CHM award and to submit their candidacy. The participants were also asked to present project proposals that they would submit to the CHM and public awareness calls 2016. In the end 6 projects from the participants have been submitted and most have later in the year been accepted under the different calls.

SBSTTA 20 / SBI 1

During *SBSTTA 20* H. de Koeijer used the occasions to meet as many partner countries as possible to discuss the partnership follow up. On behalf of Belgium H. de Koeijer and M-L. Susini Ondafé were pilot or co-pilot during *SBSTTA-20* on agenda items: 9 Pilot: Sustainable wildlife management, 11 Pilot: Fifth Edition of the Global Biodiversity Outlook, National Reporting and Indicators for Assessing Progress towards the Aichi Biodiversity Targets. Most of the Belgian position could be found back in the final papers that came out of SBSTTA 20. During the SBI 1j H. de Koeijer was pilot or co-pilot for Belgium on agenda items: Pilot Item 5: review of progress towards Aichi biodiversity target 16 on the Nagoya Protocol, Pilot Item 8: : capacity-building, technical and scientific cooperation and technology transfer, Co-Pilot Item 11: cooperation with other conventions, international organizations and initiatives: enhancing synergies among biodiversity-related conventions

As pilot for Belgium H. de Koeijer had to draft, with the EU-pilots, the EU position

and defend it with H. Segers in the EU coordination meetings. During the plenary meetings notes were taken and feedback provided to Belgium and the EU. All items touched directly on items related to SO1, SO2, SO3, SO4 and SO6 of the work programme of CEBioS.

CHM-IAC

For the start of SBSTTA-20 the CHM-Informal advisory committee (CHM-IAC) held a one day meeting to advise the secretariat on possible actions till COP13. From the partner and former partner countries Burundi, Cameroon, Morocco and Madagascar are also member of the IAC, this mainly due to their expertise in developing and maintaining their national CHMs. For the start of the COP13 meeting H. de Koeijer, as chair of the CHM-IAC, had to do a lot of preparatory work due to illness of the CHM officer. He was directly involved in the development of selection criteria for the CHM award, the possible decision in relation to the CHM and capacity building.

Mention in UNEP/CBD/ABS/CB-IAC/2016/1/4, 17 June 2016:

Mr. Han de Koeijer (nominated by the European Union), presented capacity-building activities undertaken in the European Union region. Taking into account the novelty of the Protocol and the small number of ratifications in the region, he noted the importance of undertaking capacity-building and awareness-raising activities. In that regard, he outlined training workshops held throughout the European Union that had been targeted at researchers, as well as workshops and guidelines targeted at specific sectors. He also gave examples of capacity-building efforts undertaken by individual European Union member States. For example, he noted that Belgium had held several capacity-building workshops with stakeholders and the scientific community. Among lessons learned from those activities, he noted the relevance of a sectoral approach to mainstreaming ABS among users and the need to ensure that workshops and activities address the varying degrees of expertise or familiarity with the Protocol at different levels.

COP13

Han de Koeijer participated as member of the Belgian Delegation to COP13 that was held in December 2016, Cancun Mexico. He was Belgian pilot on the following items: COP Item 9-Review of implementation, COP Item 12-Capacity building, COP item 13-Synergies, COP Item 14-Article 8j. As pilot for capacity building, technical and scientific cooperation, the CHM and public awareness he prepared the EU position together with the UK as no EU pilot was doing its work on this item. As expected after SBI 1 this item was quite heavy with 6 contact groups and the only night session till 5 AM. This was due to the request from Africa countries to have an indication of financial resources allocated to each capacity building activity included in the annex of the capacity building short term action plan. He assisted in the preparation of the Belgian and EU positions of the other subjects but couldn't participate a 100 % to their negotiations as he was also following

capacity building, public awareness and CHs in the COP/MOPs to ensure coherency between the Convention and its Protocols

Other international missions

In the days before the COP13 Han de Koeijer participated in the scientific Forum organized by Mexico. He also participated in a working dinner Consortium of Scientific partners of the CBD. As a follow up of this work dinner he presented 3 times in side-event the presentation given by Mexico about the possible roles of the CSP in capacity building opportunities for the CBD.

SO 3. The RBINS contributes to awareness raising and communication on the importance of biodiversity and ecosystem services for poverty reduction and sustainable development, and on associated governance processes.

Background

In 2015, we will continue to support awareness raising activities through calls for proposals whilst pursuing our reflexion towards the establishment of baselines and the identification of suitable indicators.

Expected results

3.1. Baselines provide an insight on the level of awareness and/or commitment.
3.2. Awareness and commitment are raised.
3.3 Communication and awareness raising in Belgium

Outcome:

selected partner countries are better aware of baseline data of awareness about CBD when preparing policies and DGD when preparing ICP's (3.1.)
the awareness about the importance of biodiversity and ecosystem services is risen in partner countries at different levels (governance, general public) is enhanced/taken into account in policy making and implementation (3.2)
the awareness in relevant sectors in particular DGD and the actors of the Belgian cooperation in Belgium on biodiversity and ecosystem services related to development cooperation is increased and taken up in the preparation of the new indicative cooperation programmes with the partner countries (3.3)
NGAs and NGO programmes are involved in this exercise (3.3)

Expected result 3.1. Baselines provide an insight on the level of awareness and/or commitment

Log frame (partim)

Expected Results	Output Indicators	Report 2016
3.1 Baselines provide an insight on the level of awareness and/or commitment	• Number of public awareness projects completed, • At least 3-5 countries will reply to the special call for projects and develop indicators for public awareness. • In 2018 and 2019 these countries and countries that did their baseline studies and indicators development in 2011-2012 will receive can submit projects for funding to redo the same studies as undertaken in the first years. This will facilitate them to study effects and change in conception of the Public awareness work done under SO3.2.	completed. 2 countries applied to the call Not applicable yet
Activities	**Report 2016**	
3.1.1. one call/year for awareness baseline projects in the South 3.1.2. The results should be used for the reporting towards the Aïchi targets and the relevant indicators in the reporting tool that countries will use under SO2-1 and SO5.	Tanzania and Togo applied under this call No reports published as Morocco didn't yet start their project due to money transfer problems.	

Table 19: log frame (partim) for SO3, 3.1.

Togo, Tanzania, Morocco, D.R. Congo

Activities

A call for project to the partner countries was launched in June 2016. In the call partner countries could choose between projects under SO3.1 or SO3.2. We made in July 2016 the selection of the different projects that would receive funding. Only 1 country had projects related to SO3.1 and was selected. Contracts with them were only signed in the end of January 2017. The following projects was chosen under SO3.1:

Togo: Baseline study on indicators for public awareness, communication and engagement to measure the perception of the public toward biodiversity in Togo.

As the project will only started in February 2017 and will run till August 2017, we can't report yet on the outcome of the project.

The project of Tanzania wasn't retained, even though the quality of the project was good, due to the fact that 2 other projects under the CHM call as well as follow-up training that had started in 2015 still hasn't been reported on.

The project of Morocco on the baseline study that was selected in 2015 didn't start as there is still no solution to the transfer of funds. There have been discussions with BTC-CTB on starting a cooperation agreement with them, which is due to be finalised in June 2017.

An additional project was started with VVOB-DRC and the Ministry of Environment of the D.R. Congo. After the success of their project "Awareness raising on the role of sustainable agriculture for biodiversity in the technical agriculture teaching system" during the period 2014-2016, they asked for an extension of the project towards new provinces under SO3-2. Due to the eligibility criteria this couldn't be awarded until a baseline study would have been conducted. A derogation was given to them to start a project towards the end of 2016 to conduct this baseline study in the new province as well as the province where the earlier project had taken place. A kick off meeting was held in Kinshasa in November 2016 to discuss the practicalities of the project and to imply a team of professors of the Faculty of Agronomy of the University of Kinshasa (UNIKIN) for the scientific development of the indicators as well as for the setup of the base line study itself in the field. The end of the project is foreseen towards May 2017.

Expected result 3.2. Awareness and commitment are raised

Description

Based on the results of the target audiences and subjects for which public awareness needs to be raised as a result of SO3.1, the partner countries and local institutions and organisations through the CHM and CBD focal points can submit projects under a **call for proposals**.

Log frame (partim)

Expected Results	Output Indicators	Report 2016
3.2 Awareness and commitment are raised	Indicators on public awareness show a positive development between 2014 and 2018. PA Materials are developed and used in different countries.	Collection of data on going with : •Benin: "Raising awareness of national stakeholders on the conservation of biodiversity in Benin" •Burundi: "Towards an effective awareness raising in the light of the conservation of biodiversity" • Guinea-Bissau: Raising awareness and environmental education of local development agents towards a sustainable management of biodiversity and natural resources in Guinea-Bissau • Côte d'Ivoire: Education and raising awareness on invasive alien species in Côte d'Ivoire •Democratic Republic of Congo: Awareness raising on the role of sustainable agriculture for biodiversity in the technical agriculture teaching system in cooperation with VVOB New projects with: Benin (2), Niger Side event on experiences from the country projects during COP13.
Activities	**Report 2016**	
3.2.1. special awareness project calls in South organised	done	

Table 20: log frame (partim) for SO3, 3.2.

3 projects are still running from the **2014 call** and ended in 2016:

Benin, Burundi, D.R. Congo, Togo, Guinée, Ivory Coast, Niger

- **Benin**: "Raising awareness of national stakeholders on the conservation of biodiversity in Benin".

The report of the activities is available under : http://bj.chm-cbd.net/cooperation/coop/cooperation-bilaterale/partenariat-benin-belgique/cooperation-dgfrn-irscnb/rapport-de-la-mise-en-oeuvre-du-projet-de-sensibilisation-des-acteurs-nationaux. The project developed an app for smartphones about the 12 things one can do for biodiversity, updated the poster and printed 1000 copies, a poster species of the month was developed, printed and used on the CHM. 10233 Scholars participated in activities around biodiversity and water, 573 were introduced to the species of the month poster. All could participate in a competition on who had best understood the special lessons and could win several prices.

- **Burundi**: "Towards an effective awareness raising in the light of the conservation of biodiversity".
- **Democratic Republic of Congo**: Awareness raising on the role of sustainable agriculture for biodiversity in the technical agriculture teaching system.

The **2015 report** is available on the CHM of D.R. Congo: http://cd.chm-cbd.net/cooperation/cooperation-bilaterale/rapport-de-l-atelier-sur-les-apports-de-l-agriculture-durable-la-biodiversite For the 2016 activities there have been some problems with the funds that were transferred to the Ministry of Environment. The account has been blocked since March 2016 due to allegations of corruption towards the director of the biodiversity department. The activities that were partly undertaken with VVOB-R.D. Congo have taken place, however no financial nor activities report has been transmitted due to the financial situation. We have learned that in the end VVOB has accounted their part of the activities in their 2016 financial year. We still have to see how we will get the money back from the Ministry and get the activities report.

3 projects had been selected under the 2015 call and ended in 2016

- Benin: Informing and raising awareness of the population on the water pollution in Benin.

In 2015 the project was started. One of the main activities was the update of the 12 things to do for biodiversity with special attention to biodiversity and water. The result of the activities can be found on the CHM : http://bj.chm-cbd.net/cooperation/coop/cooperation-bilaterale/partenariat-benin-belgique/cooperation-dgfrn-irscnb/sensibilisation-sur-les-gestes-utiles-pour-la-biodivesite-et-l-eau-au-benin./ A nice new touch was the implication of the national television with a special programme dedicated to the subject.

- Togo : Raising awareness and promote biodiversity to the principal stakeholders for the conservation of the biodiversity of Togo.

The report of the activities should be available at http://tg.chm-cbd.net/cooperation/cooperatin-internationale/cooperatin-avec-le-l-institut-royal-des-sciences-naturelles-de-la-belgique-irsnb/projet-sensibilisation-et-education-sur-la-promotion-de-la-biodiversite-l however there is only report on the workshop with decision makers. We have contacted the responsible persons to inform us where the final report and other items that have been developed under the project can be found.

- Guinea-Bissau: Raising awareness and environmental education of local development agents towards a sustainable management of biodiversity and natural resources in Guinea-Bissau.

Due to a very slow reaction time from Guinea-Bissau to email correspondence about the improvements to the project, the contract and if the money had been transferred, the project only started in November 2016. The report is now foreseen towards July 2017.

One project had been selected under the 2015 call and hasn't ended yet in 2016

- Côte d'Ivoire: Education and raising awareness on invasive alien species in Côte d'Ivoire.

The end of this project is foreseen in June 2017. No report has been received yet.

Call 2016

As mentioned under SO3.1 the call was launched in June 2016. 3 projects have been selected under this call. For the first time projects from NGOs have been accepted as the national focal

point of Benin had indicated that the projects worked towards improving public awareness towards target groups that had been chosen under the NBSAP of Benin.

- **Benin**: CEIBA-ONG « Sensibilisation à la lutte contre la déforestation et la pollution autour du parc de la Pendjari »

Contract signed November 2016, end foreseen August 2017.

Main Activities

Activité 1 (A1) : Sensibilisation des populations riveraines au Parc sur les effets néfastes de la déforestation et sur les mesures à prendre.

RA 1 : Les populations riveraines sont sensibilisées et s'engagent en plantant des arbres.

Activité 2 (A2) : Sensibilisation des écoles sur l'impact négatif de la déforestation et les posters gestes et espèces du mois.

RA2. 15 écoles participent au programme de sensibilisation

RA 3 : le poster sur la pollution, illustrant la pollution causée par les activités agricoles, les hôpitaux, est actualisé et multiplié en 1000 exemplaires.

Activité 3 (A3) : Sensibilisation des centres hospitaliers riverains au Parc de la Pendjari pour une meilleure gestion des déchets hospitaliers.

RA4: 100 agents hospitaliers sont sensibilisés à la bonne gestion des déchets hospitaliers.

RA5 : 20 poubelles sont offertes aux hôpitaux ciblés

- **Benin**: Nature Tropicale- ONG: « Projet de sauvegarde communautaire des tortues marines de l'atlantique et de leurs habitats le long du littoral du Benin »

Contract signed September 2016, end foreseen October 2017.

Main Activities

Objectif 1 : Elever le niveau de conscience environnementale des autorités locales et administratives sur la gestion rationnelle des tortues marines

Indicateur : 30% des autorités locales et administratives côtières sont impactées par des séances de renforcement de capacités

Résultat 1 : Forte coopération des autorités locales et administratives pour la préservation des ressources côtières en général, des tortues marines en particulier

Activité 1.1 : Renforcer les connaissances et compétences des autorités locales et administratives sur les espèces migratrices en général, et sur la biologie et la conservation des tortues marines en particulier

Résultat 2 : La conscience des populations sur l'importance des ressources marines en général, des tortues marines en particulier s'est accrue

Activité 2.1 : Organiser 02 campagnes d'information et de sensibilisation des communautés côtières du Bénin sur les mesures de protection des tortues marines
Activité 2.2 : Réaliser 02 panneaux géants, 01 poster et 2000 dépliants de sensibilisation sur les tortues marines au Bénin
Activité 2.3 : Produire et diffuser 01 émission télévisuelle (BB24) sur les ressources marines et les tortues marines en particulier au Bénin
Activité 2.4 : Organiser la treizième Edition de la fête nationale des tortues marines au Bénin

Objectif 2 : Assurer la préservation communautaire des tortues marines dans les villages côtiers d'intérêts du littoral du Bénin

Activité 3.1 : Aménager deux mini-centres pilotes d'éducation environnementale sur les tortues marines (espaces d'incubation des œufs de tortues marines et de lâchers des bébés en mer sur les sites de ponte)
Activité 3.2 : Mettre en place un système d'informations géographiques au niveau des sites d'intérêt des tortues marines du Bénin et les données publiées sur le site de CHM et du GBIF

- Niger: « Projet de sensibilisation des détenteurs des Connaissances Traditionnelles du Niger dans le cadre de la mise en œuvre du protocole de Nagoya sur l'Accès aux ressources génétiques et Partage des Avantages »

Contract signed November 2016, end foreseen June 2018.
Main Activities

Objectif Global du projet : ("impact" sur la société)
L'objectif global du projet est de contribuer à la conservation et l'utilisation durable de la Biodiversité à travers la valorisation de Connaissances Traditionnelles Associées (CTA) aux ressources génétiques.

Objectifs Spécifique(s) : (résultats pour les bénéficiaires)
De manière spécifique le projet vise à :
Informer, former, et renforcer les capacités des membres de l'Association de Tradi-praticiens du Niger en vue de la mise en œuvre du protocole de Nagoya.

A special call was launched to raise awareness on the work of the GTI alumni students under SO1-1. A total of 10 projects were selected. Please see details in this report under expected results 1.1, page 61 and following.

Side event organised during COP 13 at the CEPA fair

A side event at the CEPA fair of COP13 was organised to share the experiences from CEBioS and its partner countries in the projects. During the side-event there was a general introduction to CEBioS and the Belgian Development cooperation, the results from the GTI projects, Benin, Burundi and D.R. Congo. In total 40 people participated in the side event and some good contacts were made by Benin to share their experience with other countries.

Special event "Education meets biodiversity in D.R. Congo"

A special event **"Education meets biodiversity in D.R. Congo"** was held at RBINS the 27th of September together with VVOB to welcome school inspectors from DRCongo and to raise awareness about the D.R. Congo project under this SO. More information on this event can be found on http://www.biodiv.be/cebios2/events/education-meets-biodiversity-drcongo .

Expected result 3.3 Communication and awareness raising in Belgium

Description

The results of SO1 - SO3 can be used to raise awareness in Belgium and at international level to the problems that people face in development countries while using and conserving their biodiversity. This will of course depend on the results of the other objectives but it can also steer the call for proposals under SO3.2.

Log frame (partim)

Expected Results	Output Indicators	Report 2016
3.3 Communication and awareness is raised in Belgium	- Number of people reached in Belgium through stands and events - number of related communication material (posters, brochures), - number of people attending awareness raising events or receiving material, etc.: 4-5 public awareness projects completed - Number of events with new stand - New stand - Number of awareness presence in events - courses	- 400 persons estimated at our booth during 2 events - One video created on biodiversity and development and CEBioS activities - Presence and booth at two awareness raising events organized
Activities	**Report 2016**	
Communication and awareness activities	-Booth presented at 2 awareness raising event -Creation of a new video -Participation to the organization of NFP awareness raising event - participation in One health/ecohealth Symposium	

Table 21: Log frame partim of SO3-3.3.

Booth on biodiversity and development

The booth created last year presents information about the importance of biodiversity for developing countries, ecosystem services and CEBioS activities. It was brought at two events in 2016, together with small games on ecosystem services, flyers and documentation on our Activities

- CBD NFP event to celebrate the 20 years since which the CBD has been ratified by Belgium , 20/05, 200 participants, RBINS.
- Bruxelles Champêtre/Landelijk Brussel, together with the CBD NFP: 18/09, 80.000 visitors, Place des Palais, Brussels.

Fig. 37. CEBioS at CBD NFP event and at Champêtre/Landelijk Brussel

It was also presented during the events we organized at RBINS, such as the special event "Education meets biodiversity in D.R. Congo" (RBINS, 27/09) or the venue of Mr. Bruno van der Pluijm (RBINS, 19/12).

A new video was also created to present CEBioS activities and the links between biodiversity and development. It is shown on the homepage of CEBioS website, at the booths and sometimes at the opening of training or events.

A new game on ecosystem services is being created together with the RBINS Museology department and will be ready in 2017.

20 year ratification of CBD

An event was organised by the CBD National Focal Point (NFP) to celebrate the 20 years since which the CBD has been ratified by Belgium. CEBioS contributed to the selection and rewards of winners of the contest "1001 ideas for biodiversity" that invited the general public to come up with innovative ideas to improve biodiversity. The professor Faustin Toengaho, rector of Université of Kisangani (DRC) was also present to offer the awards together with Luc Janssens de Bisthoven, coordinator of the CEBioS programme.

Fig. 38. Professor Faustin Toengaho, rector of Université of Kisangani (DRC) and Luc Janssens de Bisthoven offer the awards at CBD Event (20/05, RBINS).

One health/Ecohealth symposium

In view of the importance of the One Health and EcoHealth approaches for the Global South, where these integrative approaches to health policy were first promoted and where they still hold a crucial importance, CEBioS decided to contribute to highlighting the diverse challenges from the high diversity of societal and environmental contexts that developing countries offer. Therefore, we actively participated in the *European One Health/EcoHealth Workshop* organised at the Belgian Science Policy Office (Brussels, October 6th – 7th). In addition to participation to the conference and discussion sessions by several CEBioS and other RBINS scientists, we specifically:

- formed part in the local organising committee and in convening a session on *Education and capacity building* (M. Vanhove), focusing on interdisciplinarity capacity building in research and educational challenges and taking the environmental aspect into account. This session presented educational experiences as well as environmental projects in the Global South or in the framework of North-South cooperation. It discussed the particular challenges posed by One Health and EcoHealth approaches in terms of field capacity building and longer education programs.

- sponsored the participation of Prof. D.B. Falay Sadiki (Hôpital Universitaire de Kisangani, D.R.Congo), who presented in the session on *Vectors and vector-borne diseases*: "High prevalence of *Rickettsia typhi* and *Bartonella* species in rats and fleas, Kisangani, Democratic Republic of the Congo".
- sponsored the participation of DrC. Shalukoma Ndukura (ICCN) to the *Nature health benefits* session: "Typology of healers in traditional medicine around the Kahuzi-Biega national Park, D.R. Congo".
- continues to contribute, in 2017, to various reporting and outreach documents arising from this workshop, in collaboration with partners and co-organisers such as the Belgian Biodiversity Platform, the Université de Liège, the Federal Public Service Health, Food Chain Safety and Environment, and the CBD.

Educaid

In April 2016, CEBioS officially joined the network educaid.be. They also actively participate in the project group dedicated to environment, for which M-L Susini Ondafe is co-leader with Maartje Houbrechts. All relevant information can be found online here:

https://www.educaid.be/fr/gp/environnement

SO 4. The RBINS and DGD unit D2.4 improve the mainstreaming of biodiversity and ecosystem services in policy sectors that have a high relevance for development.

Background

As a research institution, the RBINS possesses a long-running expertise on biodiversity and ecosystem management. As a museum, its educational activities are key instruments for the spreading of scientific knowledge. And through its mandate as Belgian National Focal Point to the Convention on Biological Diversity and its involvement with other agreements such as the Convention on Migratory Species and CITES, as well as the coordination of the Belgian platform for Biodiversity, it has acquired experience at the policy level. Over the years, this unique position has generated a valuable expertise at the interfaces of science, policy and education. The 'biodiversity team' of the RBINS is now clustered in the 'BIOPOLS' (Belgian Biodiversity Centre for Policy support) group, being a working group under the new operational Direction 'Nature' of RBINS. This will create additional synergies between the DGD-programme, the National Focal Points and the Belgian platform for Biodiversity, as well as the MUMM involved in policy work around OSPAR.

RBINS puts this expertise at the service of the Belgian Development Cooperation and of other interested parties in Belgium, in order to enhance the dialogue and develop strong partnerships between scientists, decision-makers and society.

At the national level, the DGD-programme staff actively participated to the following fora:

- Steering Committee 'Nature'
- Steering Committee 'CBD'
- various BELSPO, RBINS and MRAC seminars
- various DGD and SPF Environment seminars

Outcome:

More capacities in Belgian cooperation about biodiversity (4.1.)

More reference to biodiversity and ecosystem services in Belgian cooperation (PICs, mixed commissions…) by integration of the Aïchi targets and risk assessment of the planned cooperation interventions (4.2)

Expected results

4.1 Expertise of Belgian Development Cooperation is built
4.2 Biodiversity and ecosystem services are mainstreamed in activities supported by the Belgian Development Cooperation

M-L Susini Ondafe participated in two meetings of the OECD - DAC Environet Informal working session on biodiversity mainstreaming in Paris, France (March and October 2016).

Expected result 4.1. Expertise of Belgian Development Cooperation is built

Description

For the past few years, we have been most active in the 'indirect cooperation' (some interpret it more as direct) arena of DGD, participating in a number of meetings and events as one of the scientific institutions involved in development cooperation. We have also been involved in supporting the multilateral processes linked to the CBD through our support to DGD and our participation in the national coordination process on biodiversity (through the Coordinating Committee on International Environmental Policy).

For the year 2016, this activity continued to be carried out on a demand-driven basis. Our team strived to answer the various requests for scientific support that arrive at the RBINS.
Examples of support include:

- advice on the implementation of biodiversity-related activities in partner countries,
- advice on proposed, submitted or running projects financed by DGD,
- support for the follow-up of multilateral agreements,
- support to the decision-making process of the ministerial office,
- raising the profile of biodiversity during thematic meetings organised by DGD, participation in a meeting on sustainable agriculture and several meetings on KLIMOS.
- attendance to meetings discussing biodiversity and development issues, Presentation given during the EU Biodiversity and development cooperation expert group, See SO3
- identification of people, institutions and organisations working for biodiversity worldwide,
- providing training on biodiversity issues, i.e. illustrating the importance of biodiversity for economic and social development and poverty reduction.

Log frame (partim)

Expected results	Output Indicators	Report 2016
4.1 Expertise of Belgian Development Cooperation is built	4 training workshops organised for the target groups decided by DGD, Capacities of DGD to include biodiversity in ex-ante SEA and EIA for cooperation projects are raised. Increase of biodiversity protection measures in the development cooperation	No training done in 2016 to DGD.
Activities	**Report 2016**	
4.1.1. Training provided: (Based on request) around the theme "biodiversity, ecosystem services and development cooperation"	none	

Table 22: log frame (partim) for SO4, 4.1.

The 'Dienst Bijzondere Evaluaties' made an evaluation of policy support to DGD by the Belgian development actors, including RBINS-CEBioS. The role of CEBioS in the policy support framework towards DGD was positively evaluated. Concerning the functioning of the DGD-funded CEBioS staff at RBINS, it is cited: "This original configuration, with the constitution of a program and specific resources dedicated to the Funding Agreement, enables its specific features to be preserved within the IRSNB, namely capacity strengthening in the south and policy support, while allowing real institutional and operational anchoring within the Institute."
see:
https://diplomatie.belgium.be/sites/default/files/downloads/evaluation_of_the_institutional_actors_policy_support.pdf

The following articles concerning biodiversity, capacity building and mainstreaming were published:

- Janssens de Bisthoven, L., 2016. De bedreigde biodiversiteit in het globale zuiden heeft meer dan ooit collectieve bescherming nodig/ La biodiversité dans le sud a plus que jamais besoin de protection GLO.Be., Sept.-Dec., 34-35.
- Vanhove M.P.M., Rochette A.-J. & Janssens de Bisthoven L., 2017– Joining science and policy in capacity development for monitoring progress towards the Aichi Biodiversity Targets in the global South. Ecological Indicators 73, 694-697. I.F. 2015: 3.190

The following abstracts and mentions on web pages appeared:

- Brendonck, L., Janssens de Bisthoven, L., Machunda, R., Munishi, L., Wynants, M., Steensels, A., Malan-Meerkotter, M., Nhiwatiwa, T., Vanhove, M.P.M., Komakech, H., 2016. Towards an Integrated Lake Basin Management Plan for Lake Manyara, Tanzania, using a tiered multistakeholder approach. SIL congress, Italy.
- Janssens de Bisthoven, L., Muhashy Habiyaremye , F. , Susini, M-L., De Koeijer, H., Vanhove, M., Rochette, A.J., Verheyen, E., Laudisoit, A., 2016. Capacity development in D.R. Congo with a focus on biodiversity. GEOBON, Leipzich.
- Patricia Mergen, Hans Beeckman, Francesca Lanata, Steven Dessein, Maarten Vanhove, Anne-Julie Rochette, Luc Janssens de Bisthoven, 2016. The role of Belgian and African Natural History Institutions in biodiversity-related capacity building in Africa GEOBON, Leipzich.
- Anne-Julie Rochette; Maarten Vanhove; Luc Janssens de Bisthoven, 2016. Capacity building for establishing biodiversity indicators in Africa. GEOBON, Leipzich
- Maarten P.M. Vanhove, Anne-Julie Rochette, Han de Koeijer & Luc Janssens de Bisthoven, 2016. Joining science and policy in capacity development for conservation-relevant biodiversity monitoring in Africa. Benelux congress of Zoology.
- Janssens de Bisthoven, L., 2016. Wat is er beslist op de biodiversiteitstop (COP13) in Mexico? https://www.naturalsciences.be/nl/news/item/6437/ What Has Been Decided at the Biodiversity Summit (COP13) in Mexico? https://www.naturalsciences.be/en/news/item/6437 (News page of Royal Belgian Institute of Natural Sciences)
- Janssens de Bisthoven, L., 2016. Le sommet de la biodiversité du Mexique franchit des étapes importantes. http://diplomatie.belgium.be/fr/newsroom/nouvelles/2016/le_sommet_de_la_biodiversite_du_mexique_franchit_des_etapes_importantes . Biodiversiteitstop in Mexico zet belangrijke stappen vooruit. http://diplomatie.belgium.be/nl/newsroom/nieuws/2016/biodiversiteitstop_mexico_zet_belangrijke_stappen_vooruit (News page of DGD).

Expected result 4.2. Biodiversity and ecosystem services are mainstreamed in activities supported by the Belgian Development Cooperation

Description

Most of the activities undertaken in our programme strive to build capacities within the scientific community of partner countries, acknowledging the critical role of scientific knowledge for the conservation and sustainable use of biodiversity.

Log frame (partim)

Expected results	Output Indicators	Report 2016
4.2 Biodiversity and ecosystem services are mainstreamed in activities supported by the Belgian Development Cooperation	Number of consultancy requests from DGD staff Number of processes	See tables under SO4 and SO7
Activities	**Report 2016**	
4.2.1. At least 8 consultancy requests honoured on demand 4.2.2.Follow-up of at least 5 processes (e.g. COP, SBSSTA, PIC…)	See tables under SO4 and SO7	

Table 23: log frame (partim) for SO4., 4.2.

Activities

SBSTTA20

In 2016, M-L Susini Ondafe and Han de Koeijer participated in SBSTTA20 with the Belgian delegation. The meeting took place in Montreal, Canada from 25 to 30 April 2016. M-L Susini Ondafe was pilot on the item dedicated to 'Sustainable use of biodiversity'. All the changes brought by the Belgian experts were included in the draft recommendation that was submitted for discussion during COP13 (under reference UNEP/CBD/COP/13/L.2.)

COP13

In December 2016, M-L Susini Ondafe and Han de Koeijer participated in the 13th Conference of the Parties to the CBD (COP13) with the Belgian delegation. COP13 took place in Cancun, Mexico, from 2 to 17 December 2016. M-L Susini Ondafe followed item 17 on 'Other scientific and technical issues, including synthetic biology, implications of the assessment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, and sustainable wildlife management'

All the changes supported by Belgium are reflected in the final COP decision (under reference CBD/COP/DEC/XIII/8).

OECD-Environet :

Mention in : COM/ENV/EPOC/DCD/DAC(2015)1/REV1 Organisation de Coopération et de Développement Économiques Organisation for Economic Co-operation and Development 08-Apr-2016 :

> *"Supporting biodiversity mainstreaming in partner countries*
> 83. There are a number of instruments and entry points used by development providers to promote biodiversity mainstreaming efforts in partner countries (Drutschinin et al., 2015). These may include, amongst others:
> • Offering technical assistance and capacity building to support enabling policy framework. The Belgian Capacities for Biodiversity and Sustainable Development programme (CEBioS), for example, supports a number of partner countries, including DRC, Peru and Viet Nam, in building capacity for biodiversity conservation and sustainable use, with a link to poverty alleviation (CEBioS 201657). Another example, the Biodiversity Finance Initiative" (BIOFIN), financed by the EU, Germany and Switzerland, and implemented by the United Nations Development Programme (UNDP), assists the partner countries in their efforts to estimate biodiversity spending against their funding needs, and identifying financing gaps (UNDP 2014). "

The activities related to (1) advice to policy makers, and (2) participation in policy meetings are listed in the following table.

Table 24: overview of advice or consultancies to policy and decision makers and participations in policy meetings by CEBioS staff in 2016.

Actor (recipient of service or meeting)	Meetings/ action	Date 2016	Location
Advice to policy			
FOD Env., NFP	Written advice on neocortinoids	8 April	RBINS
OECD, Environet, FOD env, NFP	Review of 'BIODIVERSITY, DEVELOPMENT AND DEVELOPMENT CO-OPERATION: MAINSTREAMING AND MANAGING FOR RESULTS' (COM/ENV/EPOC/DCD /DAC(2015)1/ REV1)	2-5	RBINS
NFP, CBD	Answer by the CEBioS to CBD N O T I F I C A T I O N 2016-78 Decision XII/5	14-10	RBINS
Buitenlandse zaken, cabinet, DGD	Preparation mission Min. Reynders to Tanzania (Han dK)	July	RBINS
BELSPO	Comments on EU-AFRICA STI cooperation Roadmap	7-3	RBINS
Pilots, Co-pilots COP13 (Han, Marie-Lucie), NFP	Back-up (Luc JdB), dissemination of COP13 to RBINS, DGD web sites, prep of COP13	30-8, December	RBINS
Pilots, Co-pilots COP13 (Han, Marie-Lucie), NFP	Review of REVISED DRAFT SHORT-TERM ACTION PLAN (2017-2020) TO ENHANCE AND SUPPORT CAPACITY BUILDING FOR THE IMPLEMENTATION OF THE STRATEGIC PLAN FOR BIODIVERSITY 2011-2020 AND ITS AICHI BIODIVERSITY TARGETS	24 March	RBINS
Pilots, Co-pilots COP13 (Han, Marie-Lucie), NFP	Review of Agenda item 9 - Sustainable use of biodiversity: bushmeat and sustainable wildlife management: Information in response to decision XII/18 Paragraph 13. For SBSSTA 20	15 April	RBINS

CSP members' contribution to the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets	Format Aichi targets CSP	4 April	RBINS
Parliament, DGD	CEBioS mentioned in parliament questions	11-3	Brussels
DGD	Remarks on Report of the Committee of Experts on Environmental-Economic Accounting	7-03	RBINS
DGD	Remarks on funding proposal of Green Climate fund	14-06	RBINS
DGD	Remarks on 'Summary of conference call: Rio markers for Biodiversity and Desertification'	12-08	RBINS
DGD, cabinet	Advice on 'national workshops SDG Monitoring / SDG Roadmaps and Data Ecosystems Nbi, GPSDD'	12-08	RBINS
FOD Env.	Comments on One health survey	7-10	RBINS
CBD, CHM	Answered survey on national CHM (Han dK)	11-7	RBINS
Environmental History	Use of historical archives national parcs Congo in 'Environmental History'	Septembe r	RBINS
Biobridge	Bio-Bridge Initiative Project Selection Committee: Han de Koeijer	July	RBINS
Participation in policy meetings			
Groupe directeur CBD, NFP	Participation to nr. 80, 81	Several/ye ar	RBINS
Goupe directeur Nature, NFP	Participation to nr. 128 etc...	Several/ye ar	RBINS
BEES WG	BEES Working Group (Belgian Biodiversity Platform)	29-08-2016	BELSPO
Cadres stratégiques communs	CSC Benin	14-03	APEFE
Cadres stratégiques communs	CSC R.D. Congo	17-03	WWF Brussels
Educaid	Educaid, several meetings (Marie-Lucie Susini Ondafe)	19-4, 23-5	VVOB

IUCN Brussels	Meeting with IUCN Brussels director L. Bas with H. Eggermont (NFP IUCN)	2-5	IUCN office, Brussels
Coordinateur Régional du Programme Aires Protégées Afrique Centrale et Occidentale de l'IUCN, basé à Ouagadougou au Burkina Faso.	Marie-Lucie Susini Ondafe met sebastien Regnaut to discuss about IUCN	22-09	RBINS
BELSPO	Preparation research axes	April	BELSPO
BELSPO	Extra-Europe International Cooperation (INCO), eEOS working group BELSPO	27-10	BELSPO
BELSPO	AFRICA-BEL O&O&I - samenwerking 3e Stakeholdervergadering	25-10	BELSPO
Agri-DGD	Strategy on agriculture (Han dK)	16-3	DGD
EU DEVCO	EU Fight against Wildlife crime Launch of Action programme	2-3	EU parliament
EU DEVCO	Information session: 'conserving critical ecosystems in Africa'	19-01	EU Infopoint
11 11 11	NGO Debat , Money and development Cooperation	27-1	11 11 11
BTC	BTC-debat 'Human rights and DC'	21-1	BTC
KU Leuven	Strategic Forum on "Finding Common Ground for Sustainable Development in Africa"/ Visit of exhibition "Africa in Profile"	15-1	KU Leuven
OECD	OECD meeting, Paris (Marie-Lucie Susini Ondafe)	Febr.	OECD, Paris

SO 5. The RBINS and DGD unit D2.4 improve the knowledge on the measurement, reporting and verification (MRV) of policy choices and activities linked to biodiversity and ecosystem services.

Background

The RBINS, as CBD National Focal Point, has been the coordinator of the Belgian reporting obligations under the Convention on Biological Diversity. Till recently, such reporting under the CBD was largely confined to descriptive information. With the adoption of the Strategic Plan for Biodiversity 2011- 2020 and the Aichi Biodiversity Targets, countries will have to formulate indicators and gather data that will feed these.

The elaboration and formulation of indicators (largely a regional competence in Belgium) and the establishment / follow-up of formal 'MRV' processes is a relatively new field of expertise for us and we needed to build our own capacities before being fully operational.

Expected results

5.1. Expertise of the RBINS on MRV is built.
5.2. Methodologies to assess progress towards the Aïchi Targets are available

Outcome:
RBINS provides advice on MRV to different authorities Tool developed used to monitor and report achievement of Aïchi targets in Belgium and in partner countries

Expected result 5.1. Expertise of the RBINS on MRV is built

Description

To get build capacity on the MRV procedures and best practices is a learning process, both at RBINS, DGD as in the developing countries. The scale may differ, from NBSAPs to environmental reporting on one particular sector (e.g. mining industry). It is related to dissemination, e.g. through the CHM (SO2).

MRV terminology is mostly used in conjunction with the United Nations Framework Convention on Climate Change (UNFCCC), REDD+ and environmental assessments, e.g. for the mining industry. It is important for DGD, RBINS and CEBioS to remain updated concerning the global trends in MRV in order to apply it as much as possible in the mainstreaming, policy support, and NBSAPs in developing countries.

Log frame (partim)

Expected results (ER)	Output Indicators	Report 2016
5.1. Expertise of the RBINS on MRV is built.	The EU reporting tool for NBS's is developed in cooperation with the CHM network The reporting tool is used for the follow up of the implementation of national strategies and the reporting towards the Aichi targets	Several meetings on the tool by Han de Koeijer The reporting tool is used by Burundi, other countries are testing it. - Updated version of the KLIMOS Toolkit online, with input from CEBioS regarding biodiversity (http://ees.kuleuven.be/klimos/toolkit/index.html) - CEBioS scientists participated actively in meetings related to MRV (e.g. GEO BON) Contributions of relevant specialists (e.g. BIP-WCMC, KLIMOS) to CEBioS-organised trainings and calls
Activities	Report 2016	
5.1.1. expertise concerning MRV built up in conjunction with DGD	Collaborations with institutes and organisations relevant to MRV are ongoing	

Table 25: log frame (partim) for SO5, 5.1.

Activities

Internal capacity building efforts on MRV during 2016 were mainly guided by user demand from South partners involved in the selected projects and by continuing and valorising our efforts to fill knowledge gaps, started in 2015. Some activities that can be highlighted in this framework:

1 In July 2016, Jean Didier Akpona (UAC), Benoît Nzigidahera (UNIBU), Anne-Julie Rochette, Maarten Vanhove and Erik Verheyen attended the GEO BON Open Science Conference & All Hands Meeting (Leipzig, Germany) and organised (and presented a total of five talks and three posters in) the session *Capacity building for biodiversity monitoring in Africa*;

2 In December 2016, Maarten Vanhove attended the annual symposium of the Centre for Research and Conservation of the RZSA and presented CEBioS' projects at the Zoology 2016 conference (Antwerp) (lecture "Joining science and policy in capacity development for conservation-relevant biodiversity monitoring in Africa" within the *Conservation & society* session). This led to new contacts and discussions with conservation researchers working in Central Africa, e.g. within the RZSA or the IUCN Conservation Genetics Specialist Group;

3 Relevant Belgian experts are contributing contents to activities within the MRV call: collaborations were started with scientists from BIP-WCMC, GBIF, UHasselt, BGM, ULg-GxABT and these were continued in 2016 in the framework of funding applications for future MRV capacity building (e.g. GBIF Capacity Enhancement Support Programme; VLIR-UOS International Training Programme – both unsuccessful);

4 The concept of the CEBioS annual MRV call was published in the peer-reviewed scientific literature: Vanhove M.P.M., Rochette A.-J. & Janssens de Bisthoven L. (2017) Joining science and policy in capacity development for monitoring progress towards the Aichi Biodiversity Targets in the global South. *Ecological Indicators* 73: 694-697;

5 In collaboration with KLIMOS, the possibilities for environmental impact assessment focused on biodiversity within development projects were studied. This culminated in (a) the updated online Toolkit and (b) the (re)submission of a scientific manuscript;

6 The follow-up of SDSN, COPBH and GEO BON by Maarten Vanhove feeds directly into internal capacity building efforts on MRV, data valorisation and indicator development. It also firmly anchors our activities within a UN/CBD context and contributes to awareness raising as it allowed CEBioS to disseminate outputs (e.g. 2016 MRV policy briefs) through these channels. His involvement as a lead author within the IPBES RA for Africa contributes to the dissemination and translation towards policy makers of the expertise of CEBioS and our African and Belgian partners. The various contributions of CEBioS scientists to this and other IPBES activities are carried out in continuous consultation with the Belgian IPBES NFP and other Belgian IPBES stakeholders (e.g. meeting of Belgian IPBES experts and stakeholders at the Belgian Science Policy Office in November 2016).

Expected result 5.2. Methodologies to assess progress towards the Aichi Targets are available

Description

With the adoption of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets in the framework of the Convention on Biological Diversity, countries will have to formulate biodiversity indicators and gather data that will feed these. One of the strategic objectives of the CEBioS programme is to improve the knowledge on the measurement, reporting and verification (MRV) of policy choices and activities linked to biodiversity and ecosystem services. We work with our partner countries in the South on the development, assessment or implementation of indicators in the framework of their National Biodiversity Strategies. To this end, a first call on MRV projects was launched in 2015. Eligible countries were those partner countries where fruitful collaborations already exist with the CBD and/or CHM NFP: Benin, Burkina Faso, Burundi, D.R. Congo, Ivory Coast, Mali, Morocco and Niger. The 2016 call was focused on the (former) provinces of the D.R.Congo, and the 2017 call will target English-speaking partner countries. After three years, a follow-up will be launched, prioritising successful projects of the previous calls to enable a follow-up of the progress towards the Aichi Targets over a number of years, and the exchange of best practices in different settings.

SO 5.2 receives direct contributions from SO 1.3 (Monitoring data is fed into national indicator processes).

Log frame (partim)

Expected results (ER)	Output Indicators	Report 2016
5.2. Methodologies to assess progress towards the Aïchi Targets are available	National indicators are developed and used for reporting towards the Aïchi targets	Data being collected in several projects and programmes under SO-1, 2 and 3 in addition to external funding. Within a competitive MRV call, four projects from the 2015 call were finalised that work on indicators at different levels (from feeding local data into indicators, to indicator policy at the national level), from: Benin (2x), Burundi and the D.R.Congo.

		Within the second MRV call (2016), 11 projects were selected and are ongoing. They focus on indicator development, and data collection to feed into these indicators, for three focal areas of the Congolese NBSAP: fisheries, charcoal and bush meat.
Activities	**Report 2016**	
5.2.1 MRV tools are developed and implemented (e.g. through project calls and other)	Selected projects finalised (2015 call) and ongoing (2016 call). Closing workshop 2015 call organised	

Table 26: log frame (partim) for SO5, 5.2.

Activities: finalisation and outreach, for the 2015 call

Projects continued and were followed by the MRV program officers within CEBioS. After the projects were finished, a closing workshop to discuss best practices, lessons learnt, conclusions and perspectives took place as planned in October 2016 (Cotonou, Benin). The Belgian diplomatic office in Benin was represented by Mr. J.-L. Pont at the opening session and throughout the first day of the workshop. During this workshop, sessions were also offered on species prioritisation for conservation, species distribution modelling, mangrove conservation (including a field visit) as well as visits to the Beninese host/partner institutes. The occasion was also used to start drafting a common publication and policy briefs with the participating African partners. The publication is currently still in preparation after receiving input from all project partners (we expect to submit by the end of June 2017) while the policy briefs were finalised end of 2016 and since then already distributed through various channels (CBD COP, various international conferences, SDSN, GEO BON).

Fig. 39. Group photo at the opening session of the closing workshop of the 2016 MRV project call (Cotonou, Benin)

Fig. 40. Discussions and group work during the closing workshop of the 2016 MRV project call (Cotonou, Benin)

Fig. 41. Headers of the four policy briefs produced to communicate the results of the projects under the 2015 MRV call

An overview of the four selected and finalised projects is presented in the text boxes below :

BENIN

BENIN

Chaîne de valeur et connaissances traditionnelles de quelques plantes médicinales dans les grands centres urbains au Bénin

Centre d'études, de Recherches et de Formation Forestières (CERF)

Ministère de l'Environnement Chargé de la Gestion des Changements Climatiques du Reboisement et de la Protection des Ressources Naturelles et Forestières

Aichi Targets 14, 18

Collection of data feeding into indicators

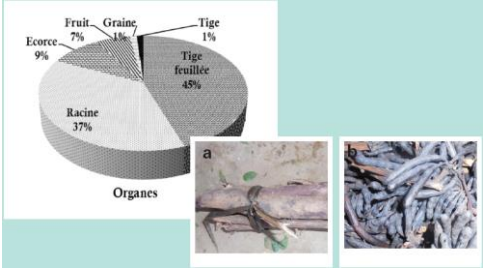
Objectives

Stimulating forestry-relevant science and the implementation of the national forestry policy through:

- better understanding of value chains and anthropogenic pressures regarding medicinal plants;
- protection and use of traditional knowledge contributing to poverty reduction in rural areas.

Results

- characterisation of species richness and vulnerability (202 spp., including rare species), value chain and utilisation of plants used in traditional medicine
- annual income from medicinal plants: up to 500 000 FCFA, price depends on plant species, disease and product efficiency
- mainly traded via family ties, closely linked to oral tradition and indigenous knowledge
- call for conservation of these plants and the relevant traditional knowledge (e.g. in forestry), for training and for technical and financial support
- call for a national ethnobotanical observatory and a dedicated journal



Above: left: overview of plant organs used in traditional medicine; right: two examples of threatened medicinal plants: Gardenia ternifolia (a) and Xylopia aethiopica (b)

BENIN

Mise en place d'un système de suivi de la biodiversité au Bénin

Direction Générale des Forêts et des Ressources Naturelles

Laboratoire d'Ecologie Appliquée & Laboratoire de Biomathématiques et d'Estimations Forestières, Université d'Abomey-Calavi

Aichi Targets & NBSAP (in general)

Indicator methodology

Objectives

A set of indicators for the follow-up of Benin's progress towards the Aichi Targets, through:

- prioritisation of indicators through stakeholder involvement;
- developing these indicators and putting them into practice;
- capacity building to ensure sustainability and continuity.

Results

Four indicators selected in a participatory approach and operationalized:

1) Percentage of forest land converted yearly into other category of land use (for NBSAP Strategic Objective 4)

2) Surface area reforested yearly per community (for NBSAP Strategic Objective 6)

3) Rate of increase in surface coverage of protected areas (for NBSAP Strategic Objective 16)

4) Knowledge, Attitude & Practice Score for relevant actors with regard to biodiversity loss (for NBSAP Strategic Objective 1)

Above: participatory approach to prioritize strategic objectives within the NBSAP

D.R. Congo

D.R. CONGO

Études floristique et ethnobotanique des plantes utilisées au quartier Guma à Kinshasa/Maluku

Laboratoire de Botanique systématique et d'Écologie végétale, Université de Kinshasa

Direction du Développement Durable, Ministère de l'Environnement, Conservation de la Nature et Tourisme

Aichi Targets 14, 18; national objective 9.1

Collection of data feeding into indicators

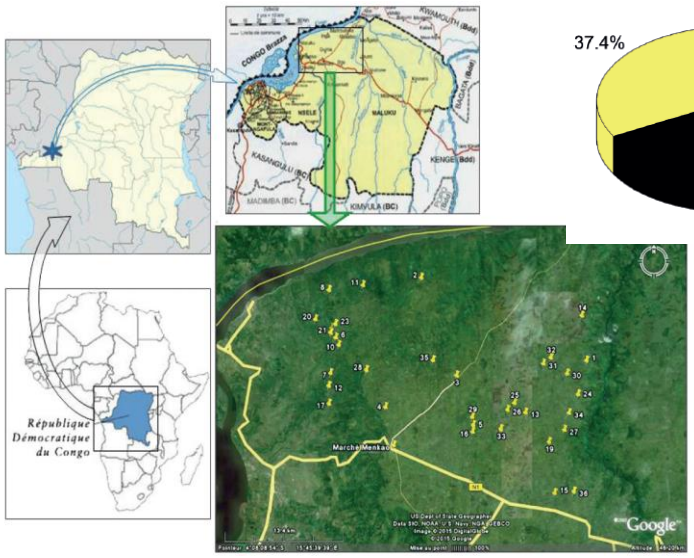
Objectives

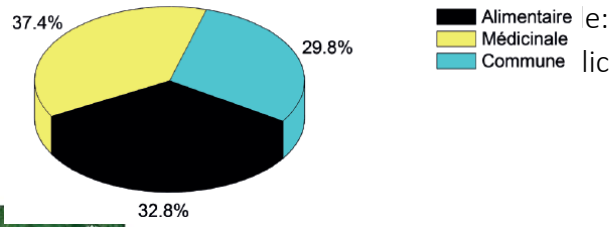
Knowledge base and policy advice on sustainable use and management of non-timber forest products, focusing on part of the Fig. au de Batéké, near Kinshasa, aiming at:

- an improved understanding of the diversity, ecology, vulnerability, applicability and economic and cultural value of economically valuable plants;
- the consideration of traditional knowledge;
- a link between local monitoring and national indicator development.

Results

- Identification of relevant stakeholders and their needs and of criteria for valorisation of plants
- High potential of the valorisation of these plants for conservation (at species richness and ecosystem levels) and economic development





- Call for the authorities to support e:
lic

Above: map of the study localities; pie chart: a total of 131 economically valuable plants was identified, used for either food (black), traditional medicine (yellow) or both (blue).

Burundi

BURUNDI

Indicateurs pour le suivi de la tendance de la biodiversité au Burundi

Office Burundais pour la Protection de l'Environnement

Faculté d'Agronomie et de Bio-Ingénierie, Université du Burundi

Aichi Targets 5, 14 ; National objectives 5, 7, 13, 15

Indicator methodology & collection of data feeding into indicators

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Objectives

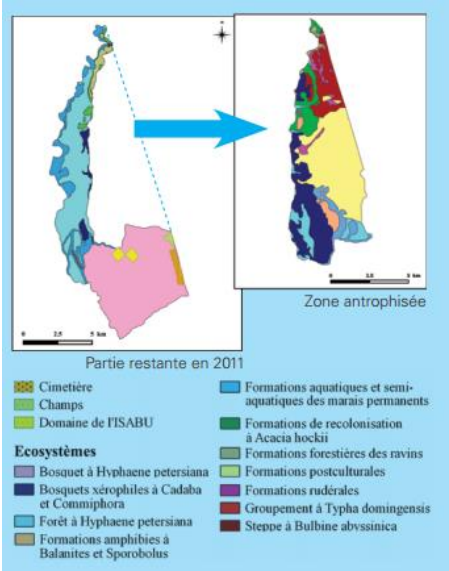
Developing selected indicators to follow-up tendencies in Burundi's biodiversity, focusing on:
- size, state and vulnerability of ecosystems and natural habitats;
- the influence of unsustainable agriculture on species typical to natural forests;
- the distribution, state and sustainability of ecosystem services with regard to human well-being.

In particular, it studied the trends in the surface of selected ecosystems and natural habitats, in the populations and extinction risks of selected plant species providing ecosystem services.

Results

- Several ecosystem types in alarming state and/or limited to protected areas, due to anthropogenic influence
- Especially woodland and other savanna types, wetlands and lakes and rivers need conservation

- Plant taxa in need of a strategy for conservation, domestication and/or sustainable exploitation were highlighted, e.g. *Eremospatha*, *Hyphaene petersiana*, *Cyperus latifolia*



Example: tendencies in vegetation in the "Palmeraie" part of the Rusizi National Park

D.R. Congo

Activities Launch and selection, 2016 call

The 2016 competitive MRV call entirely focused on strengthening the contribution of the regional level to national reporting on biodiversity within the D.R.Congo. This choice was made in view of our long-term collaboration with the environmental authorities and the academic world of the D.R.Congo (including the role of RBINS within Consortium Congo 2010/Congo Biodiversity Initiative), of the focus of CEBioS on the D.R.Congo, of the scale of the country and of the potential offered by the network of antennas for biodiversity of the former provinces. Other Congolese government or official higher education institutions were also allowed to apply, pending the relevance of their activities to the Congolese NBSAP and maintaining the

"tandem" approach of the 2015 MRV call, linking governance and science actors in joint projects. The objective of this call is to fill the gap between data collection (at regional level) and their use by government authorities (at regional and national level) for reporting/follow-up of the state of biodiversity and biodiversity policies, and to stimulate collaborations within the D.R.Congo.

The call's architecture and scope was discussed in a panel of internal and external programme officers and stakeholders, that would afterwards also constitute the jury for evaluation and selection of proposals. The panel consisted of:

- CEBioS scientists: Luc Janssens de Bisthoven, Anne-Julie Rochette, Han de Koeijer, Hilde Keunen and Maarten Vanhove;
- RBINS scientist Erik Verheyen;
- a representative from the Direction de Développement Durable within the Congolese Ministère de l'Environnement, Conservation de la Nature et Tourisme: Mike Ipanga, replaced in the jury by Nicky Kingunia;
- an specialist from Biodiversity Indicators Partnership, UNEP-World Conservation Monitoring Centre (United Kingdom): Sarah Ivory.

To ensure relevance to CBD, the Aichi Targets and the Congolese NBSAP, and to stimulate exchange between projects facing similar challenges and questions, the themes were limited to fisheries, charcoal and bush meat; this focus is in accordance with the "axes stratégiques prioritaires" within the Congolese NBSAP.

The 2016 MRV call was launched at mid-March, with an application deadline of mid-May.

Selection criteria were:

1) Quality and clarity of the project proposal (e.g. realistic budget; clear description of the goals and the roles of the various partners);
2) Potential of the proposed indicators: it needed to be clear that they will be of use to (and will be used by) the respective partners in the near future;
3) Reference to concrete collaborative activities on the science-policy interface;
4) The use of real biodiversity-related or environmental data, ideally using existing material, ideally including time series;
5) Clear description of what these data consist of, and how they will be processed (into indicators).

Many of the selected projects were discussed with participants, whenever possible, during missions in the South by the concerned programme officers Anne-Julie Rochette, Hilde Keunen and/or Maarten Vanhove.

An overview of the 11 selected and finalised projects in D.R. Congo is presented in the text boxes and maps below:

 Fisheries

SUD-KIVU

Suivi et caractérisation de la pêche au Lac Kivu

Université Officielle de Bukavu

Coordination Provinciale de l'Environnement, Conservation de la Nature, Développement durable

Aichi Targets 6 ; NBSAP priority strategic axis 3, 9

Indicator methodology & collection of data feeding into indicators

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Objectives
- characterisation of fishing gear and (destructive) practices
- support for monitoring by the authorities and for the science-policy interface

SUD-KIVU

Renforcement des Capacités de l'Administration locale (Ministère de l'Agriculture, Pêche et Elevage, Ministère de l'Environnement et la police lacustre) en matière de suivi de la gestion de la pêche

Centre de Recherche en Hydrobiologie - Uvira

Aichi Targets 6 ; NBSAP priority strategic axis 3, 9

Indicator methodology & collection of data feeding into indicators

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Objectives
Better follow-up of the management of aquatic living resources in Lake Tanganyika through monitoring of destructive practices with a focus on:
- the number of fishing units and permits

- illegal fishing gear (e.g. explosives, poison, small mesh size)
- fishing in spawning grounds
- habitat destruction

TSHOPO

Exploitation des poissons à Kisangani et ses environs en RDC

Centre de Surveillance de la Biodiversité, Université de Kisangani

Aichi Targets 6 ; NBSAP priority strategic axis 3, 9

Indicator methodology & collection of data feeding into indicators

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Objectives

- Data collection on traditional, artisanal, modern fishing techniques (gear, practices, target species, yield…)
- Characterisation of management processes for aquatic living resources (competent authorities, traditional knowledge, tourism, professional associations…)

KASAï-ORIENTAL

Diversité ichtyologique des espèces capturées dans la rivière Lubilanji au Kasaï oriental en R.D. Congo

Synergie des Compétences pour la Réussite Intégrale du Développement Agricole ASBL

Université Officielle de Mbuji-Mayi

Aichi Targets 6 ; NBSAP priority strategic axis 3, 9

Indicator methodology & collection of data feeding into indicators

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Objectives

- Better understanding the fisheries in major rivers and contributing to a management plan, focusing on the Lubilanji River and on:
- the number of target species and the link with land use and habitat modification (e.g. mining) and unsustainable exploitation (e.g. certain fishing gear such as mosquito nets)
- legislation and protected areas

EQUATEUR

Les pêches durables dans l'hinterland marécageux et fluvio-lacustre le long du fleuve Congo, rivière Ikelemba et du lac Tumba de 2013 à 2016

Nouvelles Dynamiques pour le Développement Rural Intégral ONGD/ASBL

Institut Supérieur Pédagogique de Mbandaka

Aichi Targets 6 ; NBSAP priority strategic axis 3, 9

Indicator methodology & collection of data feeding into indicators

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Objectives

Monitoring fisheries sustainability by researching existing information (academic libraries, competent authorities…) combined with the results of questionnaires on:

- the economic value and level of activity of fishing and hunting
- destructive practices
- target species
- official or traditional legislation

 Bushmeat

SUD-KIVU

Les menaces des crocodiles et des hippopotames de la plaine de la Ruzizi et les stratégies de leur conservation, Sud-Kivu, République Démocratique du Congo (RDC)

Centre de Recherche en Hydrobiologia – Uvira

Makerere University Kampala (Uganda)

Aichi Targets 5, 7 ; NBSAP priority strategic axis 2, 5, 9

Indicator methodology & collection of data feeding into indicators

---

Objectives

Monitoring populations of crocodiles and hippopotamuses, focusing on the Rusizi Plains, including:

- abundance, density, number of specimens killed/captured
- deforestation and pollution of their habitats
- people killed or wounded by these animal species
- traditional knowledge

TSHOPO

Projet de valorisation des données et de mise au point d'indicateurs de suivi de la Biodiversité en RDC: cas de la Viande de brousse

Centre de Surveillance de la Biodiversité (CSB)

Direction de Développement Durable du Ministère de l'Environnement et le Développement Durable

Aichi Targets 5, 7; NBSAP priority strategic axis 2, 5, 9

Indicator methodology & collection of data feeding into indicators

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Objectives

- To inventory the available knowledge and data on bush meat and bush meat products for the DRC and especially for the Kisangani region
- To contribute to the inventory of traditional knowledge about bush meat in the DRC
- To disseminate teaching modules on environmental education and ecosystem services in primary and secondary schools and for the general public

TSHOPO

Exploitation de la viande de brousse dans la région forestière de Kisangani (R.D. Congo, Kisangani

Centre de Surveillance de la Biodiversité (CSB)

Coordination Provinciale de l'Environnement

Aichi Targets 5, 7; NBSAP priority strategic axis 2, 5, 9

Indicator methodology & collection of data feeding into indicators

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Objectives

Valorisation of existing data on bush meat for indicator development

- To monitor continuously the exploitation of bush meat in the Kisangani region
- To gain in-depth knowledge of the systematics, the biology and the ecology of the mammals of the Congo Basin
- To inventory the species used for human consumption
- To identify the distributions chains of bush meat and bush meat products
- To evaluate the impact of the bush meat commerce on conservation and environmental developments

 Charcoal

KINSHASA

Contribution à l'étude floristique des espèces végétales utilisées dans la production de charbon de bois.

Université de Kinshasa

Institut Congolais pour la Conservation de la Nature (ICCN)

Aichi Targets 5, 7; NBSAP priority strategic axis 2, 5, 9

Indicator methodology & collection of data feeding into indicators

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Objectives

Verifying and fine-tuning of indicators for the production of charcoal via a bibliographic study.

- To inventory studies about the usage and exploitation of plants by local and aboriginal populations
- To inventory the species used for the production of charcoal
- To determine the quantity and weight of the trees cut down to this purpose
- To determine the ecological and chorological characteristics of these species
- To propose means to valorise ecosystems and their plants

KASAï-ORIENTAL

Contribution à l'étude de la filière bois énergie au Kasaï oriental, cas du bassin d'approvisionnement de la Lubi.

Université Officielle de Mbuji-Mayi

Aichi Targets 5, 7; NBSAP priority strategic axis 2, 5, 9

Indicator methodology & collection of data feeding into indicators

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Objectives

Using the evolution over time of preferred tree usage for charcoal and fire wood production as an indicator for ecosystem degradation.

- To inventory tree species exploited for charcoal or fire wood production
- To determine the quantity and weight of the trees cut down to this purpose
- To determine the production zones
- To create herbaria of the inventoried tree species

KONGO CENTRAL

Le développement d'agro forêts comme alternative pour valoriser la production durable du charbon de bois autour de la ville de Boma dans le territoire de MUANDA.

Institut Congolais pour la Conservation de la Nature (ICCN)

Ministère de l'Environnement et de Développement Durable, Coordination urbaine de l'Environnement de la ville de Boma

Aichi Targets 5, 7; NBSAP priority strategic axis 2, 5, 9

Indicator methodology & collection of data feeding into indicators

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Objectives

Verifying and fine-tuning of indicators for the production of charcoal via ecosystem observations, questionnaires and communal reforestation

- To inventory existing production associations
- To inventory the species used for the production of charcoal

- To determine the quantity and weight of the trees cut down to this purpose, the quantities used and the number of households producing charcoal
- To sensitise the population and the producers of charcoal on good governance practices and communal reforesting
- To valorise charcoal production and make it more sustainable

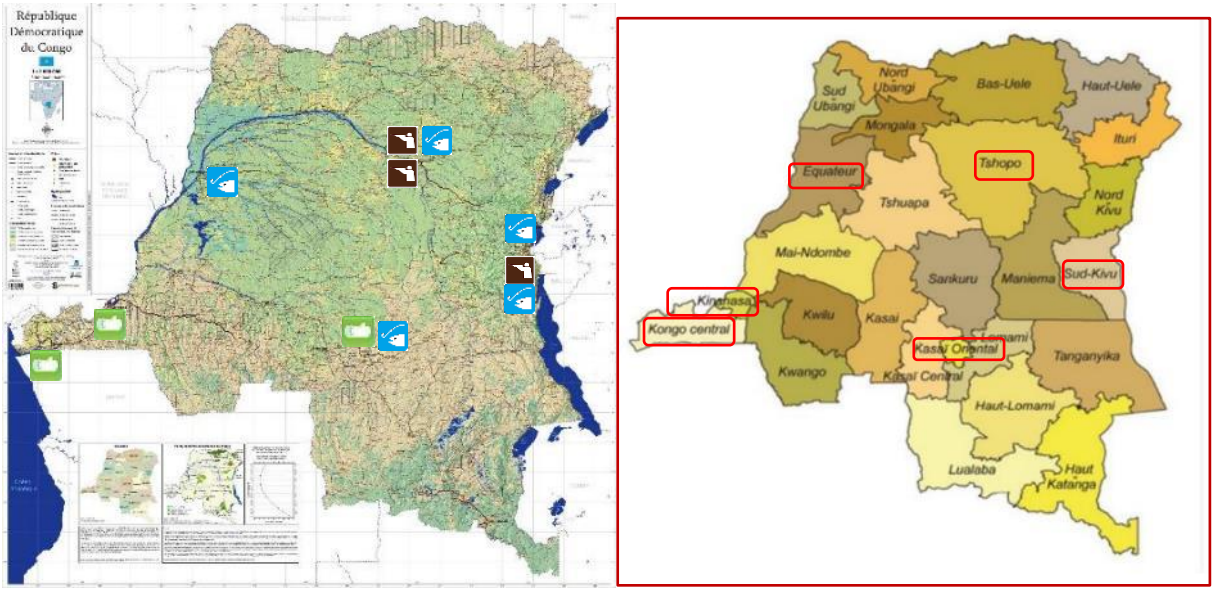


Fig. 42, 43. Left, map of the D.R Congo showing the MRV projects selected under the 2016 competitive call according to the three themes (fisheries, charcoal, bush meat). Right: the 26 new provinces of the D.R.Congo (source RMCA); provinces involved in selected MRV projects circled in red

Activities MRV interventions with external funding

In addition to the CEBioS competitive MRV call for external partners, at the level of methodologies for data collection, partnerships were undertaken or continued in 2016 with **universities and other institutions in partner countries and in Belgium** in order to launch research on best practice and to lend our expertise to partners in South and North to stimulate extensions (science-policy interface, stakeholder involvement) to research projects. While this is mainly carried out with **external funding**, work in current partner countries of our programme is prioritised. CEBioS is currently involved in the following **externally funded projects**, focusing on methodological aspects of policy-relevant biodiversity monitoring.

Table 27: Externally funded projects, focusing on methodological aspects of policy-relevant biodiversity monitoring

Project topic	Country	Partner institute South	Partner institute North	Aichi Target
Macro-invertebrates as bio-indicators and in ecotourism (internship in 2016: Inge Dox)	D.R Congo	ICCN (Parc Marin des Mangroves)	KU Leuven (MSc internship) ULB	6, 8, 11
Integrated management of African lakes (internship in 2016: Sebastiaan Verbesselt; stakeholder workshop organised in December 2016 in Mto wa Mbu, Tanzania)	Tanzania	NM-AIST Tanzania National Parks various stakeholders	KU Leuven (VLIR-NSS, MSc internship)	6, 7, 11, 14, 18
Amphibian health for conservation, indicators, ecotourism (ongoing; MSc student Joren Snoeks carried out field work with a VLIR-IRO travel grant in summer 2016)	South Africa	NWU	KU Leuven (VLIR, sandwich PhD)	11, 14, 18
Habitat monitoring of wetlands (project finished in 2016; two Burundese internships at VUB November-December 2016: Balthasar Mpawenayo & Claver Sibomana; 10 Burundese MSc students at UNIBU; CEBioS missions in July-August and September-October 2016)	Burundi	OBPE, Unibu	VUB (VLIR-SI)	6, 8, 11
Impact assessment of pollution on aquatic ecosystems (project finished; capacity building workshop in situ in	D.R.Congo South-South collaboratio	Unilu UL	KU Leuven, UA, RMCA (VLIR-SI)	6, 8

March 2016; Congolese internship at KU Leuven May-July 2016: Gyrhaiss Kapepula Kasembele)	n with South Africa			
Sustainable management of aquatic biological resources (project finished; two-week workshop for 25 participants in September 2016)	Morocco (host) with participants invited from Benin, Burkina Faso, Cameroon, D.R Congo, Ivory Coast, Madagascar, Morocco	UM5 (host) + home institutes of participants Université Félix-Houphouët-Boigny, Université Yaoundé I, Université de Ngaoundéré (invited experts South)	KU Leuven (VLIR-STI) IRD RMCA College of Charleston (USA)	6, 7, 8, 9
Use of existing collections or herbaria for determining baselines and to identify bio-indicators of anthropogenic change (ongoing, e.g. involvement in Belspo BRAIN-be project on introductions and parasitology of Nile tilapia)	a range of African countries, mainly D.R.Congo	CSB ICCN Unilu ISP Mb-Ng CRH-U …	RMCA BGM UHasselt IRD	6, 7, 9
Towards sustainable fisheries of Lake Tanganyika sprat and sardine by integrating of genetics/genomics, environmental data and stakeholder involvement (monitoring workshop at CRH-U August 2016; JEMU pilot project ongoing at RBINS/RMCA; VLIR-VLADOC PhD student Els De Keyzer started December 2016)	D.R Congo links with Burundi potentially interesting for neighbouring countries	CRH-U	KU Leuven RMCA MUNI University of Basel (Switzerland)	4, 6, 13, 14

Economic valuation of ecosystem services in Man and Biosphere reserves: testing effective rapid assessment methods in selected African MABs (1st stakeholder workshop in Tanzania in December 2016, project officially starts beginning of 2017)	Benin, Ethiopia, Tanzania, Uganda	Trias Pendjari NP UAC NM-AIST …	KULeuven VUB UAntwerpen U Hasselt	2, 3, 14
Relict and refuge altitude forest of the albert lake escarpment: mapping the main forest fragments, quantify the density of primate nests and functional diversity (mammals) along 5 line transects (3 missions with the collaboration of the local communities- lead : Dr Anne Laudisoit, consultant; 2 master theses UAntwerpen)	D.R. Congo	CSB IPT de Rethy	CIFOR CRC RZSA UAntwerpen	5, 12, 14,18

SO 6. The RBINS and DGD unit D2.4. raise awareness on, and build capacities for, the implementation of the Nagoya Protocol on Access and Benefit Sharing in Belgium and in developing countries.

Background

The RBINS and D2.4 both have relatively limited experience on genetic resources, access and benefit sharing provisions or traditional knowledge associated to the use of genetic resources. They have followed the issue in their respective work related to the Convention on Biological Diversity, but without necessarily developing expertise or playing an active role in the process. At the Belgian level, other interested parties are in a similar situation.
The new programme framework rightly makes of the Nagoya protocol the sixth pillar of our activities. As a preparation for years to come, members of the team will start documenting and building capacities on this matter. Also, the ABS-Clearing House will be linked to the national CHM.

Expected results

6.1. The RBINS and DGD are familiar with the obligations under the Nagoya Protocol.
6.2. Awareness of the scientific community on the Nagoya Protocol is raised. As outlined in the section below, capacities will first be built within RBINS. Information and training for other stakeholders, including DGD, will start as of 2014.

Outcome:
RBINS provides advice to Belgian cooperation on Nagoya Protocol and DGD is better informed about the NP.
Nagoya Protocol is better known in partner countries

Expected result 6.1. RBINS and DGD are familiar with the obligations under the Nagoya Protocol

Description

The year 2015 was devoted to the follow-up of the Nagoya Protocol on Access and Benefit-Sharing, its ratification and implementation at the Belgian, European and international level. The consolidation of intern capacities is a prerequisite for the provision of training and support to DGD, our partners and any other relevant stakeholder. Two new collaborators provide support to Han de Koeijer (lead SO6) and got acquainted with this field.

Log frame (partim)

Expected results	Output Indicators	Report 2016
6.1. The RBINS and DGD are familiar with the obligations under the Nagoya Protocol.	Number of meetings on NP attended	Han de Koeijer attended the 2nd Capacity building IAC for the NP, SBI1 and COP/MOP2 of the NP
	Number of staff members aware of the implications of Nagoya Protocol implementation: 2 members of staff trained	Belgium ratified the NP, 3 staff members have continued to read up on international developments among which CETAF activities.
	Researchers and other stakeholders are aware on the implications of the NP on their way to work.	Replies to several mails with requests on implementation of NP in Belgium.
Activities	Report 2016	
6.1.1. A flyer has been developed about "the Nagoya Protocol and implication for collecting species in non-European countries".	Belgium only ratified in November 2016. It still isn't known what the legal framework will be, therefor not possible to make the flyer..	

6.1.2. One to 2 briefing papers on developments of the NP will be prepared each year.	FAQ on NP for researchers/scientists prepared and used by CETAF and in the information sessions. Several requests from national and international scientists and companies have been analysed and answered in cooperation with the ABS nfp.
6.1.3. to attend meetings to get acquainted with the Protocol of Nagoya and to follow up developments	. Informal discussions and email correspondence (> 25) were held with scientists and companies. Participation in 3 international meetings on and related to the NP,

Table 28: log frame (partim) for SO6, 6.1.

Activities

International meetings:

Han de Koeijer participated as expert for Europe at the Informal Advisory committee on capacity building for the implementation of the Nagoya Protocol, 15 - 17 June 2016,Montreal, Canada. Information on this meeting (https://www.cbd.int/doc/?meeting=ABSCBIAC-2016-01) and the final report are available at https://www.cbd.int/doc/meetings/abs/abscbiac-2016-01/official/abscbiac-2016-01-04-en.doc. It was very important to participate in this meeting in order to ensure that the strategic plan on capacity building as voted during COP/MOP1 was respected, to keep the link with the overall capacity building under the Convention and its Protocols and to get contacts with different other initiatives that work on capacity building.

As CHM-IAC chair Han de Koeijer was invited to participate in Second meeting of the Informal Advisory Committee to the Access and Benefit-sharing Clearing-House that took place from 20-22 June, Montreal Canada. As this meeting was co-current with the above mentioned capacity building meeting he participated in the first day of the ABS-CH IAC meeting.

Han de Koeijer participated as member of the Belgian Delegation to COP/MOP 2 that was held co-currently with COP 13 in December 2016, Cancun Mexico. He was Belgian pilot on the following items:

- COP/MOP2 Item 6: ABS-CH
- COP/MOP2 item 10 capacity building on the NP
- COP/MOP2 item 11 Measures to raise awareness

The three items were closely linked to the same items under COP13 and COP/MOP8 on the CP. He ensured the coherence between the Convention and its Protocols.

Number of staff members aware of the implications of Nagoya Protocol implementation: 2 members of staff trained

There were no meetings in Belgium organised by the ABS focal point. This is mainly related to the fact that there is no real development on the implementation through legal texts of the NP.

Researchers and other stakeholders are aware on the implications of the NP on their way to work.

In 2016 no info sessions were organised for researchers are there were no real developments with regards to the NP implementation in Belgium. Several demands with information on what to do to ensure compatibility to the NP while collecting abroad have been answered. Also some requests from foreign scientist who wanted to use collections in Belgium or collect here have been answered.

The FAQs were updated with the questions from the scientists. The FAQs are available at http://www.taxonomy.be/abs/infosession/RBINS/abs-faqs and http://www.taxonomy.be/abs/infosession/MRAC/abs-faqs

Expected result 6.2. Awareness of the scientific community and other stakeholders on the Nagoya Protocol is raised

Description

Whenever they bring those species in to Belgium, the Belgian Government will have the obligation to check that the necessary information in relation to Prior Informed Consent (PIC) and Mutual Agreed Terms (MAT) for the use of the species has been respected.

In order to ensure that scientists that travel abroad for collection purposes are aware of the extra paperwork, they need to be informed of the implications of the NP.

As the NP has entered in to force, information on ABS and the NP will be communicated through the national CHM. A special section will be developed in collaboration with the ABS national focal point of Belgium.

Log frame (partim)

Expected results	Output Indicators	Report 2016
6.2. Awareness of the scientific community and other stakeholders on the Nagoya Protocol is raised.	A special section on the Belgian Clearing House on "Frequently Asked Questions on the Nagoya Protocol" has been developed and is updated regularly.. Number of fliers Number of information sessions	This section has been put on www.taxonomy.be
Activities	**Report 2016**	
6.2.1. information sessions are organised 6.2.2. development of section on NP in CHM. 6.2.3.Further actions will depend on the decisions during COP11 and NP COP/MOP1	No sessions have been organised, several requests for information have been replied to.	
	As Belgium hasn't ratified yet, this section has seen no further development.	
	Luc Janssens de Bisthoven and Maarten Vanhove attended two ABS/NP-related meetings during their missions there (August and October 2016); their observations and discussions with the Burundese partners were presented at the European Conference of Tropical Ecology (Brussels, February 2017).	

Table 29: log frame (partim) for SO6, 6.2.

Activities

See 6.1 on information on the 6.2.1 activities. There have been discussions with representatives of the Regions about possible info sessions for scientists at regional level. As biodiversity is a regional competence we can only organise info-sessions on the NP in the Regions when invited to do so by regional organisations.

Under SO3-2 and SO6 Burundi has undertaken several activities on the Nagoya Protocol to raise awareness on the NP, a.o. a pioneering participative process to define a strategy and an agreement between the Ministries of Environment and Health, the Université du Burundi and the association of 'tradipraticiens' in order to valorise traditional knowledge about medicinal plants. Niger also has one project related to awareness raising on the NP for traditional healers.

6.2.2 Development of a section on NP in CHM

Belgium has ratified the NP in September 2016 and became officially Party to the Protocol on the 7th of November 2017. No legal instrument has yet been developed for the implementation of the NP and at this moment the EU-regulation is priming. Some pages on the CHM have been updated with new relevant information. As the NP focal point is the main person responsible for this section and doesn't work for CEBioS we can only stimulate her to update information and approve what we have added.

SO 7. Programme coordination and management

Background

The year 2016 saw the CEBioS programme at cruise speed and a further development and extension of the networks, and the valorisation towards stakeholders of many knowledge products in capacity building interventions.

Outcome
The project is properly coordinated and managed in order to implement smoothly the 16 expected results under the 6 specific objectives

Expected Results

7.1. Coordination
7.2. Management

Description

The CEBioS programme is a policy support and capacity building unit under the Operational Direction 'Natural environment' or 'Nature' of RBINS, headed by the operational director DrPatrick Roose. It is coordinated and managed by the coordinator (Luc Janssens de Bisthoven), an administrative support staff (3 persons: Mariam Agarad, Vincent Pinton, Kristien Vrancken) and six scientists (Han de Koeijer, François Muhasy, Marie-Lucie Susini, Maarten Vanhove, Anne-Julie Rochette, Hilde Keunen). Moreover, the programme supports a number of salary months for 1 scientist of RBINS working at the MUMM (Management Unit of the North Sea Mathematical Models and the Scheldt estuary), a department of RBINS (Katrijn Baetens). The unit works closely with a scientist at RBINS, Erik Verheyen, concerning the capacity building in Kisangani (RDC).

Log frame (partim)

7. Coordination and Management	Key indicators (OVI) and targets	
Expected results (ER)	Output Indicators	Report 2016
7.1. Coordination	Annual plan, Annual report, Recruitments	Annual plan, annual report,

	Trainings, Project website, Fliers, stand New partners, synergies and projects	recruitment, web site, new partners
7.2. Management	Number of trainees in Belgium/ Number of qualitative trainings, workshops, symposia, projects, awareness campaigns and functioning CHM websites in developing countries/ Audit Paperwork/ Functional computers, equipment (servers…)	See table 31
Activities	**Report 2016**	
7.1.1. preparation of the year programme and preparation of the annual report 7.1.2. Human resources and internal capacities 7.1.3. Communication with direction of RBINS, DGD and other stakeholders and visibility 7.1.4. Prospection for synergies, partners, projects and external funding 7.1.5. motivation, support and incitement of staff to reach targets within strategy and activity programme including mid-term evaluation and general coordination	See Table 31	
7.2.1. organisation of the mobility of the trainees to Belgium 7.2.2. financial management 7.2.3. administration 7.2.4. ICT	done	

Table 30: log frame (partim) for 'coordination and management'

Activities

The role of the programme coordination is to ensure the coherence and integration of the various components of the cooperation protocol. It also plays an important role of

synchronisation with the activities of all project partners: the other RBINS departments, other institutions such as the RMCA, NBGB and universities, NGOs, as well as administrations in Belgium and abroad.

Among other tasks, the coordination is responsible for:

- maintaining regular contacts with the DGD administration, embassies, CBD, the VLIR, ARES, BTC and others
- the elaboration of the work programmes in collaboration with the responsible persons,
- the adaptation of activities during the programme period whenever necessary,
- the evaluation and reporting of yearly activities,
- the management of accounts,
- the logistic support to the organisation of training activities,
- the supervision of the daily work of the programme's personnel,
- the hiring of staff,
- general aspects of representation, networking and communication.

As part of our networking activities, we continued to exchange information and experiences with other Belgian and international actors involved in biodiversity-related issues. Among our usual partners, we worked closely with the CBD Secretariat, in Montreal, as well as with other UN-agencies and programmes and with others (e.g. WWF, the group 'conservation biology' of RBINS, spf Env, EU DG DEVCO, IPBES, IUCN etc).). CEBioS also actively contributes to opinion papers taking position on biodiversity and ecosystem services in the Global South and/or on matters relevant for natural history institutions. In this respect, Luc Janssens de Bisthoven, Erik Verheyen and Maarten Vanhove were co-authors/co-signatories of two such publications widely circulated on social media:

Ceríaco L.M.P., Gutiérrez E.E., Dubois A. & 490 signatories (2016) Photography-based taxonomy is inadequate, unnecessary, and potentially harmful for biological science. *Zootaxa* 4196(3): 435-445

Abila R., Akoll P., Albertson C., Antunes D., Banda T., Bills R., Bulirani A., Chocha Manda A., Cohen A.S., Cunha-Saraiva F., Derycke S., Donohue I., Du M., Dudu A.M., Egger B., Fritzsche K., Frommen J.G., Gante H.F., Genner M.J., Härer A., Hata H., Irvine K., Isumbisho Mwapu P., Janssens de Bisthoven L., Jungwirth A., ..., Van Steenberge M., Vanhove M.P.M., Verheyen E., Weber A.T., Weyl O., Ziegelbecker A. & Zimmermann H. (2016) Oil extraction imperils Africa's Great Lakes. *Science* 354(6312): 561-562

Visit of the Director-general for Development Cooperation and Humanitarian Aid to RBINS-CEBioS

Fig. 44. Pictures taken at the meeting with Mr. Bruno van der Pluijm, Director-General of DGD

On December 19th, RBINS and CEBioS received Mr. Bruno van der Pluijm, Director-General for Development Cooperation and Humanitarian Aid (DGD), together with a delegation from DGD. The RBINS and the CEBioS programme were presented, as well as all CEBioS colleagues and some African grantees from the CEBioS programme. A guided tour was organized in the Museum as well. It was the opportunity to discuss further collaboration between DGD and RBINS.

The following table lists all activities for coordination and management related to Meetings, networking, RBINS, OD Nature, CEBioS processes, **Academic work, teaching & research, and Monitoring & Evaluation.**

Table 31: Meetings **coordination and management** of the coordinator with the CEBioS staff. For policy consultancies and meetings, as well as monitoring and evaluation, see under SO4.2.

	Actor (recipient of service or meeting)	Meetings/ action	Date 2016	Location
Meetings, networking				
	Buitenlandse zaken	Buitenlandse zaken: diplomatieke posten, Min. Reynders, netwerking	29-1	Egmont Paleis
	IUCN Brussels	IUCN debate/ advocacy to maintain BE membership of IUCN, brookering meeting IUCN with cabinet De Croo (failed)/	Debate 7-11	Permanent Rep. Slovak, Brussels
	VLIR-UOS	New Year's event	January	Brussels
	NFP IPBES Belgium	2nd IPBES stakeholder Meeting-Belgium	21-11	BELSPO
	ARES, KLIMOS	Midis de l'ARES, Klimos toolkit	8-11	ARES
	NFP, CEBioS	Meeting with Ignace Schops (UHasselt, Park Limburg	19-1	RBINS
	DGD, MRAC	Meeting with Dirk Molderez about MRAC	19-10	RBINS
	MRAC, Meise, RBINS, DGD	Meeting with M. Bart Ouvry, Ambassador UE Kinshasa	23-8	MRAC
	RBINS	Meeting with Steven Degraer about the use of crabs as bioinidcators in RDC	4-3	RBINS
	KU Leuven	Meeting with Dr. Roseline Reemans, on food security and livelihood	2-3	RBINS
	BBPf	Meeting on GBIF call with André Heughebaert	9-3	RBINS
	WWF Belgium	Réunion par Skype avec Françoise Ansay, WWF Belgique : Possibilités de	6-4, 7-4	RBINS

		synergies entre WWF et CEBioS/ Meeting with Gregory Claessens (WWF Belgique) & Jerôme Degreef (Jardin Botanique Meise) : cooperation on mushrooms in RDC		
	VVOB, CEBioS	VVOB event: awareness projects in schools in RDC	27-9	RBINS
	VVOB	Meeting with Sara Bosmans VVOB project Meeting with Eva maes, Kristine Smets (VVOB)	14-7, 17-10	RBINS
	VLIR-UOS	Launch new building, networking	20-9	VLIR-UOS
RBINS, OD Nature, CEBioS processes				
	BTC, RBINS	Meeting with Pisani, Aarts about future MoU with BTC	20-9	RBINS
	RBINS, CEBioS	Meeting with accountancy RBINS about optimization payment and contract flows	15-3	RBINS
	CEBioS	HR work, O cirkels, Crescendo, training and implementation	29-11, others	RBINS
	RBINS, FEDtWIN, KULeuven, UHasselt	Integration of CEBioS into future RBINS FEDtWIN programme, links to KULeuven, UHasselt, submission of research domains to RBINS, profiles for KU Leuven, UHasselt, VUB	UHasselt@RBINS: 15-9, with Pisani @UHasselt 27-9, KU Leuven @RBINS 6-9	RBINS, UHasselt
	RBINS, OD Nature	Coordinating and reporting for BIOPOLS meetings 16, 17, 18, 19, 20, 21	26-1, 17-5, 9-6, 18-8, 22-9, 23-11	RBINS
	CEBioS	Weekly team meetings, monthly log frame update	Weekly, monthly	RBINS
	RBINS, OD Nature	Business review	13-9	Oostende, marine base
	RBINS communication	Brainstorming communication stand CEBioS	12-7	RBINS

	RBINS, OD Nature, BIOPOLS	BIOPOLS technical meetings on 'extension' and 'science-policy interface'	4-7, 29-08, 20-10	RBINS
	RBINS, OD Nature	LSO meetings	monthly	Vautier or Gulledelle
	NFP, CEBioS	Working group about airport and traffic awareness raising	15-9	RBINS
Academic work, teaching & research				
	VUB+KU Leuven	Begeleidingscommissie Ms. Nile Nelson, VUB+KU Leuven	14-12	VUB
	UNESCO-MAB+ BELSPO	EVAMAB project: preparation meetings etc...	4-8, 14-11	RBINS, KULeuven
	SIL congress	Presentation of poster on Lake Manyara project at SIL (done by Prof. Brendonck, KU Leuven)	July	Italy
	FFRA	Fonds pour la recherche scientifique en Afrique, conseil d'administration	27-1	BELSPO
	South Initiative, BUR	Debriefing mission Burundi, South Initiative	12-10	VUB
	PDL, KU Leuven	Career planning for a biologist, presentation at PDL, KU Leuven	26-10	KU Leuven
	VUB	Lectures on Biodiversity governance at VUB, Masters, by Luc Janssens de Bisthoven	14-2, 14-12	VUB
	Un. Bur, VUB	Coaching stage BURUNDI Claver Sibomana	14-2	VUB
	UAC, Benin, GTI	Coaching of Hamed Odountan on macroinvertebrates, stage at CEBioS	September	RBINS
	UGent	1st Master cursus 'Praktische taxonomie' De begeleidende prof, Koen Sabbe, by Han de Koeijer	December	UGent
	KLIMOS	Discussion about paper on EIA in development cooperation	28-01 and others	RBINS
	KU Leuven	Meeting with potential stagiaire	8-11	RBINS

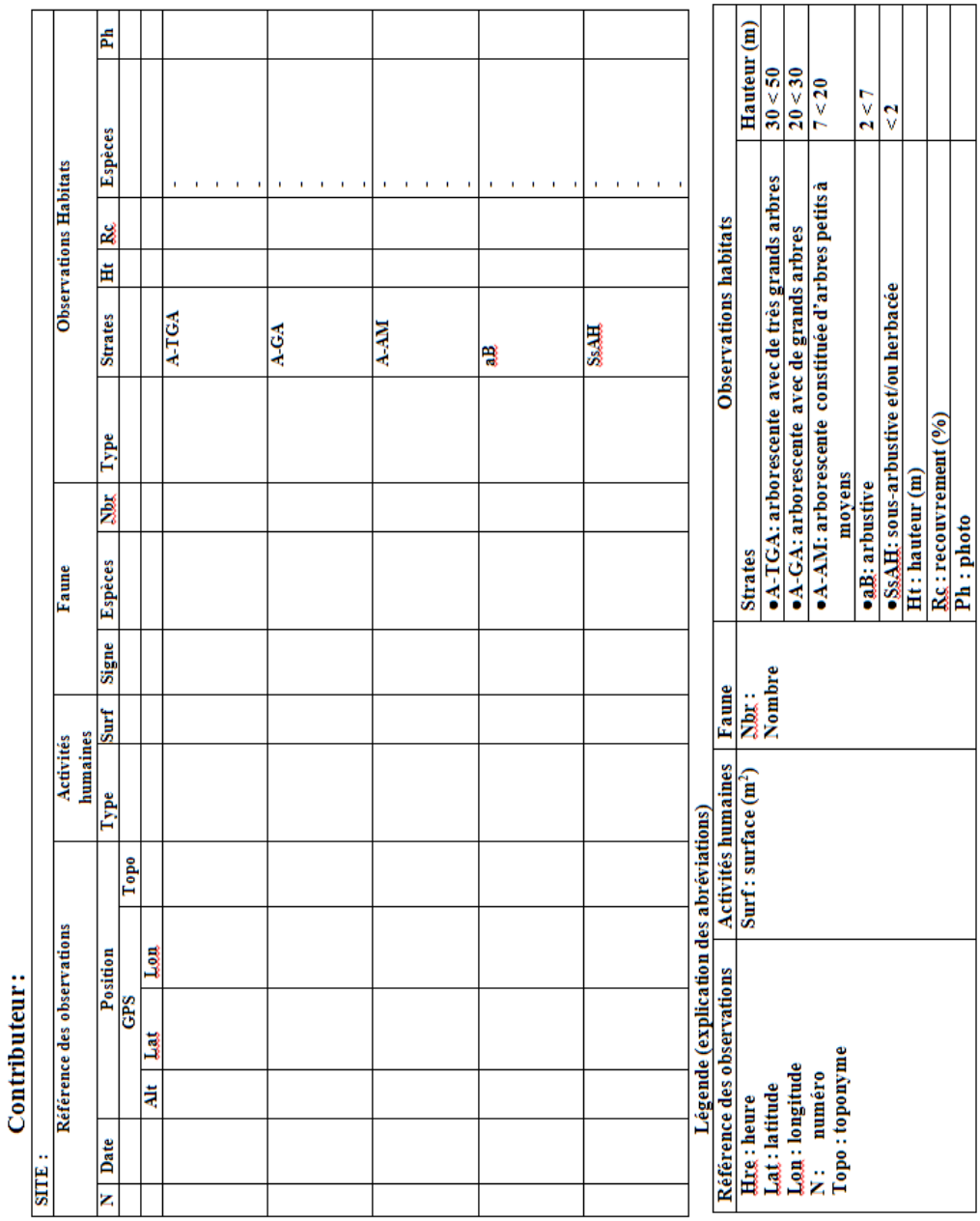
Monitoring and evaluation				
	DGD, Dienst Bijzondere Evaluatie, DRIS, Hugues Legros (consultant)	Evaluation of policy support by Bureau DRIS, review of intermediary reports and end report, interviews with coordinator and with director Pisani	Through the year: 5 meetings, 8-3, 12-5, 2-6, interview 17-2, 28-4, restitution 25-10/	RBINS, DGD
	DGD, P. Hollebosch	Technical meeting on results based management	18-4	DGD
	DGD, Director General B. van der Pluijm	Visit of DG of DGD to RBINS, event	19-12	RBINS
	International Foundation Science (Sweden)	Review of candidates for grants	17-5	RBINS
	DGD, BELSPO	Steering Committee CEBioS		RBINS
	DGD, MRAC, RBINS, cabinets	Strategic Committee RBINS+MRAC (Han dK)		RBINS
	KLIMOS	KLIMOS steering committees	10-3, 19-4, 7-6, 10-11, 15-12	DGD
	Arista, Previus	Training as a 'person of trust' for RBINS (Luc JdB)	25-10, 17-11	National Archives, Arista

Annex 1: Log frame matrix (2014-2018)

(file on demand)

Annex2 : La fiche LEM Habitats

This format is used to monitor habitats in protected areas. It has been obtained through participative process and is used in capâcity building activities in Benin, Burundi and D.R. Congo.



Contributeur :

SITE :																						
Référence des observations							Activités humaines			Faune			Observations Habitats									
N	Date	Position					Type		Surf	Signe	Espèces	Nbr	Type	Strates	Ht	Rc	Espèces					Ph
		GPS				Topo																
		Alt	Lat	Lon																		
														A-TGA			- - - - -					
														A-GA			- - - - -					
														A-AM			- - - - -					
														aB			- - - - -					
														SsAH			- - - - -					

Légende (explication des abréviations)

Référence des observations	Activités humaines	Faune
Hre : heure Lat : latitude Lon : longitude N : numéro Topo : toponyme	Surf : surface (m^2)	Nbr : Nombre

Observations habitats	
Strates	Hauteur (m)
•A-TGA: arborescente avec de très grands arbres	30 < 50
•A-GA: arborescente avec de grands arbres	20 < 30
•A-AM: arborescente constituée d'arbres petits à moyens	7 < 20
•aB: arbustive	2 ≤ 7
•SsAH: sous-arbustive et/ou herbacée	< 2
Ht : hauteur (m)	
Rc : recouvrement (%)	
Ph : photo	