

REPORT 2013

Building capacities for biodiversity and development



Document prepared by L. Janssens de Bisthoven , H. de Koeijer, J. Constant, T. Delsinne, W. Dekoninck, Z. Nagy, P. Grootaert, F. Muhashy Habiyaemye, P. Luyten, K. Baetens, V. Pinton, Y. Samyn, M-L. Susini, E. Verheyen, and K. Vrancken.

Acronyms

ABS	Access and Benefit Sharing
BTC	Belgian Technical Cooperation
CBD	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
CSB	Centre de Surveillance de la Biodiversité
DGD	Belgian Development Cooperation
EDIT	European Distributed Institute of Taxonomy
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
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
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	Measurement Reporting and Verification
MUMM	Management Unit of the North Sea Mathematical Models
NGO	Non-Governmental Organisation
NP	Nagoya Protocol
NBSAP	National Biodiversity Strategy and Action Plan
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
RBINS	Royal Belgian Institute of Natural Sciences
RDC	D.R. Congo

SACEP	South Asia Co-Operative Environment Programme
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SSC	South-South Cooperation
TST	Trans Sectorial Team
UAC	Université d'Abomey- Calavi , Benin
UA	Universiteit van Antwerpen, Belgium
UB	Université du Burundi
ULB	Université Libre de Bruxelles, Belgium
UNIKIS	Université de Kisangani, D.R. Congo
UNILU	Université de Lubumbashi, D.R. Congo
UOB	Université Officielle de Bukavu, D.R. Congo
VLIR-UOS	Flemish Interuniversity Council, Development Cooperation, Belgium
VVOB	Vlaamse Vereniging voor Ontwikkelingssamenwerking en technische Bijstand, Belgium

CONTENTS

Acronyms	1
Contents	4
Highlights	5
Background	8
Part I - The year in brief	8
Main milestones in 2013	10
Results (log-frame matrix)	11
Where we work	14
Budget	15
Training activities	20
Distance learning	22
Institutional relationships	23
Part II - Detailed outputs	31
T1. Tackling the taxonomic impediment (GTI)	32
T1-GTI-01: Taxonomic training through research and/or curation	33
T1-GTI-02: Taxonomic training and access to collections in Belgium	44
T1-GTI-03: Taxonomic workshops <i>in situ</i>	47
T1-GTI-04 Cooperation with selected institutes in privileged partner countries	49
T1-GTI-05 Abc Taxa: a series of manuals for taxonomic capacity building	49
T1-GTI-06. GTI reader: teaching modules for the Global Taxonomy Initiative	50
T1-GTI-07 Participation in workshops and conferences	50
T2. Supporting biodiversity inventories, monitoring and assessments (IMAB)	52
T2-IMAB-01. Cooperation with the University of Kisangani for the taxonomic study and the monitoring of lowland forests	53
T2-IMAB-02. Cooperation with Institutions of Conservation to improve the management of protected areas	58
1. Partnerships in DR Congo	59
2. Partnership with the INECN in Burundi	65
3. Collaboration with the 'Université d'Abomey-Calavi (UAC), Benin	67
T2-IMAB-03. Application of the COHERENS model	69
T3. Enhancing biodiversity information networks (CHM)	74
T3-CHM-01 Training of CHM webmasters and web content managers	75
T3-CHM-02. Distance learning through the Belgian CHM website	78
T3-CHM-03. Technical support and cooperation for the maintenance of CHM websites	79
T3-CHM-04. Networking activities at national level	87
T3-CHM-05. Networking activities at supra-national level	87
T3-CHM-06. Public awareness through the CHM	89
T3-CHM-07. Participation in CHM meetings and conferences	92
T4. Providing scientific support to biodiversity policy (POL)	93
T4-POL-01. Scientific services on biodiversity issues	94
T4-POL-02. Biodiversity training in Belgium	97
T5. Project coordination and management (COORD)	98
COORD-01. Representation and networking	98
COORD-02. Communication and outreach	98
COORD-03. Coordination	98
List of annexes	107

Highlights

2013: Junction Year

In 2013 we developed the new five year programme 2014-2018 within the strategic vision 2014-2023. At the same time, the existing cooperation protocol between DGD and RBINS has been rewritten and put into a different format, with as signatories the ministers of cooperation and science policy.

The 2013 programme helped facilitate the transition towards the new vision inscribed in the coming framework programme for 2014-2018. As in previous years, we continued our training, networking and institutional strengthening activities on biodiversity linked to sustainable development. But we also strived to bring about changes in mind-sets, in RBINS and our partners, to integrate the guiding principles of the next framework programme, being a more institutional and integrated approach and more attention towards ecosystem services and the link to poverty. This is also the last year starting in April and ending in March of the following year. The next annual programmes will follow calendar years. It is also the last year following the five axes GTI, IMAB, CHM, POL and COORD. From 2014 onwards, the 6 new strategic objectives (Science, Information, Awareness, Policy, MRV, Nagoya Protocol) will provide a new structure in response to new challenges and priorities.

In May 2013, the vacant position of coordinator of the DGD project was taken up by Dr. Luc Janssens de Bisthoven, succeeding Dr. Anne Franklin.

The DGD-RBINS programme is now part of the newly created operational Directorate 'Nature', with operational director Dr. Patrick Roose, and actively involved in several new committees such as CFC (committee of functional chiefs) and BIOPOLS (Biodiversity Policy Service). BIOPOLS is regrouping the National Focal Point CBD, marine policy, the Belgian Biodiversity Platform and Conservation Biology of RBINS. The team was involved in the formulation of the new strategic action plan of the OD, including the making of a SWOT-analysis and a synthesis of the past five years. The team also participated in several rounds of preparation at BELSPO for the formulation of the new BRAIN calls of 2014, a consultation about European research networks in Africa and the conference 'Conservation Research Matters' conference, organised by the Belgian Biodiversity Platform. The team was also instrumental for the cooperation between BELSPO and the International Foundation for Science (www.ifs.se) by suggesting an adequate modus operandi, and trying to create links towards the new institutional cooperation with Bénin.

Concerning the internal management, we further optimized some administrative processes such as insurances, contracts, equipment donations, and we obtained a free waiver for taxes concerning export of small material to developing countries from the Ministry of Finance. The team was trained in Project Cycle Management in order to fulfil the expectations to work in a result based management approach. In order to increase transparency, visibility, networking and interaction, we are working on an own website which will go online in 2014.

Policy work was carried out in the framework of Sustainable Development Solutions Network (<http://unsdsn.org/>), with participation in the global brainstorming to develop new Sustainable development Goals (SDGs) which will replace the MDGs in 2015, and which were the central theme at

the ‘assises for cooperation’ organised by DGD in May 2013. Similarly, we were involved with DGD in the ENVIRONET project of OECD (<http://www.oecd.org/dac/environment-development/aboutusenviromet.htm>) for a scoping paper on biodiversity and development. Also the participation to the Chennai recommendations on biodiversity and development towards WIGRI5 and COP12 (2014) was an important policy activity in 2013 (mentioned in ‘Science connect’ nr. 43), next to being part of the Belgian delegation at SBSSTA17. The team contributed to the peer review of many policy documents at European and Belgian level, the three main being the EU position on the Nagoya protocol, the National Strategy and Action Plan for Biodiversity and the National Report on Biodiversity.

As steps towards a new approach in the programme to be more involved in the East African region, we supported, on invitation of Prof. Dirk Verschuren (UGent) a workshop in Naivasha, organised by Kenya Wildlife Service (KWS), Kenya, on soda lakes, by financing the participation of community leaders in order to facilitate scientific knowledge transfer to the local communities. The protocol of Nagoya, meanwhile ratified by Kenya, was also an important point of discussion. Further, we made the first steps to start some cooperation with VVOB in D.R. Congo on raising awareness for biodiversity at the level of professional schools in agro-forestry. This resulted into a workshop involving both the education stakeholders of VVOB and the biodiversity stakeholders of RBINS at ministerial and focal point level, financed by VVOB.

Our interventions are being amplified with the consolidation of institutional partnerships with the ‘Institut National pour l’Environnement et la Conservation de la Nature’ (INECN) in Burundi and the launching of a new partnership with the ‘Université Abomey-Calavi’ (UAC) in Benin through recent formulation missions (Burundi: March 2014, this annual report; Bénin: April 2014, next report). These two partnerships will give more opportunities for the integration of an ‘ecosystem services’ angle and poverty reduction to research activities.

In 2013 the institutional partnership with INECN (Burundi) continued well with the preparation of a lexicon about the dominant plants of the Kibera National Park, where over 230 plant species were recorded. In DR Congo, the partnership with the “Institut Congolais de la Conservation de la Nature” (ICCN) included the monitoring of the dynamics of habitats in the Parc National Kahuzi Biega, the natural reserve of Itombwe. Moreover, research on ecosystem services has been supported through PhD and Masters for the areas of Bombo Lumene and Luswishi. Institutional cooperation also continued with the Centre de Surveillance de la Biodiversité (CSB) at the University of Kisangani (D.R. Congo). More specifically, four scientists of the University of Kisangani were supported through stays in Belgium and support locally in order to build up capacities for their thesis research in the areas of Salmonellosis, bushmeat and fisheries, next to strengthening capacities in collection management.

Taxonomy (via the Global Taxonomy Initiative (GTI)), information networks (Clearing House mechanism (CHM)), and ‘biodiversity inventories, monitoring and assessments’ (IMAB) remained the three main pillars of our programme. However, all three sub-programmes progressively put more emphasis on the poverty reduction and ecosystem services and institutional integration, as outlined in the new 10 year strategy 2014-2023. Most of the activities under the GTI and CHM were consolidated, by focusing primarily on existing partnerships and projects. Some activities, such as ‘Taxonomic training through research’ and ‘Taxonomic training and access to collections in Belgium’,

are in a review phase with the intention of orientating them towards our new vision (multi-year, more integrated in institutional support).

At the activities level, 2013 will be remembered as a particularly fruitful year for our activities under the **Global Taxonomy Initiative (GTI)**. We supported projects and workshops in Vietnam, DR Congo, Ivory Coast and Burundi. We also invited 15 foreign young or experienced researchers to Belgium, coming from the following partner countries: Brazil, Burundi, Cameroon, Colombia, Cuba, Ethiopia, Philipinnes, Ivory Coast, Kenya and Vietnam. These researchers were thus able to receive a training on top-level taxonomical research. Several scientific and technical papers were produced by our partners both in Belgium and in the South. Finally, we facilitated the publication of the 14th volume of our series of capacity building manuals, *Abc Taxa*, dedicated to the Bryophytes of Rwanda.

Concerning **IMAB**, in 2013, a **manual** entitled “Habitats du Parc National de Kahuzi-Biega (R.D. Congo) - connaître et suivre leur évolution à l’aide d’un lexique des plantes” was published. It lists 147 plants observed and it includes the vernacular names (in the Mashi, Kitembo and Kilega languages) as well as photographs of these plants. This lexicon is an important didactic tool for the monitoring of habitats in the park. The tool will be used by the rangers, among others, not only to help them identify which habitats they are monitoring, but also to introduce educational initiatives in the field of environmental awareness.

The team developing the hydraulic marine ecosystem model “**COHERENS**” continued providing distance coaching to its partners, as well as in house training, more specifically with experts from Brazil and Columbia, two countries now excluded from the list of eligible partner countries. Therefore, the missions in these countries were both last training opportunities, and exit discussions about exploration for continued cooperation with other funding. The year 2013 was for Coherens a year of re-orientation towards the new institutional cooperation in Peru (formulation planned in summer 2014) and Vietnam (formulation planned in April 2015). Discussions are also planned with partners in Algeria and Tanzania.

For the **Clearing House Mechanism (CHM)**, our activities were partly influenced by decisions taken at the international level. In 2010, the 10th Conference of the Parties of the Convention on Biological Diversity adopted a new Strategic Plan for Biodiversity 2011-2020. This strategic plan reinforces the role of the CHM as a centralising information mechanism in support of its implementation. A Pilot project initiated in 2011 to develop a tool for reporting for the NBSAP towards the AICHI targets was tested in 2012 by our CHM partners. We also demonstrated the tool in a side-event during COP11, SBSTTA-17 (2013) as well as during an EU CHM network meeting and an EU CGBN meeting. The EU CHM meeting decided that the principals of the tool are very useful and decided to continue the development of it and to include indicators. In 2013, a EU Working group worked on the further development of the Tool. In parallel, we continued in 2013 our webmaster training activities, with two training workshops in Belgium for web masters from D.R. Congo, Benin, Burkina Faso and Côte d’Ivoire and national workshops in Cameroun and Côte d’Ivoire. We added a new element to the national training workshop by promoting two follow up training sessions of 1-2 days after the national training to ensure that the participants become really involved in the CHM.

Part I - The year in brief



Herd of cattle in Burkina Faso @M.L. Susini, RBINS

Background

The general objective of the programme of work 2008-2012 is to put RBINS' knowledge and expertise on biodiversity at the service of development and reduction of poverty. The year 2013 is a year of transition towards the next five year plan 2014-2018. It still follows the programme format of the 2008-2012, but the activities were executed as a function of the new challenges ahead as outlined in the five year plan 2014-2018.

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 2013 programme includes five sub-programmes, four operational ones and one for management:

T1. Tackling the taxonomic impediment (GTI)

T2. Supporting biodiversity inventories, monitoring and assessments (IMAB)

T3. Enhancing biodiversity information networks (CHM)

T4. Providing scientific support to biodiversity policy (POL)

T5. Coordination and management (COORD)

The first three sub-programmes are devoted to building scientific and technical capacities in the South. The GTI sub-programme provides support for taxonomy and collections management. IMAB targets the monitoring of species and ecosystems, with the view to improve biodiversity conservation and sustainable use. It includes a project on the modelling of marine ecosystem

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)



functioning. The CHM sub-programme contributes to building biodiversity information networks, linking various stakeholder communities (policy makers, practitioners, NGOs, scientists...).

The fourth sub-programme (POL) delivers expertise to help better integrate biodiversity into development and poverty reduction programmes and actions. It is a North-based activity. The last programme component (COORD) is devoted to coordination and management of the other subprogrammes, including transversal issues such as project communication, networking and outreach.

Main milestones in 2013

1 APRIL TO 31 DECEMBER 2012		
21-23 May	Participation by Han de Koeijer to the “EU expert group for the development of a NBSAP reporting tool”	CHM-03
10-25 May	François Muhashi made an identification mission to Bénin with the University Abomey-Calavi to explore the modalities and the context of a new programme of cooperation.	IMAB
29-31 May	ML Susini participated in the 8 th eLearning Africa conference (in Windhoek, Namibia) and gave a presentation entitled “Towards a better knowledge and protection of biodiversity in Africa using Web 2.0 technologies”.	GTI-07
01-07 June	Participation, on invitation by the SE CBD, by Han de Koeijer to the “Expert group capacity building for ABS”	CHM-07
10 September	A Project cycle management workshop was organised and moderated by Luc Janssens de Bisthoven for the whole team at RBINS.	
16-20 September	24 th training session for CHM administrators, Brussels. 3 participants from Burkina Faso, Côte d’Ivoire and the Democratic Republic of Congo, given by Han de Koeijer and Marie-Lucie Susini.	CHM-01
19-21 November	Participation by Han de Koeijer at the EU-CHM network meeting and the Working group for the development of the EU reporting tool for the AICHI targets, Copenhagen, Denmark	CHM-03
04-07 December	Participation by Luc Janssens de Bisthoven (selected as 1 of 5 representatives for the European region) at the Expert Group on Biodiversity for Poverty Eradication and Development (EGMBPED 2), Chennai, India, to prepare recommendations to WIGRI5 and COP12 based on the Chennai recommendations concerning biodiversity and poverty	COORD-01
17-20 December	CHM training by Han de Koeijer and Marie-Lucie Susini (RBINS) to 15	CHM-01

participants in Côte d'Ivoire.

December	The Lexicon "Habitats du parc de Kahuzi-Biega" is published by C.N. Masumbuko, F. Muhashy et al.	IMAB
----------	--	------

JANUARY TO 31 MARCH 2014

27-31 January	Regional CHM training in Cameroun by Han de Koeijer and Marie-Lucie Susini (RBINS) to 17 participants from Cameroun, Chad, Congo and Gabon	CHM-05
23-31 February-	Participation by Han de Koeijer to the 3 rd meeting of the Intergovernmental Consultation for the Nagoya Protocol (ICNP-3) and a training workshop for the ABS-CH. (Lead for the EU on capacity building item of the agenda)	CHM-07
10-21 March	25 th training session for CHM administrators, Brussels. 2 participants from Benin, given by Han de Koeijer and Marie-Lucie Susini.	CHM-01
23-31 March	Formulation mission by Luc Janssens and Han de Koeijer to Burundi to prepare the Memorandum of Understanding 2014-2016 for the cooperation between RBINS and the "Institut National de l'Environnement et de la Conservation de la Nature" (INECN)	CHM-03

Results (log-frame matrix)

EXPECTED RESULTS (ER)		INDICATORS AND TARGETS	RESULTS ACHIEVED
GTI	Increased taxonomic expertise and knowledge are available, laying sound foundations for the further study of biodiversity as well as for its conservation and sustainable use.	People trained per year (at least 15)	45 people trained both in Belgium (15) and <i>in situ</i> (30).
		Supporting materials produced (at least 1 <i>Abc Taxa</i>), improved course modules (50%) and put on the web. Taxonomic data liberated.	one <i>Abc Taxa</i> (vol. 14) printed and about to be distributed; website updated with literature. No new course module produced.
		Positive outcomes from the	Many scientific papers produced, 4

IMAB	Improved expertise and knowledge are available on how to carry out inventories, monitoring and assessments of components of biodiversity, coupled to newly acquired data and information on the status and trends of biodiversity.	training (1 outcome for at least 25% of the trainees)	new described species, 3 posters presented at international meetings (see: www.taxonomy.be).
		People trained per year (at least 25)	27 people trained in Burundi. Seven permanent transects to monitor changes within the habitats were installed (one per sector) in each of three main protected areas in Burundi. 4 people under IMAB1 trained in Belgium, under IMAB3, 7 in Belgium, 15 in situ and 4 with E-coaching
		Supporting materials produced (at least 2 items)	One lexicon on vernacular names of plants of Kahuzi-Biega National Park (DR Congo) was published and 1 syllabus (80 p) on habitat dynamics in Burundi were prepared, as well as a 'powerpoint' comprising 185 slides.
CHM	The promotion and presentation to the public of the natural and cultural heritage in DR Congo foster a better understanding and appreciation of the value of cultural and biological diversity for the well-being of the present and future generations. Operational biodiversity information networks contribute to increased information sharing and use in policy-making, communication, education and public awareness and generate scientific and technical cooperation for biodiversity.	Research results and positive outcomes from the training (at least 5 positive outcomes)	In the frame of the experiences to control the expansion of <i>Sericostachys scandens</i> , 20 plots of 10 m x 10 m were installed in each of four locations in Kahuzi-Biega National Park . Two articles on the ecology of <i>S. scandens</i> were published in scientific journals with Impact Factor. Ecological footpath to monitor habitat changes under establishment in Burundi, with extension to 7 under way. One PhD nearly completed; many publications published or pending.
		Educational and demonstration material produced or disseminated	5 complete series of the former publications on the national parks sent to DR Congo and to Burundi (respectively 3 and 2 series) and disseminated to interested parties in Belgium
		People trained per year (at	3 trainees trained in Belgium, 60 participants at national and regional

		least 15)	training sessions. E-coaching for 5 persons.
	The promotion and presentation to the public of the natural and cultural heritage in DR Congo foster a better understanding and appreciation of the value of cultural and biological diversity for the well-being of the present and future generations.	CHM websites running and regularly updated (50% of websites updated)	100% websites regularly updated during the year with more than 15 additions in the 2013 project phase.
POL	DGD staff and other Belgian stakeholders involved in decision-making for development make use of RBINS expertise and knowledge to support their work on biodiversity-related issues.	Level of activity of the network of partners (at least 5 activities)	7 projects CHM reinforcement. 3 public awareness projects
		Consultancy requests honoured (at least 5)	One request on ABS expertise. Follow-up of revision of NBS and National Report Belgium. Involvement with ENVIRONET, Chennai recommendations, SDSN, WIGRI5, SBSTTA17, IGPN5

Where we work

In 2013, we worked with 23 countries around the world, implementing capacity building activities ranging from individual and group training to helping partner institutions manage their day-to-day activities.

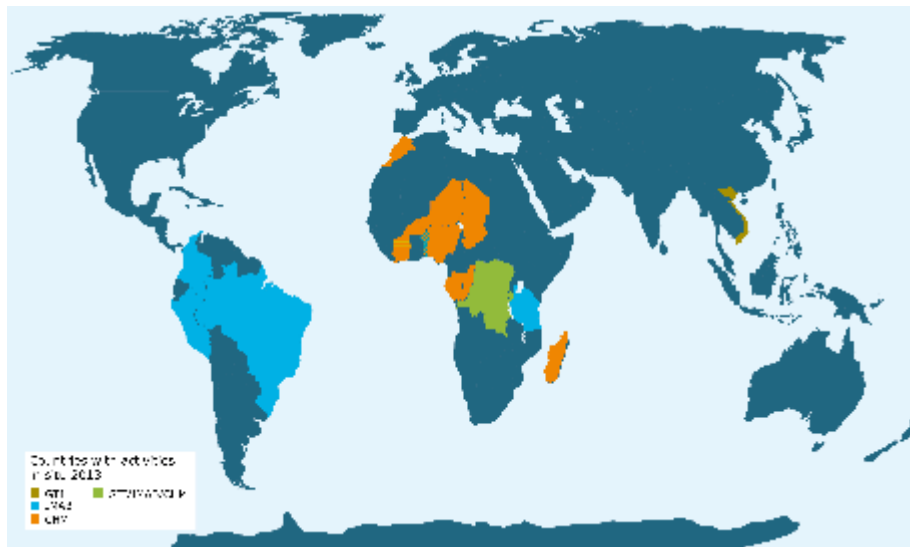


Fig. 1. Distribution of countries where we maintained activities *in situ* in 2013. Activities in D.R Congo (blue-green colour) involved the 3 programme components (CHM, GTI, IMAB).

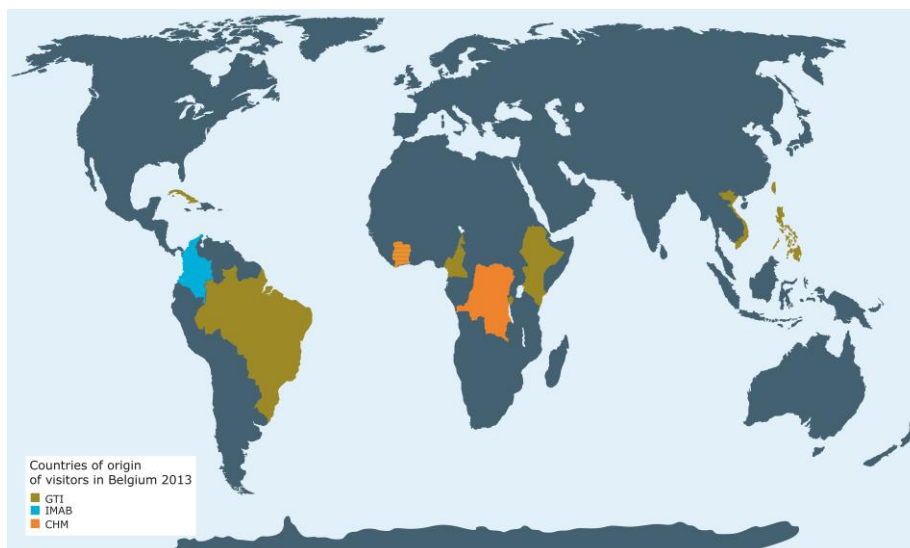


Fig. 2. Distribution of countries from which visitors to Belgium came from in 2013. These visitors were invited to participate in workshops or in individual training sessions, either at the RBINS or at one of our partner institutions in Belgium.

Budget

Introduction

Table 1 shows the evolution of expenses per continent since 2008. Expenses per continent remain relatively stable throughout the years.

The majority of our activities targeted African institutions and grantees, with a specific focus on our partnerships in DR Congo and Burundi. Such structural partnerships benefit from support in the form of training activities in Belgium or *in situ*, of continuous e-coaching / distance training, of grants for small equipment or for activities *in situ*.

As in previous years, a smaller proportion of activities were undertaken with Central and South American and Asian countries. Support to these regions was essentially provided in the form of research and training in Belgium or research, workshops and training *in situ*.

Table 1. Evolution of expenses (%) per continent since 2008 for the three main components of the work programme, GTI, IMAB and CHM. POL activities are not presented as they are being undertaken in Belgium with Belgian partners.

AFRICA						
	2008	2009	2010	2011	2012	2013
GTI	48%	46%	36%	55%	59%	62%
IMAB	70%	77%	73%	76%	91%	100%
CHM	98%	100%	97%	88%	97%	98%
ASIA						
	2008	2009	2010	2011	2012	2013
GTI	16%	18%	14%	17%	10%	12%
IMAB	9%	18%	24%	7%	9%	0%
CHM	2%	0%	3%	12%	3%	2%
AMERICAS						
	2008	2009	2010	2011	2012	2013
GTI	36%	36%	50%	29%	21%	25%
IMAB	21%	5%	4%	17%	0%	0%
CHM	0%	0%	0%	0%	0%	0%

Expenditure analysis

	Budget	Engaged expenses	expenses	open	Balance	% used
T1. Tackling the taxonomic impediment (GTI)						
GTI-01 Training-through-research	36,000.00 €	40,763.60 €	40,763.60 €	0.00 €	-4,763.60 €	113.23
GTI-02 Training and access to collections in Belgium	47,500.00 €	61,642.01 €	61,642.01 €	0.00 €	-14,142.01 €	129.77
GTI-03 Taxonomic workshops <i>in situ</i>	8,000.00 €	8,617.83 €	8,617.83 €	0.00 €	-617.83 €	107.72
GTI-04 Cooperation with selected institutes	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
GTI-05 <i>Abc Taxa</i> manuals	20,000.00 €	19,603.93 €	19,603.93 €	0.00 €	396.07 €	98.02
GTI-06 GTI teaching modules	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
GTI-07 Workshops and conferences on taxonomy	2,500.00 €	4,645.15 €	4,645.15 €	0.00 €	-2,145.15 €	185.81
Salaries M.-L. Susini, K. Vrancken (9+3 pm)	48,000.00 €	48,374.10 €	48,374.10 €	0.00 €	-374.10 €	100.78
Equipment	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
Total	162,000.00 €	183,646.62 €	183,646.62 €	0.00 €	-21,646.62 €	113.36
T2. Supporting biodiversity inventories, monitoring and assessments						
IMAB-01 Inventories and assessments (field training) in Kisangani	30,000.00 €	30,995.50 €	30,995.50 €	0.00 €	-995.50 €	103.32
IMAB-02 Monitoring of habitats in protected areas	63,500.00 €	63,377.38 €	63,377.38 €	0.00 €	122.62 €	99.81
IMAB-03 Integrated coastal management: COHERENS	24,000.00 €	11,396.94 €	11,396.94 €	0.00 €	12,603.06 €	47.49
Salaries F. Muhashy, K. Vrancken, P. Luyten, K. Baetens (12+7+1+4 pm)	122,000.00 €	112,724.41 €	112,724.41 €	0.00 €	9,275.59 €	92.40
Equipment	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
Total	239,500.00 €	218,494.23 €	218,494.23 €	0.00 €	21,005.77 €	91.23
T3. Enhancing biodiversity information networks (CHM)						
CHM-01 Training webmasters / content managers	30,000.00 €	27,788.83 €	27,788.83 €	0.00 €	2,211.17 €	92.63
CHM-02 Remote learning via CHM website	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
CHM-03 Technical support for CHM websites	24,000.00 €	39,017.11 €	39,017.11 €	0.00 €	-15,017.11 €	162.57
CHM-04 Networking at national level	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
CHM-05 Networking at supra-national level	32,000.00 €	23,690.50 €	23,690.50 €	0.00 €	8,309.50 €	74.03
CHM-06 Public awareness through the CHM	20,000.00 €	13,080.33 €	13,080.33 €	0.00 €	6,919.67 €	65.40
CHM-07 CHM conferences and meetings	2,000.00 €	9,983.51 €	9,983.51 €	0.00 €	-7,983.51 €	499.18
Salaries H. de Koeijer, M.-L. Susini, K. Vrancken (12+3+2 pm)	86,000.00 €	77,272.85 €	77,272.85 €	0.00 €	8,727.15 €	89.85
Equipment	4,000.00 €	3,784.25 €	3,784.25 €	0.00 €	215.75 €	94.61
Total	198,000.00 €	194,617.38 €	194,617.38 €	0.00 €	3,382.62 €	98.29
T4. Providing scientific support to biodiversity policy						
POL-01 Scientific consultancy services	6,000.00 €	6,731.24 €	6,731.24 €	0.00 €	-731.24 €	112.19
Salaries L. Janssens (6 pm)	35,000.00 €	26,641.86 €	26,641.86 €	0.00 €	8,358.14 €	76.12
Total	41,000.00 €	33,373.10 €	33,373.10 €	0.00 €	7,626.90 €	81.40
T5. Project coordination and management						
CORD-01 Representation, networking, communication, management	500.00 €	10.60 €	10.60 €	0.00 €	489.40 €	2.12
Salaries V. Pinton, L. Janssens, M. Agarad, (12+6+9 pm)	93,000.00 €	100,173.10 €	100,173.10 €	0.00 €	-7,173.10 €	107.71
Equipment	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
Total	93,500.00 €	100,183.70 €	100,183.70 €	0.00 €	-6,683.70 €	107.15
TOTAL GENERAL	734,000.00 €	730,315.03 €	730,315.03 €	0.00 €	3,684.97 €	99.50
Structural costs (1GDGCD2)						
Calculated with TMA of 7,75%	54.000,00 €	54.000,00 €	54.000,00 €	0,00 €	0,00 €	100,00
TOTAL GENERAL WITH STRUCTURAL COSTS	788.000,00 €	784.315,03 €	784.315,03 €	0,00 €	3.684,97 €	99,53

1. General comments

The 2013 reporting year was a relatively normal year, despite being a transition year between two different strategic plans. We focused again on the yearly programme, on our training activities and on our structural partnerships. This year has also provided a last opportunity to alumni students who benefited two or three times from our support to finalise their research. We were able to achieve what we had planned without any major problem. In this final financial report for 2013, open engagements have now been closed. We attain a budget execution rate of 99.53 % and a positive balance of 3.684,97 €.

The distribution of expenses per type of activities is as follows:

	Budget	Engaged expenses	expenses	open	Balance	% used
Salaries	384.000 €	365.186,32 €	365.186,32 €	0,00 €	0,00 €	95,10
Operations	346.000 €	361.344,46 €	361.344,46 €	0,00 €	0,00 €	104,43
Equipment	4000,00 €	3.784,25 €	3.784,25 €	0,00 €	0,00 €	94,61
Total without structural costs	734.000 €					
Structural costs	54.000,00 €	54.000,00 €	54.000,00 €	0,00 €	0,00 €	100,00
TOTAL with structural costs	788.000,00 €	784.315,03 €	784.315,03 €	0,00 €	3.684,97 €	99,53

Points of comments:

- The salaries were slightly overestimated in the budget in order to be resilient to changes.
- All justifications of expenses (*pièces justificatives*) 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.

2. Tackling the taxonomic impediment (GTI)

	Budget	Engaged expenses	expenses	open	Balance	% used
T1. Tackling the taxonomic impediment (GTI)						
GTI-01 Training-through-research	36,000.00 €	40,763.60 €	40,763.60 €	0.00 €	-4,763.60 €	113.23
GTI-02 Training and access to collections in Belgium	47,500.00 €	61,642.01 €	61,642.01 €	0.00 €	-14,142.01 €	129.77
GTI-03 Taxonomic workshops <i>in situ</i>	8,000.00 €	8,617.83 €	8,617.83 €	0.00 €	-617.83 €	107.72
GTI-04 Cooperation with selected institutes	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
GTI-05 <i>Abc Taxa</i> manuals	20,000.00 €	19,603.93 €	19,603.93 €	0.00 €	396.07 €	98.02
GTI-06 GTI teaching modules	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
GTI-07 Workshops and conferences on taxonomy	2,500.00 €	4,645.15 €	4,645.15 €	0.00 €	-2,145.15 €	185.81
Salaries M.-L. Susini, K. Vrancken (9+3 pm)	48,000.00 €	48,374.10 €	48,374.10 €	0.00 €	-374.10 €	100.78
Equipment	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
Total	162,000.00 €	183,646.62 €	183,646.62 €	0.00 €	-21,646.62 €	113.36

Points of comment:

- In 2013, we supported 5 training projects in our partner countries through GTI-01 and GTI-03 budget lines (respectively 113% and 107% of the projected budget) and 15 capacity building visits of young or experienced taxonomists in Belgium through GTI-02 (129%). Budget line GTI-07 enabled

participation of ML Susini and one GTI alumnus in international conferences on taxonomy (185% of projected budget).

- GTI-02 Training and access to collections in Belgium: 129.77% of budget due to the unpredictability of flight tickets and extra allocation to partners in exit strategy (e.g. Cuba, Cameroun).
- GTI-07 Workshops and conferences on taxonomy: 185.81% of budget due to ad hoc decision to support Herman Taedoum to attend AETFAT conference in South Africa.
- Salaries: due to the transfer of one month of the work of the graphist K. Vrancken to work on abcTaxa, the overestimated salary post became finally spent at 100%.

3. Supporting biodiversity inventories, monitoring and assessments (IMAB)

	Budget	Engaged expenses	expenses	open	Balance	% used
T2. Supporting biodiversity inventories, monitoring and assessments						
IMAB-01 Inventories and assessments (field training) in Kisangani	30,000.00 €	30,995.50 €	30,995.50 €	0.00 €	-995.50 €	103.32
IMAB-02 Monitoring of habitats in protected areas	63,500.00 €	63,377.38 €	63,377.38 €	0.00 €	122.62 €	99.81
IMAB-03 Integrated coastal management: COHERENS	24,000.00 €	11,396.94 €	11,396.94 €	0.00 €	12,603.06 €	47.49
Salaries F. Muhashy, K. Vrancken, P. Luyten, K. Baetens (12+7+1+4 pm)	122,000.00 €	112,724.41 €	112,724.41 €	0.00 €	9,275.59 €	92.40
Equipment	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
Total	239,500.00 €	218,494.23 €	218,494.23 €	0.00 €	21,005.77 €	91.23

Points of comment:

- For IMAB-03 (Coherens), budget use was unfortunately half of projected. This is essentially due to a re-orientation process after it was decided that the main partner countries Brazil and Columbia were not eligible anymore. The funds were used for missions in Brazil and in Columbia and the training of two persons. The missions were used for local training and discussions on exit strategies and additional funding. Coherens negotiated with RBINS/DGD about a re-orientation towards a more institutional approach with the partner countries Peru and Vietnam in the context of the five-year programme 20114-2018.

4. Enhancing biodiversity information networks (CHM)

	Budget	Engaged expenses	expenses	open	Balance	% used
T3. Enhancing biodiversity information networks (CHM)						
CHM-01 Training webmasters / content managers	30,000.00 €	27,788.83 €	27,788.83 €	0.00 €	2,211.17 €	92.63
CHM-02 Remote learning via CHM website	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
CHM-03 Technical support for CHM websites	24,000.00 €	39,017.11 €	39,017.11 €	0.00 €	-15,017.11 €	162.57
CHM-04 Networking at national level	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
CHM-05 Networking at supra-national level	32,000.00 €	23,690.50 €	23,690.50 €	0.00 €	8,309.50 €	74.03
CHM-06 Public awareness through the CHM	20,000.00 €	13,080.33 €	13,080.33 €	0.00 €	6,919.67 €	65.40
CHM-07 CHM conferences and meetings	2,000.00 €	9,983.51 €	9,983.51 €	0.00 €	-7,983.51 €	499.18
Salaries H. de Koeijer, M.-L. Susini, K. Vrancken (12+3+2 pm)	86,000.00 €	77,272.85 €	77,272.85 €	0.00 €	8,727.15 €	89.85
Equipment	4,000.00 €	3,784.25 €	3,784.25 €	0.00 €	215.75 €	94.61
Total	198,000.00 €	194,617.38 €	194,617.38 €	0.00 €	3,382.62 €	98.29

Points of comment:

- CHM-02 Remote learning via CHM website: 162,57% of budget due to additional follow-up workshops in Ivory Coast and Cameroun, as well as a Niger project of 2012 transferred to 2013 because the activities were not finished in the annual programme 2012.
- CHM-03 Technical support for CHM websites: 74,03% of budget because the regional workshop in cooperation with the CBD secretariat in Cameroun was less expensive than budgeted due to strong negotiations by H. de Koeijer, and also because the participants from RCA could not attend due to civil war.
- CHM-06 Public awareness through the CHM: only 65,40% spent because not enough quality projects were submitted in the competitive call. The rest of the money was transferred to CHM03.
- CHM-07 CHM conferences and meetings: 499,18 % of budget spent because of the formulation missions of L. Janssens de Bisthoven and H. de Koeijer to Burundi
- Salaries H. de Koeijer, M.-L. Susini, K. Vrancken (12+3+2 pm) : 89,85% spent because two months of K. Vrancken (graphist) transferred to GTI (abctaxa) and IMAB (lexicon)

5. Providing scientific support to biodiversity policy (POL)

	Budget	Engaged expenses	expenses	open	Balance	% used
T4. Providing scientific support to biodiversity policy						
POL-01 Scientific consultancy services	6,000.00 €	6,731.24 €	6,731.24 €	0.00 €	-731.24 €	112.19
Salaries L. Janssens (6 pm)	35,000.00 €	26,641.86 €	26,641.86 €	0.00 €	8,358.14 €	76.12
Total	41,000.00 €	33,373.10 €	33,373.10 €	0.00 €	7,626.90 €	81.40

Points of comment:

- POL-01 Scientific consultancy services: 112,19% spent due to participation by Han de Koeijer and Luc Janssens de Bisthoven to SBSSTA17 (Montreal) and by L. Janssens de Bisthoven to Chennai meeting (India).

6. Project coordination and management

	Budget	Engaged expenses	expenses	open	Balance	% used
T5. Project coordination and management						
CORD-01 Representation, networking, communication, management	500.00 €	10.60 €	10.60 €	0.00 €	489.40 €	2.12
Salaries V. Pinton, L. Janssens, M. Agarad, (12+6+9 pm)	93,000.00 €	100,173.10 €	100,173.10 €	0.00 €	-7,173.10 €	107.71
Equipment	0.00 €	0.00 €	0.00 €	0.00 €	0.00 €	0.00
Total	93,500.00 €	100,183.70 €	100,183.70 €	0.00 €	-6,683.70 €	107.15

Points of comments:

- The direction of RBINS does not allow representation costs.

Training activities

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.



Fig. 3: CHM training in Ivory Coast (© ML Susini)

Table 2. Overview of training efforts in 2013 (number of trainees per programme component, activity and country).

	INDIVIDUAL TRAINING IN BELGIUM	INDIVIDUAL TRAINING <i>IN SITU</i>	GROUP TRAINING IN BELGIUM	GROUP TRAINING <i>IN SITU</i>	DISTANCE / CONTINUOUS LEARNING
T1. Tackling the taxonomic impediment (GTI)					
GTI-01 Training through research	DR Congo (1)			DR Congo (5), Ivory Coast (12), Vietnam (3)	
GTI-02 Visits in Belgium	Brazil (1), Burundi (1), Cameroon (1), Colombia (2), Cuba (3), Ethiopia (1), Ivory Coast (3), Philippines (1), Kenya (1), Vietnam (1)				
GTI-03 Workshops <i>in situ</i>				Burundi (3), DR Congo (3), Rwanda (3)	
GTI-04 Institutional cooperation		South Africa (1)		Vietnam (5)	
T2. Supporting biodiversity inventories, monitoring and assessments (IMAB)					
IMAB-01 Cooperation with UNIKIS	DR Congo (4)	DR Congo (4)			
IMAB-02Bis Cooperation with INECN				Burundi (27)	
IMAB-03 COHERENS marine modelling	Colombia (2)				Colombia (1), Brazil (1), Iran (2)
T3. Enhancing biodiversity information networks (CHM)					
CHM-01 Training			Benin (2), Burkina Faso (1), Côte d'Ivoire (1), DR Congo (1)	Côte d'Ivoire 1(16), Côte d'Ivoire 2 (13),	

CHM-02		Rwanda (1), Togo (1), DR Congo (1), Niger (1), Morocco (1)
Distance learning		
CHM-03	Cameroun (10)	Number of visitors to the CHM web site, see table 6
Technical support and cooperation		
CHM-04	See CHM-01	
CHM-05	Cameroun (17)	
Networking at international level		

Distance learning

The process of ‘distance learning’ has continued in 2013. 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.



Fig. 4: Bertrand Ayihouenou working on the Benin CHM website - (c) Han de Koeijer

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 2013, 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.

Institutional relationships

Introduction

For IMAB we had active institutional cooperation with INECN (Burundi), ICCN, ERAIFT (D.R. Congo), and UAC (Benin). The RMCA, Botanical garden of Meise and WWF were associated with the cooperation in D.R. Congo and Burundi. The Coherens team worked with IEAPM (Instituto de Estudos do Mar Almirante Paulo Moreira in Brazil and with Colombian Ocean Commission (CoC) in Columbia.

For GTI activities, we supported in situ workshops in cooperation with the Institut National pour l'Environnement et la Conservation de la Nature (INECN) in Burundi and the department of Insect Systematics of the Institute of Ecology and Biological Resources (IEBR) in Vietnam with which we have ongoing MoUs. We plan to strengthen our cooperation with these two institutions in the future.

We also collaborated with the following institutions for in situ trainings: the Université Nangui Abrogoua (ex Abobo Adjamé), UFR Sciences Naturelles, Abidjan, Côte d'Ivoire; the Faculté des Sciences - Université de Kisangani, the Centre de Recherche en Sciences Naturelles (CRSN), Lwiro and the Université de Bukavu in D.R. Congo; the Kigali University in Rwanda; and finally, the Université du Burundi.

Grantees coming from the following institutions visited the RBINS or another taxonomic research facility in Belgium thanks to our funding: Universidad Del Valle, Cali and Universidad Nacional de Colombia, Medellin, Colombia; Université Félix Houphouët Boigny and Université Nangui Abrogoua, Abidjan, Côte-d'Ivoire; University of Santo Tomas, Manilla, Philippines; Instituto de Ecología y Sistemática, La Havana, Cuba; Universidade Estadual de Maringá, Nupelia, Brazil; Oromia Agricultural Research Institute, Holeta Bee Research Center, Ethiopia; Institut National pour l' Environnement et la Conservation de la Nature (INECN), Bujumbura, Burundi; National Museums of Kenya, Nairobi, Kenya; Faculté des Sciences de l'Université de Bamenda, Cameroon; Institute of Ecology and Biological Resources (IEBR), Hanoi, Vietnam.

We have ongoing MoUs with 3 institutions listed above: the Institut National pour l' Environnement et la Conservation de la Nature (INECN), Bujumbura, Burundi; Instituto de Ecología y Sistemática, La Havana, Cuba and the Institute of Ecology and Biological Resources (IEBR), Hanoi, Vietnam. Unfortunately, despite the fact that the Instituto de Ecología y Sistemática, La Havana, Cuba is a very good partner and still blatantly needs our support considering the difficult situation in Cuba, we will have to stop our financial support since the country no longer belongs to the list of eligible countries.

The main CHM partner since 1999 with a formal agreement are: Institut National pour l'Environnement et la Conservation de la Nature (INECN), Burundi.

We have long term partnerships ¹for the CHM with :

- Agence de l'Environnement et du Dévelop. Durable, Ministère de l'Environnement et de l'Assainissement, Mali
- Centre National de Floristique, Université de Cocody, Abidjan, Côte d'Ivoire
- Conseil national de l'Environnement pour un Développement durable (SE/CNEDD), Niger
- Direction Générale des Forêts et des Ressources Naturelles, Benin
- Direction Nationale de La Biodiversité et des Aires Protégées, Guinea
- Ministère de l'Aménagement du Territoire, de l'Eau et de l'Environnement (MATEE), Morocco
- Ministère de la Production, de l'Environnement, de l'Énergie, de l'Industrie et de l'Artisanat, Comoros
- Ministère de l'Aménagement du Territoire et de l'Environnement, Algeria
- Ministère de l'Environnement et du Développement Durable, Burkina Faso
- Ministère de l'Environnement, Conservation de la Nature et Tourisme, DR Congo
- Ministère de l'Environnement, de la Protection de la Nature et du Développement Durable, Cameroon
- Ministry of Environment, Science and Technology, Ghana
- Office National pour l'Environnement, Madagascar
- Commission des Forêts d'Afrique centrale (COMIFAC)
- South Asia Co-operative Environment Programme (SACEP)

Some partnerships are active (see details under CHM), while others are on hold (e.g. Mali, Guinea, Comoros) until new projects are selected.

Institutional cooperation with Burundi

1. Introduction

In March 2013, Luc Janssens de Bisthoven and Han de Koeijer made a formulation to Burundi to re-define our institutional cooperation for the next 3 years (2014-2016) with INECN. The workshop followed the participative PCM methodology.

The stakeholders involved were the Belgian embassy, INECN, the Université du Burundi, and due to a combination with a national workshop on awareness of enterprises and decision makers financed by the programme, involved also some entrepreneurs and politicians.

The deliverables were:

- A stakeholder analysis
- Problem trees
- Solutions trees and chosen strategy
- A logical framework
- An operational plan and budget

¹ Long term partnerships are based on institutional contacts, mostly with CHM focal points

Since this took place at the end of the 2013 programme, at the time of writing, the documents were almost validated by INECN and RBINS, allowing to make a 3 year MoU and a one year contract of cooperation.

Even though some last changes are still possible, a sample of the almost definitive documents is provided in order to illustrate the kind of deliverables of such ateliers.

Table 3: stakeholder analysis , formulation with INECN, Burundi

	Partie prenante	Intérêt et attitude	Rôle dans préparation	Mise en œuvre
1	Admin INECN	+++	+++	+++
2	IRSNB Direction	+++	+++	+
3	IRSNB staff	+++	++	+
4	Ministère Environnement et direction	+ publicité/rapport/choix		
5	UB + instit. univer.+ chercheur INECN	Etudiants, int. Acedemic, recherche	Avis	Theses/recherches/conseils/bases de données
6	Parcs : Chefs de parcs Chef section	+++ Implementation Connaissances	++	Execution / bases de données
7	Gardes	+++ Implementation Connaissances	++	Execution / bases de données
8	Chercheurs EU	Connaissances Ecosyst tropicaux Collections	-	Publications / reseaux / MSc / PhD theses
9	Communautés locales	+ - connaissances	indirect	Dissimination connaissances
10	Communautés autochtones	+ - connaissances	indirect	Dissimination connaissances
11	ONG/associations	Strategies/CHM	indirect	Dissimination connaissances
12	Entreprises	+ -		
13	DGD	++	+	-

Intérêt et influence des parties prenantes	
Haut intérêt / peu d'influence 5, 7, 10, 8, 11	Haut intérêt / beaucoup d'influence 1, 2, 3, 4, 8, 6, 13
Peu d'intérêt / peu d'influence 9, 7, 10, 12	Peu d'intérêt / beaucoup d'influence 4, 12, 6

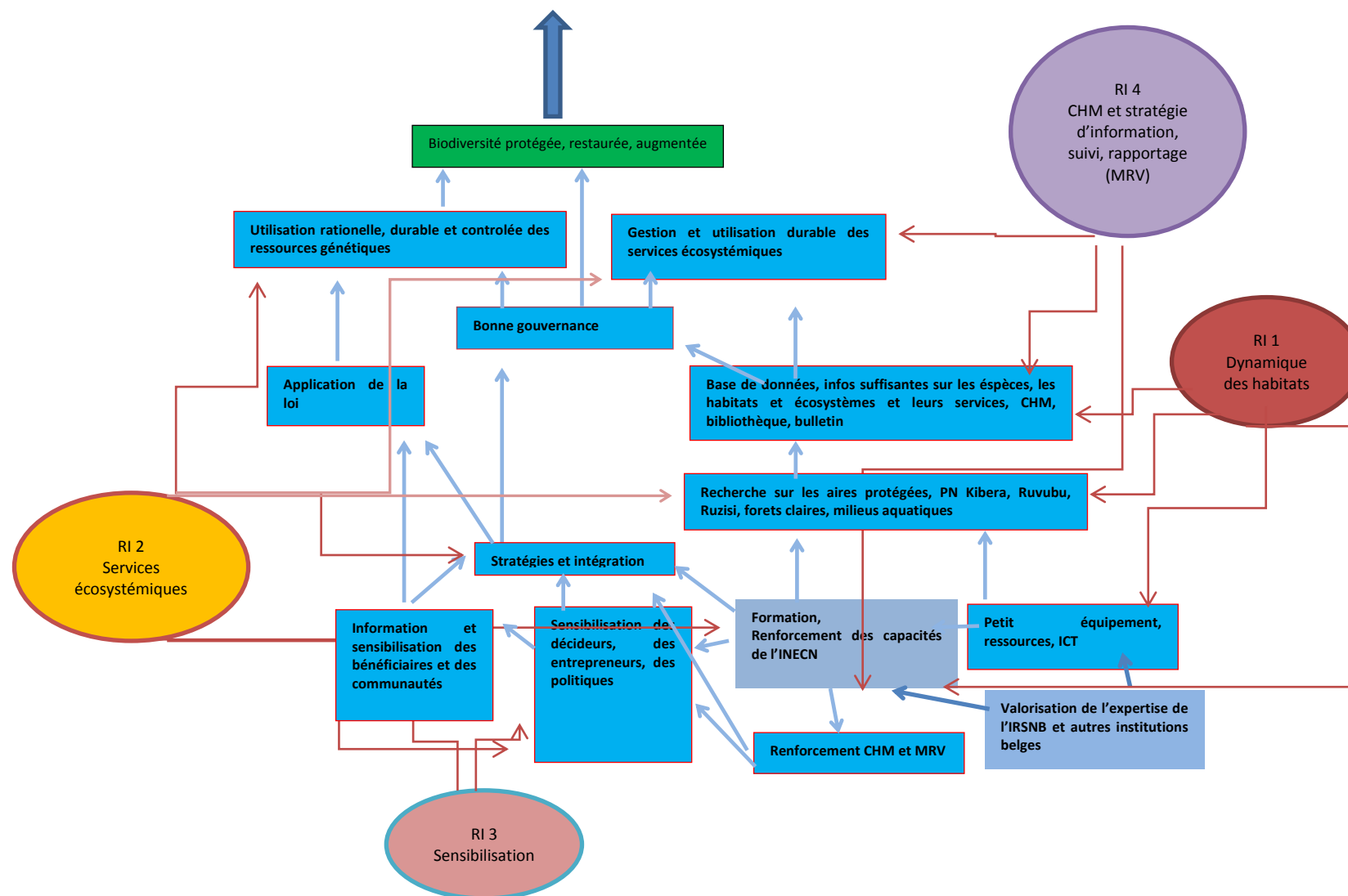


Fig. 6 : Participative formulation of the cooperation programme with INECN, workshop of 27 March 2014

2. Solutions tree and strategy

Stratégie pour le programme INECN-IRSNB

Voire arbre à solutions/objectifs en page 1



3. Logical framework (still in end phase of validation process) for the cooperation of RBINS and INECN (2014-2016)

	Logique d'intervention	Indicateurs	Sources de vérification	Hypothèses
	OBJECTIFS			
	Objectif général: Contribution au maintien de la Biodiversité au Burundi pour un développement durable			
	Objectif spécifique 1: Les capacités de l'INECN sont renforcées pour le maintien de la biodiversité au Burundi		Rapports annuels de l'INECN	Priorité de l'INECN de coopérer avec l'IRSNB
	Objectif Spécifique 2 : L'expertise présente à l'IRSNB et d'autres instituts de recherche en Belgique est valorisée pour le renforcement du fonctionnement de l'INECN au Burundi		Rapports annuels de l'INECN et de l'IRSNB	Inclusion dans programmes pluri-annuels de l'IRSNB
	RESULTATS INTERMEDIAIRES			
RI-1	La dynamique des aires protégées du Burundi est mieux comprise	La recherche sur la DDH à l'INECN est exécutée et aboutit à des résultats scientifiques concernant les PN de la Kibera, Ruvubu et Ruzisi, extension vers le sud (forets claires)	Rapport de missions sur le terrain, fiches LEM, thèses, publications, listes des espèces en ligne	-La collecte des données se fait par du personnel compétent et motivé -La méthodologie des fiches LEM ou une variante informatisée (tablettes, modems) est fonctionnelle -les personnes formées ont une position stable et sont disponibles -l'UB est intéressée à effectuer des recherches en coopération avec l'INECN -la qualité des étudiants est suffisante -il y a des ressources pour la mobilité, le petit matériel et le laboratoire
RI-2	Les services écosystémiques dans les aires protégées du Burundi sont mieux compris et valorisés	Les SE du BU et des aires protégées sont mieux connus, inventoriés et leur valeur économique mieux estimée	Etudes, papers, littérature	

RI-3	Des publics cibles sont sensibilisés à la biodiversité			
RI-4	Le CHM et le MRV sont renforcés			
	ACTIVITES			
1	Suivi dynamique des habitats			
1.1.	Recherches pour la connaissance des espèces	études	publications	Expertise présente, intérêt de l'université du Burundi et autres institutions
1.2.	Collection des données pour les changements temporels			
1.2.1.	La mécanique de suivi pour la collecte des données est établie	Herbiers, photos, collections, fiches LEM	protocoles de terrain	Les mandats et responsabilités sont clairs, les personnes sont formées, adapté à leurs niveaux
1.2.2.	La base de données est fonctionnelle est gardée à jour et le transfert des données est fonctionnel	Base de données fonctionnelle	Base de données	Ressource humaine de l'INECN pour nourrir la base de données
1.3.	Les capacités en matière de recherche sont renforcées			
1.3.1.	Les niveaux de base du personnel reçoivent une formation pour la collecte des données	Formations sur le terrain Collecte effective des données	Rapport de formation	Permanence du staf
1.3.2.	Les 'best practices' et 'leçons apprises' sont échangées entre l'INECN, l'ICCN et le Bénin	Atelier d'échange, éventuellement combiné dans atelier régional de sensibilisation, protocole de Nagoya	Littérature, rapports	L'ICCN est intéressée et disponible
1.4.	L'INECN s'ouvre à la recherche sur les écosystèmes aquatiques des aires protégées du Burundi	Thèse sur les batraciens ou les macrophytes	Littérature	Financement disponible, synergies
2	IR2 Les services écosystémiques dans les aires protégées du Burundi sont mieux compris et valorisés			
2.1.	Etudes sur les services écosystémiques du Burundi			

2.1.1.	Etude nationale pour l'inventaire des SE au Burundi	Etude, brochure de	étude	
2.1.2.	Etude spécifique pour l'estimation de la valeur économique de SE sélectionnés	Expertise externe	étude	Ressources disponible, financement
2.2.	Recherche en mycologie			
2.2.1.	Recherche sur la production de champignons sauvages comestibles	Etude	Publications, bulletin	Présence des experts formés
2.2.2.	Recherche sur la filière commerciale et communautaire des champignons	Thèse, questionnaires		Accès aux communautés et leur intérêt de participer aux questionnaires
2.2.3.	Formation des éco-gardes et bénéficiaires sur les champignons	Formation	Rapport de formation	Disponibilité des éco-gardes
2.3.	Recherche sur les pollinisateurs			
2.3.1.	Recherche sur la taxonomie et la valeur de SE	Thèse	Littérature	Promoteur et Etudiant d UB intéressés et disponibles
2.3.2.	Recherche sur l'apiculture écologique avec espèces autochtones (meliponiculture)	Thèse	Littérature	Promoteur et Etudiant d UB intéressés et disponibles
2.4.	Recherche sur les SE de plantes			
2.4.1.	Recherche sur le rotin	Thèse	Littérature	Promoteur et Etudiant d UB intéressés et disponibles
2.4.2.	Recherche sur le bambou	Thèse	Littérature	Promoteur et Etudiant d UB intéressés et disponibles
2.4.3.	Recherche sur les macrophytes en milieu aquatique, typologie des 'wetlands'	Thèse	Littérature	Promoteur et Etudiant d UB intéressés et disponibles
3	Des publics cibles sont sensibilisés à la biodiversité			
3.1.	étude de base perception AICHI1	Etude fait / indicateurs identifiés		
3.2.	Brochures – public cibles	Brochures, lexiques		
3.3.	Protocole de Nagoya		Stratégie nationale	
3.4.	étude groupes cibles	Gestion – co-gestion	Stratégie nationale	
3.5.	sensibilisation riverains		Diagnostic – multiplication	
4	Lle CHM et le MRV sont renforcés			

4.1.	approvisionnement en electricité	Panneaux solaires	Protocoles d'installation	ressources
4.2.	consultant	Input de données sur le CHM et MRV	Contrat de service, rapports d'activité	Disponibilité du consultant
4.3.	connection internet	Internet fonctionnant, nombre d'heures en ligne	protocoles	Stratégie de communication en fonction du cable optique en construction
4.4.	bulletin	Publication du bulletin	bulletins	
4.5.	bibliothèque	Personnel de la bibliothèque formé, armoires et étagères en place, littérature codée et rangée	WYNISIS software	Personnel formé stable, intérêt de l'INECN de Gitega et des parties prenantes comme les chercheurs, les gardes, les chefs de secteur et de parc et les écoles
4.6.	formation PTK	ONGs, Techniciens et chercheurs sachant intégrer l'information dans le CHM	CHM fonctionnant et mis à jour	Internet fonctionnant, électricité, point focal CHM à l'INECN
4.7.	implication du comité de suivi	Réunions tous les 2 mois	Rapports de réunion	Engagement des participants et suivi des décisions, application de la stratégie du CHM national



Fig. 5 : workshop for scoping ideas of stakeholders, 26 March 2013, star Hotel, Bujumbura.

Part II - Detailed outputs



T1. Tackling the taxonomic impediment (GTI)

The general objective of the sub-programme is to reduce the 'taxonomic impediment' that hinders the implementation of the Convention on Biological Diversity (and its three objectives: conservation, sustainable use and equitable sharing of benefits of biodiversity).

The specific objective is to reinforce taxonomic capacities by strengthening taxonomic institutions and increasing taxonomic and curatorial expertise in the South.

Our training activities combine individual study visits to Belgium and individual and/or group field trainings in our partner countries. We also undertake distance coaching through the internet, *e.g.* via the setup of thematic websites, or through e-mails providing focused answers to taxonomic questions.

Study visits to Belgium are crucial to access the scientific collections, fully-equipped laboratories and well-furnished libraries of the Belgian scientific institutions and universities. Field trainings are useful to improve practical skills for the *in situ* inventory and recording of biodiversity in the South.

In parallel to our training activities, the *Abc Taxa* manuals, disseminate existing knowledge and data needed to perform high quality taxonomic research and collection management.

Why taxonomy?

Taxonomy detects, identifies and classifies the diversity of life. It generates knowledge on the species living on Earth, their distributions and their evolutionary relationships.

Having a good taxonomic knowledge is a prerequisite to any ecological studies and conservation activities. It is also essential to the sustainable use of biodiversity : for example, without a correct knowledge of species, it is impossible to establish legal frameworks regulating trade.

Most taxonomic expertise and the related natural history collections are held by institutions in the North. Countries in the South suffer from a lack of access to this expertise and information. In addition, there is a severe need for a young generation of taxonomists to continue the work started by their predecessors and this along modern standards and with state-of-the art technologies.

T1-GTI-01: Taxonomic training through research and/or curation

RBINS researchers are invited to submit a project to carry out taxonomic research on the condition that their project is built around the provision of training to scientists and technicians. The project must contribute to strengthen local institutions. It must also have an applied component that either targets the conservation or sustainable use of biodiversity or that is essential to better understand the services provided by ecosystems. Traditionally, a project can run from one to three years. At the end of the project, the promoter and student(s) are encouraged to sum up their work on our website (<http://www.taxonomy.be/>) and/or in an Abc Taxa manual (cf. GTI-06).

The 10th internal call for proposals was addressed to RBINS researchers in early 2013. Since 2013 was a junction year, most of the selected projects were follow-up projects initiated during the 2008-2012 programme (3 out of 4). It was a way to enable ongoing collaborations to come to a closure.

As usual, at the end of the project, 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 were published on our website www.taxonomy.be for public awareness purpose and knowledge dissemination.

We have funded 4 projects in 2013. These projects are the following:

1. 'A step further in the Entomodiversity of Vietnam (part IV)' by Dr P. Grootaert & J. Constant, for a total budget of 11,587 €.
2. 'Chenilles comestibles et leurs plantes hôtes dans les districts de Kisangani et de la Tshopo (R.D. Congo) (part III)', by Dr. P. Grootaert, for a total budget of 10,052.40 €.
3. 'New ways to assess the diversity of Central African amphibians and reptiles: an upgrade of herpetological collections and taxonomic knowledge in the DR Congo (part III)', by Dr. Z. Nagy for a total budget of 9,900 €.
4. 'Training on soil-dwelling entomofauna inventory and ant taxonomy at Station d'écologie de LAMTO, Ivory Coast' by Drs T. Delsinne & W. Dekoninck, for a total budget of 9,074 €.

Project 1. A step further in the Entomodiversity of Vietnam (part IV)

Promoters : P. Grootaert & J. Constant (RBINS)

Participating institutions : Department of Entomology of the RBINS and the Department of Insect Systematics of the Institute of Ecology and Biological Resources (IEBR).

Full report : Annex 1.

The project consisted in 3 distinct phases: the first phase was the inventory of the entomofauna in selected natural areas of Northern Vietnam, the second phase was a short field study on a Phasmid pest species in the Cat Ba National Park and the third and last phase was the assessment of the entomological collections held at the IEBR. The staff worked during three weeks in Vietnam, from 29 June to 19 July 2013.

1. Results from the first phase: Entomological Inventories

- Three sites have been sampled: Hoang Lien National Park, Tay Yen Tu Nature Reserve and Cat Ba National Park. The first site is a mountainous area containing the highest mountain of Indochina (Fan Si Pan), the second one is a hilly, medium altitude area and the third one is the biggest island in Ha Long Bay. Cat Ba is the home of the Cat Ba Langur, an endemic critically endangered monkey species.
- As a general trend, the insects were fairly abundant. Only light trapping was not as productive as expected.
- Identified specimens, including paratypes of newly described species, have been brought back to IEBR to be included in the reference collection by H.T. Pham during his visit to RBINS in December 2013. This aims at facilitating the work of Vietnamese entomologists inside Vietnam in the future.
- Several paper dealing with new species collected during the GTI missions from 2010 to 2013 were recently published or are submitted for publication:
 - Pham, H.T. & Constant, J., 2013. A new species of the cicada genus *Semia* Matsumura, 1917 (Hemiptera: Cicadidae) from Vietnam, with a key to the species of the genus. *Zootaxa*, 3709 (5): 494–500.
 - Pham, H.T. & Constant, J., 2013. A new species of the genus *Chremistica* Stal, 1870 (Hemiptera: Cicadidae) from Vietnam. *Journal of Biology*, vol 35(1): 32-36.
 - Joachim Bresseel & Jérôme Constant *Phamartes coronatus* gen. nov. sp. nov. a new genus and species of stick insect from Bach Ma National Park, central Vietnam (Phasmida, Diapheromeridae, Necrosiinae) *Zootaxa* 3741 (1): 141-150.
 - George Wai-Chun Ho, Xing-Yue Liu, Joachim Bresseel & Jerome Constant *Brockphasma spinifemoralis* gen. et spec. nov.: a new phasmid genus and new species of Neohiraseini (Phasmida: Phasmatidae: Lonchodinae) from Vietnam. - Submitted
 - Vladimir M. Gnezdilov & Jérôme Constant. Notes on the tribe Tongini, with description of a new species of the genus *Orthophana* from northern Vietnam (Hemiptera: Fulgoroidea: Nogodinidae). - Submitted
- The rangers and authorities of the 3 parks expressed great interest in the scientists' work and provided useful help.
- More than 1,500 photos of insects and biotopes have been taken during the fieldwork. They will be used to illustrate scientific papers etc... (see Fig. 7)
- The species lists will be provided to the authorities of the national parks and reserve by H.T. Pham.



Fig. 7: New species of *Cnipsomorpha* and landscape view at Hoang Lien National Park (Photos: J. Constant).

2. Results from phase two: Identification and short field study of a Phasmid pest species in the Cat Ba National Park

A field study was conducted together with the scientific advisor of Cat Ba National Park, Mr Xan Khu, on a species of stick insects which regularly has been devastating the tree foliage in a part of the National Park for several years now.

It appeared that the infestation occurs in an area where the non-indigenous Australian and Papuan tree *Acacia auriculata* was planted to fix nitrogen in the soil of a former rice paddle area. That zone is included in the National Park and will be rehabilitated with local trees in the future.

The pest species has been observed in huge numbers (thousands specimens were observed at night) and collected (see Fig. 8). It was identified as a species of the genus *Ramulus* Saussure, but the exact species identification is still pending and the species might be new for science. It is a local species that was also found in the forest, but in lower numbers.



Fig. 8: Collecting the “pest phasmids”, *Ramulus* sp., on *Acacia auriculata* at Cat Ba National Park (Photos: J. Constant).

One tree in fair condition and average size was meticulously sampled and the scientists estimated that more than 300 specimens of Phasmid were present on that single tree! Females were kept alive in order to estimate egg production and the scientists found out that they can lay about 10 eggs per day. If ones extrapolates the number of eggs for the total lifespan of a female (around 6 months in captivity), it means that each female could lay up to the impressive number of 1,800 eggs!

To date, the reaction of the National Park authorities has been to spread insecticides when the infestations were too harmful for the trees. At each peak of infestation, about every other year, up to 20% of the trees died. However, the scientists observed that the trees around the villages, although well-known hosts of Phasmid species, were usually free of Phasmids, and they assumed that the reason could be that chicken eat the eggs and cattle trample on them and prevent them from hatching. The scientists thus suggested that local species of pheasants or red jungle fowls, as well as buffalos or deer, could be introduced in that zone of the National Park in order to control the Phasmid population in a more sustainable way!

3. Results from phase three: Assessment of the IEBR entomological collections

Some nice progress were observed in the management of the collections: new drawers are available to properly store new specimens and arrange the collection, new shelves have been purchased to store those drawers and two freezers are now used both to store recently collected material and to clean the collection drawers from parasites. A drying chamber is also used now to optimize the preparation of the specimens, what will greatly improve the conditions of the whole collection.

However, many more drawers will be necessary to deal with the huge amount of unmounted material once it will be mounted and two major problems still persist: the need of a bigger and better equipped collection room and the need of a well-trained technician to mount specimens and arrange the collection.

Moreover, a seminar on the taxonomy and current research on Fulgoridae in Vietnam was given at the IEBR by Jérôme Constant on July 17th. Several people of IEBR attended the seminar which led to some very interesting discussion about that group and taxonomy in general (see Fig. 9).



Fig. 9: The seminar on Vietnamese Fulgoridae held at the IEBR, 17 July 2013 (Photos: J. Constant).

Conclusion and perspectives

This GTI project has been a great success again in all points of view: insect collecting (many new species and new records), contacts between the members of the staff learning experiences and sharing of knowledge and projects for further future collaboration. The Belgian scientists very happy to welcome a new Vietnamese colleague of IEBR, Ms Le My Hanh, who showed great motivation during all field work.

Again, this project will lead to the description of numerous new species in the groups studied, and it is obvious that the remaining material, when it will be dispatched to the specialists abroad, will also contain new species. It is also obvious that the inventory of the entomofauna of Vietnam is very far from being ended and should go on to obtain a better view of the amazing biodiversity of the country. The scientists have estimated that at least 300-400 more undescribed species of stick insects should be present in the country.

The collaboration between the staffs of RBINS and IEBC is now very strong and leads to very encouraging results, with several papers published in the best international taxonomy journals, and many more to come...

Project 2. Chenilles comestibles et leurs plantes hôtes dans les districts de Kisangani et de la Tshopo (R.D. Congo) (Part III)

Promoters : P. Grootaert (RBINS) and J-L. Wetsi Lofete (UNIKIS)

Participating institutions : Department of Entomology of the RBINS and Faculté des Sciences-University of Kisangani, D.R. Congo

Full report : Annex 2.

The supply of protein-rich food is becoming increasingly difficult in D.R. Congo, essentially because of the fast-growing population. Traditionally butterfly caterpillars have been an additional part to the diet of local populations (Fig. 10). The exploitation of caterpillars as a nutrient source is currently unstructured and unsustainable in D.R. Congo. Moreover, caterpillar gathering in the forest has a negative impact on biodiversity and on the sustainable conservation of the forests. In order to achieve a sustainable exploitation, it is very important to collect information on the gathering process and establish an inventory of the species. The long term objective of this project is to promote the sustainable use of edible caterpillars and protect their environment by providing essential information to the Congolese policy makers.

It is the continuation of a project initiated in 2011 in the Democratic Republic of the Congo. After two years dedicated to sampling and preserving collected material, the last phase of the project focused first, on identifying the collected material (via DNA analyses) and second, on writing the scientific outputs (articles, communications, catalogue of edible caterpillars, etc.).

The achieved results of the projects are:

- 17 species of edible caterpillars have been identified along with 41 plants that host these caterpillars.
- A collection of the Saturniidae has been deposited at the Musée zoologique de la Faculté des Sciences de l'Université de Kisangani (UNIKIS).
- Adult specimens of 61 species of Saturniidae have been collected. The barcodes are currently being analysed in Canada.
- The catalogue of edible caterpillars of Kisangani has been almost completed. It will be printed and distributed in 2014.
- A communication on the edible caterpillars of D.R. Congo will be given at the 1st Conference on Biodiversity in the Congo basin, , that will take place in June 2014 in Kisangani (DRC).
- A poster on the Saturniidae (Bunaeini) of Masako (DRC) will also be presented at the same conference.

- J-L. Wetsi Lofete visited the RBINS in December 2013 in order to continue the catalogue of edible caterpillars of Kisangani. It is almost finished.



Fig. 10: Market selling live caterpillars in Yangambi (photo: J-L. Wetsi Lofete)

Future developments

- The catalogue of edible caterpillars of Kisangani will be published, advertised and distributed in Kisangani in 2014.
- Experiments to try breeding edible caterpillars from the eggs will be achieved (depending on funding).
- Studies on edible insects other than Lepidoptera will be initiated (depending on funding).

Project 3. New ways to assess the diversity of Central African amphibians and reptiles: an upgrade of herpetological collections and taxonomic knowledge in the D.R. Congo (Part III)

Promoters : Z. T. Nagy (RBINS)

Participating institutions : Joint Experimental Molecular Unit of the RBINS and Centre de Recherche en Sciences Naturelles (CRSN), Lwiro, D.R. Congo.

Full report : Annex 3.

The project consisted in 2 phases:

1. Expedition to the Province Orientale, training and capacity building at the University of Kisangani and the 'Centre de Surveillance de la Biodiversité' (CSB).
2. Morphological and genetic analyses of the collected material was done at the RBINS laboratories.

•

1. Expedition in the Province Orientale, D.R. Congo

The three-week expedition was carried out between 7 and 28 November 2013. It was the follow-up of the capacity building project initiated 2 years earlier. The scientists visited and surveyed three main sites in the north-eastern part of the D.R. Congo, in the province Orientale. These included the vicinity of Banalia close to the Aruwimi river (base camp in the village Longala, Uma at the Uma river

and Bamakembe. Regular visual and acoustic encounter surveys were carried out during day and night in order to collect amphibian and reptile specimens. The RBINS researchers' work was logistically supported by the University of Kisangani and the 'Centre de Surveillance de la Biodiversité' (CSB). An export permit for the collected 396 specimens was issued by the CSB in Kisangani on 26/11/2013.

In total, 396 specimens and tissue samples were collected, representing frogs, toads, snakes and lizards. The weather in November 2013 was characterized by frequent rainfalls, which was beneficial for finding a wide range of amphibians and reptiles. Collections focused on providing a broad representation of different taxa since the fauna of the surveyed areas is poorly documented. Hence, both common widespread species and more rare or interesting findings are represented in the collection. In total, 264 amphibian specimens were collected. The fieldwork also contained a few welcomed taxonomic surprises including a very distinct species of reedfrog (*Hyperolius* sp.) which appear unrecorded (see Fig. 11).



Fig. 11: *Hyperolius* sp. (Photo: K. Mebert)

Reptiles were also found in relatively high numbers. For instance, they collected 105 specimens of snakes belonging to ca. 26 species. Specimens and genetic samples of all the collected specimens will serve as important source for comparative biogeographic or phylogeographic analyses to understand dispersal patterns of amphibians and reptiles, date relevant phylogeographic events in Central Africa and describe genetic variations.

2. Morphological and genetic analyses of the collected material

Dr. Zacharie Chifundera Kusamba spent two weeks at the RBINS in December 2013 in order to perform molecular analyses together with the JEMU team. During his earlier stay in 2012, he learned basic techniques in molecular genetics. In 2013, he continued his work at the molecular laboratory in order to achieve the DNA barcoding of Congolese snakes. He also collected morphological data on selected snake specimens and proved preliminary field identifications. Moreover, he received an introductory training about data management of laboratory and biodiversity-related data. Very soon, all relevant data of our collections will be entered in institutional (DaRWIn) and global (GARD; Global Assessment of Reptile Distributions) databases.

Capacity building components

The following field methods were taught to the Congolese collaborators (Zacharie Chifundera Kusamba, Jeannot Akuboy Bodongola and Gabriel Badjedjea Babangenge): taking environmental samples for DNA studies, digital call recording of frog specimens, manual recording of environmental data, handling and euthanasia of amphibian and reptile specimens including venomous snakes, collecting tissue samples for molecular genetics, pathological and protein analyses; preserving and mounting specimens for wet and dry collections (see Fig. 12), data recording and databasing for bioinventory using current standards. In addition, basic equipment was purchased to help conduct field work for the Congolese collaborators.



Fig. 12: Processing of specimens in the field lab in Longala (photo: K. Mebert)

Research outputs

In the period of 2010-2013, the scientists have collected almost 2,000 specimens of amphibians and reptiles in the Democratic Republic of the Congo in expeditions that were partly supported by the GTI. Corresponding tissue samples were always taken for genetic analyses. A large DNA barcoding project for biodiversity assessment is still ongoing, thereby the RBINS researchers are collaborating with other colleagues (from Germany, the USA, Denmark and the Czech Republic). Although many, recently initiated and/or larger projects are still ongoing, in 2013-2014 they plan to publish some peer-reviewed papers and present their results in international scientific meetings.

Peer-reviewed papers published in 2013-2014

- Kusamba, C., Resetar, A., Wallach, V., Lulengo, K. & Nagy, Z.T. (2013): Mouthful of snake: An African snake-eater's (*Polemon fulvicollis graueri*) large typhlopod prey. *Herpetology Notes* **6**: 235–237.
- Nagy, Z.T., Adriaens, D., Pauwels, E., Van Hoorebeke, L., Kielgast, J., Kusamba, C. & Jackson, K. (2013): 3D reconstruction of fang replacement in the venomous snakes *Dendroaspis jamesoni* (Elapidae) and *Bitis arietans* (Viperidae). *Salamandra* **49**: 109–113.
- Nagy, Z.T., Kusamba, C., Collet, M. & Gvoždík, V. (2013): Notes on the herpetofauna of western Bas-Congo, Democratic Republic of the Congo. *Herpetology Notes* **6**: 413–419.
- Nagy, Z.T., Gvoždík, V., Meirte, D., Collet, M. & Pauwels, O.S.G. (2014): New data on the morphology and distribution of the enigmatic Schouteden's sun snake, *Helophis schoutedeni* (de Witte, 1922) from the Congo Basin. *Zootaxa* **3755**: 96-100. DOI: 10.11646/zootaxa.3755.1.5

Long-term vision

As in previous years, Dr Zacharie Chifundera Kusamba will disseminate results through his extensive professional network at the Centre de Recherche en Sciences Naturelles in Lwiro, at the National Pedagogical University (Ph.D. student) and at the Centre Antivenimeux (both in Kinshasa). The collaboration with Dr Zacharie Chifundera Kusamba and the involvement of young researchers of the CSB, Kisangani (Jeannot Akuboy Bodongola and Gabriel Badjedjea Babangenge), will ensure that there will be a sufficient number of well-trained Congolese herpetologists on the long term.

Project 4. Training on soil-dwelling entomofauna inventory and ant taxonomy at Station d'écologie de LAMTO, Ivory Coast

Promoters : T. Delsinne & W. Dekoninck (RBINS)

Participating institutions : Section of Biological Evaluation, RBINS (T. Delsinne), Department of Entomology, RBINS (W. Dekoninck) and Université Nangui Abrogoua (ex Abobo Adjamé) UFR-Sciences Naturelles, Abidjan, Côte d'Ivoire

Full report : Annex 4.

For their first mission in Ivory Coast, the RBINS researchers set the following objectives:

- Organisation and realisation of a 10 day-long ant course (11 – 21/09) on arthropod taxonomy and ecology in the LAMTO research station, with a focus on ant taxonomy (Hymenoptera: Formicidae). This training was followed by 1 Togolese, 1 Guinean and 10 Ivorian students.
- Sampling of soil-dwelling invertebrates to improve the taxonomic knowledge of the studied region.
- Development of an entomological reference collection at LAMTO, using the best international standards.
- Deposition of specimens in the LAMTO and RBINS' entomological collections to provide high quality material allowing local and international specialists to study the individuals collected in the future.

The first aim of the project was to give a 10 day-course to a group of biology students hosted at Station d'écologie de LAMTO. This courses provided the students with:

- the essential knowledge on entomology and related ecology with focus on soil-dwelling groups (ants in particular);
- the basic knowledge to inventory soil-dwelling entomofauna;
- the basic background on biodiversity analyses for soil-dwelling groups;
- the skills:
 - to carry out diversity surveys,
 - to identify insect orders and families with special attention to ant genera,
 - to develop reference collections, using the best modern sampling and curation techniques.

To attain these objectives, students were supervised by an international team of 5 experts in entomology (with focus on myrmecology) and collection curation during ten days. The course combined classroom lectures, laboratory and fieldwork experiences (See Fig. 13). It is expected that this high-quality training will stimulate local students and future scientists to carry out research on

entomology and myrmecology, especially within the framework of conservation projects. In addition, this project allowed the scientists to launch profound collaborations between students and RBINS taxonomical specialists.

The high instructor to student ratio (nearly 1:2) allowed the instructors to supervise students individually and to be easily available for questions or needs of supplementary information. In addition, the complementary experiences and specialties of the instructors contributed to the high-quality level of the course.



Fig. 13: Field and lab work at the Station d'écologie de LAMTO (photos: W. Dekoninck)

The short term objectives the scientists obtained at the end of the 10 days course were in particular that the participants had acquired the knowledge:

Short term objectives we have obtained at the end of the 10 days course (Fig. 13) were in particular that the participants had acquired the knowledge:

- to collect in a standardized way soil-dwelling entomofauna-groups in two contrasting vegetation types (wooded savannah subject to annual fire, wooded savannah preserved from fire) with emphasis to conduct ant surveys (knowledge of field sampling techniques and protocols);
- to recognize the most important different entomological soil-dwelling groups and learn how to store them;
- to appropriately use morphological terms related to insect taxonomy;
- to easily understand papers dealing with the natural history, ecology, evolution, phylogeny or taxonomy of ants and other major arthropod lineages;
- to use identification keys (family and genus levels) with confidence;
- to develop a reference-type collection, using the best modern sampling and curation techniques;
- to conduct basic statistical analyses related to biological soil-dwelling biodiversity;
- to carry out ant dissection, e.g. for evolutionary study.

The long-term objectives the RBINS scientists hope to achieve in the near future are:

- to stimulate the integration of ants and some other soil-dwelling entomofauna groups in biological surveys and conservation programmes, at both the regional and national scales;
- to enhance the value and the quality level of entomological collections, in particular the LAMTO entomological collection;

- to motivate professors and scientists of Ivory Coast and neighbouring countries to include ant taxonomy and ecology in their teaching activities;
- to provide a collection of specimens (ants and others) preserved in alcohol (96%) to allow potential future genetic analyses and/or taxonomic revisions;
- to improve the ant diversity and distribution knowledge in Ivory Coast, especially in the LAMTO Nature Reserve. A preliminary checklist of the collected species (Formicidae and other focus groups such as Cerambycidae, Scarabeidae-Rutelinae, Buprestidae, Fulgoridae, Saturniidae, Asilidae) should be published in 2014, probably with descriptions of new taxa.



Fig. 14: Students and professors having taken part in the ant training. Students show the certificate they obtained at the end of the training (Photo: W. Dekoninck).

T1-GTI-02: Taxonomic training and access to collections in Belgium

An important component in our GTI training programme is the invitation of foreign scientists for study visits to a research institution in Belgium (which can be the RBINS, another scientific institution or a university). Pending their needs, visitors can benefit from à la carte training and/or gain access to the literature, natural history collections, modern lab facilities and all other types of pertinent expertise or information readily available in Belgium but little-accessible in the South. The visitors are selected via a yearly call for proposals.

At the beginning of year 2013, we launched our 10th external call for proposals. This call was only open to young or professional taxonomists who already benefitted from our support during the 2008-2012 programme. It was the occasion for them to continue and complete their research initiated during our last 5-year programme. We received 28 applications from former GTI trainees. After evaluation, 15 taxonomists were invited for a short study visit in Belgium (2 to 4 weeks). Taxonomists received training at the Royal Belgian Institute of Natural Sciences, the Botanic Garden of Belgium, the Royal Museum for Central Africa and/or the Université Libre de Bruxelles (see table 4 for full list).

Table 4. List of visitors for the taxonomic training and access to collections in 2013 (sorted per country).

NAME	COUNTRY	STUDY PERIOD	TITLE	TAXA	TRAINING LOCATION
HIGUTI Janet	Brazil	21.07 to 20.12.2013*	Further studies on the taxonomy of non-marine ostracods (Crustacea, Ostracoda) from Brazilian inland waters.	Crustaceans	RBINS
NDAYIKEZA Longin	Burundi	16.06 to 06.07.2013	Contribution à l'étude systématique et écologique des mégachiles (famille des Megachilidae) de la Réserve naturelle forestière de Rumonge et ses milieux agricoles riverains.	Bees	RBINS
NJOUONKOU André Ledoux	Cameroon	14.07 to 03.08.2013	Monographie des genres Lentinus, Panus et Pleurotus en Afrique	Mushrooms	BG
BARRETO Mauricio	Colombia	02.12 to 20.12.2013	Mites (Acari) of wild Colombian mammals and birds (continuation)	Acarians	RBINS
BERRIO-CARDENAS Claudia Isabel	Colombia	28.09 to 19.10.2013	Taxonomy of Freshwater Oligochaeta (Annelida) in Phytelmata of Northandean and Caribbean Regions of Colombia	Oligochaetes	RBINS
COULIBALY Tenon (Fig. 15)	Côte d'Ivoire	03.06 to 29.06.2013	Diversité des termites (Insecta : Isoptera) dans les vergers de manguiers et évaluation des attaques des termites ravageurs de la mangue: cas de la Région de Korhogo, Côte d'Ivoire.	Insects	ULB
N'DRI Kouadio Julien	Côte d'Ivoire	04.11 to 23.11.2013	Effet de l'âge des plantations d'hévéa (Hevea brasiliensis) sur la diversité des Oribates du sol et le recyclage de la matière organique dans la région de Grand-Lahou.	Arachnids	RMCA

NAME	COUNTRY	STUDY PERIOD	TITLE	TAXA	TRAINING LOCATION
YEO Kolo	Côte d'Ivoire	30.06 to 20.07.2013	Biodiversité des fourmis d'Afrique de l'Ouest: Utilisation de l'imagerie digitale comme outil pratique pour l'identification des espèces et la conservation des collections.	Ants	RBINS
HERNANDEZ Maike	Cuba	30.06 to 01.08.2013*	Taxonomic revision and diversification of the genus Jeanneretia (Helicoidea: Cepolidae), endemic of the Western region of Cuba.	Molluscs	RBINS
MORFFE RODRÍGUEZ Jans	Cuba	06.10 to 27.10.2014	Taxonomic revision of the family Hystriognathidae (Nematoda: Oxyurida) parasitic of passalid beetles (Coleoptera: Passalidae).	Nematods	RBINS
VALDÉS Pavel	Cuba	29.09 to 27.10.2013	Taxonomic Review of New World genera of the tribe Clivinini in the Neotropical range. Inferring relationship at tribal level (Coleoptera:Carabidae: Scaritinae: Clivinini).	Insects	RBINS
HORA Zewdu Ararso	Ethiopia	16.06 to 06.07.2013	Diversity of wild bees in Ethiopia	Bees	RBINS
NDIRITU George Gatere	Kenya	17.08 to 15.09.2013	Compilation, analyses and identification of African myxomycetes specimens collected in the past	Mushrooms	BG
DELA CRUZ Thomas Edison	Philippines	05.01 to 18.01.2014	Taxonomy, Ultrastructure Morphology, and Herbarium Management of Macrofungi Associated with Needle-leaf and Broad-leaf Trees in the Woodlots ("Muyong" forests) of Ifugao Province	Mushrooms	BG

An overview of the projects carried out by our visitors along with their training reports can be found on our website (http://www.taxonomy.be/gti_calls/grants_awarded/grants_other).



Fig. 15: Tenon Coulibaly working at the ULB with his tutor Dr Roisin (photos: T. Coulibaly).

We have also continued our alumni programme and maintained contact with most of our former visitors and trainees. Some former students informed us on the completion of their MSc or PhDs or on the publication of new scientific papers. We also received information on other types of outcomes of our programmes, such as popularisation communications or recommendations for

management/action. Data relating to career advancement and outcomes from the trainings can be consulted on our website (<http://www.taxonomy.be/>).

Here is a selection of the scientific outputs of actual or former GTI trainees in 2013 and early 2014:

- Short communication entitled: *Lentinus cystidiatus* sp. nov. (Polyporaceae): an African lentinoid fungus with an unusual combination of both skeleto-ligative hyphae and pleurocystidia, **André-Ledoux Njouonkou**, Roy Watling & Jérôme Degreef. In *Plant Ecology and Evolution* 146 (2): 240–245, 2013. <http://dx.doi.org/10.5091/plecevo.2013.792>
- 2 posters presented at the 2013 “World Congress of Malacology”, São Miguel, Azores, July 2013:
 - o by **Maike Hernández Quinta** & Thierry Backeljau: First data on the genital anatomy of the genus *Jeanneretia* (Helicoidea: Cepolidae), endemic of the western region of Cuba.
 - o by **Jane Herrera**, Karin Breugelmans & Thierry Backeljau: Molecular taxonomy of *Viana regina* (Morelet, 1849) in Cuba (Gastropoda, Neritimorpha, Helicinidae).
- "Note on the distribution of the genus *Aerogrammus* Bates, 1875 in Asia (Coleoptera: Cerambycidae: Prioninae) by Alain Drumont, **Hong Thai Pham** & Quynh Nga Cao, in the book: Lin, M.-Y. & Chen, C.-C. (Eds.), In memory of Mr. Wenhsin Lin. Formosa Ecological Company, Taiwan, pp.11–16, May 30, 2013.
- Article 'A new species of the cicada genus *Semia* Matsumura, 1917 (Hemiptera: Cicadidae) from Vietnam, with a key to the species of the genus' by **Hong-Thai Pham** & Jerome Constant, in *Zootaxa* 3709 (5): 494–500, 2013.
- Article 'Three new species of *Craterispermum* (Rubiaceae) from the Lower Guinea Domain' by **Hermann Taedoumg** & Perla Hamon, in *Blumea* 57, 2013: 236–242.
- Article entitled 'Two new genera of nematode (Oxyurida, Hystrignathidae) parasites of Passalidae (Coleoptera) from the Democratic Republic of Congo' by **Jans Morffe** & Nayla García, in *ZooKeys* 257: 1–15 (2013). doi: 10.3897/zookeys.257.3666.
- Short note entitled "Curatorial procedures over the RBINS collection of Scaritids (Coleoptera, Carabidae, Scaritinae) written by **Pavel Valdès**, available on the GTI website.
- Poster presented by **Hermann Taedoumg** entitled “The enigmatic genus *Craterispermum* (Rubiaceae): state of the art” at the 20th “Association for the Taxonomic Study of the Flora of Tropical Africa (AETFAT) Congress”, South Africa, January 2014.

T1-GTI-03: Taxonomic workshops *in situ*

In 2013, we co-funded a taxonomic workshop *in situ* with the Botanic Garden Meise.

The project was entitled «Formation sous-régionale sur la mycologie en faveur des stagiaires de la République Démocratique du Congo, du Rwanda et du Burundi». The full report of the training can be found as Annex 5 (see at end of report how to access it).

The project leader was Dr. Jérôme Degreef from the Botanic Garden Meise. The training took place in Burundi in November 2013. It also involved academicians from 3 African countries: the Kigali University in Rwanda, l'Université de Bukavu in République Démocratique du Congo, l'Université du Burundi and l'Institut National pour l'Environnement et la Conservation de la Nature in Burundi (INECN). A total of 9 young scientists coming from the 3 countries (3 per country) were trained (Burundi, D.R. Congo and Rwanda).

Some of the Congolese and Burundese academicians present already received support and/or training in biodiversity management and assessment (via IMAB activities) or in taxonomy (via GTI activities) from our programme, either in Belgium or in their home land. They are now trustable partners. These teachers, along with 9 students, were trained on mushroom taxonomy. During this workshop, Dr. Jérôme Degreef used the 10th *Abc taxa* manual on edible mushrooms of Central Africa that he co-authored in 2011. This workshop was a clear demonstration of how taxonomy is a key tool for sustainable development and for fighting against poverty in our partner countries.

This training had the following objectives:

- Provide basic knowledge on the taxonomy and systematics of mushrooms in order to have a better view on the richness of the ecosystems of the region;
- Provide knowledge on the use of information available on mushrooms, especially those in Africa;
- Provide knowledge on the conservation of mushrooms for further research;
- Develop capacities in the fields of ecology, development strategies and on the role of mushrooms in ecosystem functioning;
- Develop capacities for the valuation of mushrooms in the development, management and sustainable use of natural resources in Central Africa.

The training was divided into 3 phases:

- Official launching workshop ;
- Active training on the field;
- Definition of possible future developments.

1. Official launching workshop

The official launching workshop of the training took place on 25 November 2013, at the restaurant 'Chez André', in Bujumbura. The participants were representatives of Burundese Institutions involved in the management of biodiversity, environmental Non-Governmental Organisations, academicians from the University of Burundi, scientists from research institutions, journalists, etc.

2. Active training on the field

The field training first took place in the Parc National de la Kibira, from 25 to 29 November 2013 and then, in the Réserve Naturelle de Rumonge, from 30 November to 3 December 2013. They were hosted at the Centre Catéchistique de Kumuyanga.

The programme of the field training was the following:

- Sampling and identification of mushrooms (see Fig. 16);
- Teaching/ learning the technics to analyse the sampled specimens;
- Theoretical training mycology through 6 modules;
- Communication and exchange of experiences between the countries in the field of mycology.

•



Fig. 16 : Working in the field (photos: J. Degreef)

3. Definition of possible future developments.

On 2 December 2013, the participants had a last meeting in order to establish a strategy to further work together on Central African mushrooms. They decided to establish a regional network of specialists in mycology including all the participants of the training. They also came up with the following recommendations:

The regional network of specialists in mycology from DR Congo, Rwanda and Burundi will take the following actions:

- Start a mailing list in order to facilitate exchange of information on the subject (opportunities, problems encountered, call for proposals, new developments, etc.);
- Become members of the African Mycological Association (AMA);
- Organise workshops in order to exchange information;
- Produce a special bulletin (twice a year) on Central Africa Mycology that will be submitted to the AMA;
- Produce a 3-page newsletter with the research developments in the 3 countries and share this newsletter on the CHM website of each country;
- Make a folder on the opportunities of Central Africa Mycology in order to look for financial and technical support;
- Name a national coordinator of the network for each country;
- Name a regional coordinator of the network for the area.

Finally, following the formulation of the recommendations, the participants officially named the coordinators of the new “Central Africa Mycology” network:

- Dr Masumbuko Céphas was elected Regional Coordinator of the network. He also is the national coordinator for D.R. Congo;
- Ms Assumpta Mukandera was elected national coordinator for Rwanda;
- Mr Nzigidahera Benoît was elected national coordinator for Burundi.

T1-GTI-04 Cooperation with selected institutes in privileged partner countries

This activity has been set up to meet the requests for strengthened institutional cooperation. According to our philosophy, it is entirely demand-driven. Before starting this type of cooperation, we prefer to meet the potential partners during one or several study visits in Belgium (T1-GTI-02). Then we estimate which are the post pressing needs and those we are able to respond to.

Since we have not received requests from our selected partners in 2013, we have used the provided budget (6,000 €) for activities under T1-GTI-02.

T1-GTI-05 Abc Taxa: a series of manuals for taxonomic capacity building

It is estimated that today at least some 10 to 30 million species populate Earth. A mere 1.9 to 2 million of these have been (validly) named, and it is estimated that less than 20,000 new species are described annually. This is a surprising low number given the advance of sampling, investigation, description and publication techniques. Clearly taxonomic productivity needs to be boosted, especially in mega-diverse countries, with particular focus on little-explored habitats such as the deep sea, underground water reservoirs or tropical forest canopies and on taxa that are very poorly known or that are indicative of global change, such as frogs. The Belgian National Focal Point to the Global Taxonomy Initiative (GTI) has installed a capacity building programme to accelerate the buildup of taxonomic capacity. The flagship product of that programme is called Abc Taxa. It is a high quality series of manuals that aims to be a toll-free taxonomic information highway between experts and novices.

Volume 14 (Liverworts and Hornworts of Rwanda) published

Hard copies of volumes of Abc Taxa are distributed through the GTI and CHM (Clearing-House Mechanism) network of the CDB, through privileged contacts with the authors and their local networks and through library exchange-systems. Researchers or institutions from developing countries can obtain a free copy of a particular book when they send a motivated demand to the editorial office of Abc Taxa. For the interested public of non-developing countries, copies are charged

at publication and distribution cost. Each volume can of course also freely be downloaded on the journal's website.



Fig. 17: Volumes 14 of Abc Taxa

Distribution of the Abc Taxa

Moreover, 180 copies of respectively volume 13 were sent to GTI and CHM focal points. 22 ex. of volume 13 were sent to the main library of the RBINS. Each author received 10 free copies of the volume he has authored. Peer referees are sent two free copies of the volume they have refereed. An issue is also sent to some selected 'VIP's' (+- 19 ex.). The writer of the preface + the corrector are sent two free copies of the volume they have revised.

The distribution of volume 14 will be carried out on the budget of 2014.

T1-GTI-06. GTI reader: teaching modules for the Global Taxonomy Initiative

In 2013, no new module regarding taxonomy *per se* were developed, as previously planned.

T1-GTI-07 Participation in workshops and conferences

The participation in workshops and conferences is an essential tool in the acquisition and dissemination of knowledge. These workshops can be scientific (dealing with taxonomic issues) or policy-relevant (dealing with the implementation of the Global Taxonomy Initiative).

M-L Susini participated in the 8th international conference "eLearning Africa" which took place in Windhoek, Namibia from 29 to 31 May 2013. eLearning Africa 2013 saw more than **1400 participants** from **65 countries** gathered for three days of **learning, knowledge exchange** and **networking**. It is the continent's largest gathering of eLearning and ICT-supported education and training professionals. It was the 2nd time that M-L Susini participated in this conference and the 1st time as a speaker. Her presentation was part of the session entitled "Knowledge Portals, Hubs and Banks: How They Help Learning and Network". Her presentation was entitled "Towards a Better Knowledge and

Protection of Biodiversity in Africa Using Web 2.0 Technologies”. It was a good occasion to discuss on the experience of building effective knowledge portals, and on how to support collaborative networks and to deliver eLearning.

M-L Susini participated in the Biodiversity Informatics Horizons 2013 (BIH2013) that took place from 3 to 6 September 2013, in Rome, Italy. BIH2013 is part of a continuing process that helps to structure and organise the biodiversity informatics community at the European level. M-L Susini participated in the conference as the Belgian National Focal Point to the Global Taxonomy Initiative (GTI) in order to know more about the last trends in the field of biodiversity informatics. The aims of the meeting were to organize the biodiversity informatics community and coordinate better. More than 150 participants attended the conference. There were also demos during the breaks and training activities on the first and last days. The discussions held during session 2 (the ecology landscape), session 4 (discussion on international cooperation) and session 6 (pathways to implementation) were the most relevant to our programme. The bioinformatics community in Europe is very efficient and disposes of a huge quantity of data. But the main goal in the future will be to deliver predictive modelling. It is essential to show that the data are actually useful. To achieve their goal, scientists need a better clarity of vision, with greater focus on end-goals.

Finally, we funded the participation of Hermann Evariste Taedoumg, former GTI trainee, in the 20th “Association for the Taxonomic Study of the Flora of Tropical Africa (AETFAT) Congress”. The 20th AETFAT Congress took place in Stellenbosch, South Africa, from 13 to 17 January 2014. H. E. Taedoumg benefited from our financial aid to participate in the conference and to present a poster entitled «The enigmatic genus *Craterispermum* (Rubiaceae): state of the art». It was a good occasion for him to network and to learn more on the last techniques and methodologies for the analysis of African Flora taxonomy.

T2. Supporting biodiversity inventories, monitoring and assessments (IMAB)

The collection and analysis of biodiversity data provides knowledge on the size, distribution and ecological status of populations of living organisms.

Such biodiversity data, together with other environmental data, form an important basis for the conservation of biodiversity. It also provides crucial information to monitor policies that have a significant impact on biodiversity, such as agriculture, forestry, land use planning, natural resources extraction and tourism.

Well-conducted monitoring programmes can identify negative and positive developments in biodiversity at an early stage and trigger appropriate action.

The general objective of the sub-programme is to help the RBINS' partners study biodiversity and ecosystem functioning, and to understand how these are changing and why.

The specific objective is to build expertise and reinforce capacities in conducting biodiversity inventories, assessments and monitoring activities and in processing the resulting information.

This sub-programme provides training on methodological approaches such as sampling techniques, botanic and zoological inventories as well as on the analysis and interpretation of biodiversity and environmental data. This is fed into to wildlife and ecosystem monitoring programmes.

The activities will also help increase knowledge in areas such as functional ecology, biogeography, population dynamics, animal behaviour, spatial distribution, ecosystem functioning, etc.

The activities proposed here are probably the most diverse of the whole programme of work. This reflects the diversity of scientific issues that need to be tackled before establishing conservation or management plans.

What are inventories, monitoring and assessments?

Inventories: they are carried out to identify the species present in a given area at a given moment, as well as their distribution and abundance (and the ecological communities they form).

Assessments: they evaluate the status of biodiversity, the general environmental conditions, as well as the threats to an area or ecosystem at a given moment.

Monitoring programmes: they are conducted to observe the trends in biodiversity through time and include the identification of reductions in existing threats or the appearance of new threats.

T2-IMAB-01. Cooperation with the University of Kisangani for the taxonomic study and the monitoring of lowland forests

Lowland forests of the Congo Basin are unique, not only for their intrinsic ecological importance but also for the crucial role they play in generating economic income. But these natural resources are under threat because of deforestation, poaching and overfishing. To tackle these dangers, sustainable use and management of ecological resources is essential, and solid scientific knowledge is fundamental to the process. However, much of the data available on Congolese forest biodiversity dates back over 50 years. Updating this knowledge is one of the main objectives of the Belgian-Congolese consortium of the four scientific institutions that make up the 'Congo Biodiversity Initiative': the University of Kisangani, the Royal Museum for Central Africa, the Botanic Garden of Meise and the Royal Belgian Institute of Natural Sciences. A formal MoU has been signed between the four institutions in April 2010. One of the institutional goals of the Initiative is to set up a 'Centre de surveillance de la biodiversité' in Kisangani, that will be inaugurated and host the 'first International Conference on Biodiversity in the Congo Basin' in June 2014. The Congo Biodiversity Initiative is supported by multiple funders, including the Belgian Development Cooperation, the Federal Science Policy and the National Lottery. The website of the Initiative is the following: <http://www.congobiodiv.org/>.

In this annual report, we only present the activities that have been specifically financed by the DGD-RBINS agreement. Other activities are reported elsewhere, such as in the annual report of the DGD-RMCA agreement. The Royal Museum for Central Africa offered the main financial support for the establishment of the 'Centre de surveillance de la biodiversité'.

Supervision of the work of three Congolese PhD students

- We organized 3 month research stays for three Congolese scientists (Falay Dadi Sadiki, Casimir Nebesse Mololo, and Philibert Tazole) who recently started research in the context of a PhD thesis. Their thesis subjects are respectively: (1) 'Understanding of epidemics of invasive salmonellosis in Central-Africa'; (2) 'L'importance socioéconomique, diversité biologique et perspectives de gestion durable d'une ressource halieutique en RDC' and (3) '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)'
- For Falay Dadi Sadiki and Philibert Tazole this stay in Belgium is a follow up of a previous visit to the laboratories of their Belgian supervisors. Hence their stay was intended as an opportunity to continue their training in laboratory practices (sample analyses), data analyses, and reporting (drafting scientific publications). For Casimir Nebesse, it was his first visit abroad in the context of this project.
- To ensure that their stays would be as efficient as possible, all trainees were asked to prepare a detailed overview of the status of their work, including a list of the planning of a working schedule while in Belgium. During their stay in Belgium, they were respectively supervised by Dr

Jan Jacobs (Institute of Tropical Medicine, Department of Clinical Sciences, Unit Tropical laboratory Medicine Antwerp), Prof. Marijke Verpoorten (University of Antwerpen, Department development Studies) and Erik Verheyen (OD Taxonomy & Phylogeny, RBINS & Biology department University of Antwerpen).

- Falay Dadi Sadiki and Phillibert Tazole, who had already been in the laboratories of their supervisors, were subjected to interactive sessions to further elaborate their programmes, to prepare their laboratory work, and to analyse their results. 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.
- Casimir Nebesse, who visited the laboratory of his supervisor for the first time, was subsequently given the opportunity to learn how to find recent literature on his subject, followed by some time to use this new information to improve his project proposal. Special attention was given to the improvement of the 'questionnaires' he had developed to investigate the economic, social and cultural (gastronomic) drivers of the bush-meat trade. After that, he received an initiation in DNA bar-coding (molecular identification of bush-meat samples) in the molecular laboratory of the RBINS.



Fig. 18 : View on lowland tropical forest, near Kisangani.

Outcomes

- Nicaise Amundala and Jean Claude Mukinzi, two visitors of last year (2012), who were given the opportunity to finalize their PhD theses in close collaboration with their Belgian supervisors (both with Herwig Leirs from the University of Antwerpen) have both submitted their theses for public defence in Kisangani. Nicaise Amundala has successfully defended his PhD work on 20 July 2013, the date of the public defence of Jean Claude Mukinzi remains scheduled for the current academic year (2013-14). We are glad that the PhD these of both trainees will have 1-2 publications (or at least submitted papers) in international journals.
- The outcome of the visit of Falay Dadi Sadiki included (i) refinement and cleaning of his study database, (ii) merging clinical and microbiological database and (iii) assessing the relations between different variables by pivot tables/graphs and testing them for statistical significance. In addition, Dadi performed an extensive literature study about invasive salmonellosis in Central-Africa and started to compile the results in a manuscript of which the main findings are (i) confirmation of the outbreak of invasive salmonellosis with observation of an over-time shift from *Salmonella Typhimurium* to *Salmonella Enteritidis*, (ii) observation of an association between increased transfusion need at the one hand and *Salmonella Enteritidis* bacteremia at the other hand (significantly more as compared to *Salmonella Typhimurium*) and (iii) similar differences in clinical presentation, i.e. significantly more pallor and more severe anemia in the case of *Salmonella Enteritidis* compared to *Salmonella Typhimurium*. Dadi presented his findings at several meetings with peer researchers and has finalized a first draft of the a manuscript which will be submitted for publication. His findings are of high relevance for the understanding of epidemics of invasive salmonellosis in Central-Africa. Dadi considers to elaborate further research on this topic, with emphasis to the role of wildlife and live stick as sources of salmonellose in the villages and cities of the province Orientale in RDC.
- The outcome of the visit of Philibert Tazole included (i) the refinement and cleaning of his study database, (ii) the detailed analyses of: live, smoked, dried and frozen lungfish marketed Kisangani sold in Kisangani, (iii) the quantity of marketed lungfish, (iv) sources of lungfish marketed means of transport used, (v) distance and travel time compared to Kisangani (vi) regularity of supply and number of vendors lungfish, (vii) gross profit margin of lungfish marketed, (viii) the details of the different types of lungfishes sold in Kisangani. These data were ready to be transformed in a research paper for an international scientific journal when the sad news reached us that Philibert Tazole was killed during a burglary in his home. His supervisor Marijke Verpoorten is inclined to attempt publishing the results of his work at a later date.
- The outcome of the visit of Casimir Nebesse included (i) the refinement and cleaning of the collected material and the corresponding documentation, (ii) learning how to perform the molecular bar-coding of (approximately 300) bush-meat samples from in and around Kisangani, (iii) the comparison of the molecular identifications and the species names given to the purchased bush-meat, (iv) the analyses of the proportion of protected species sold on markets, (differences observed in species composition of animals sold in the main and peripheral markets in the region), (v) attempt to infer the profit margin of various bush-meat products marketed, (vii) the details of the different types of mammals sold as bush-meat in Kisangani.

Publications

Kaswera,K., Dudu, A.,Verheyen, E.,Gilissen E. 2013. Densité et distribution de *Tetrodromus tetradactylus tordayi* (Macroscelididae, Mammalia) dans la reserve forestiere de Yoko (R.D.Congo) Ann. Fac. Sci. 15 (2013): 205-218

Gembu Tungaluna G.C., Van Cakenberghe V., Musaba Akawa P., Dudu Akaibe M., Verheyen E., De Vree F., Fahr J. 2013. Rediscovery of *Glauconycteris superba* Hayman, 1939 (Chiroptera: Vespertilionidae) after 40 years at Mbiye Island, Democratic Republic of the Congo. European Journal of Taxonomy 42: 1-18 doi.org/10.5852/ejt.2013.42

Stanley W.T.,Robbins L.W., Malekani J.M., Gambalemoke S.M., Dudu A.M., Mukinzi J.C., Hulselmans J., Prévot V., Verheyen E., Hutterer R., Doty J.B., Monroe B.P., Nakazawa Y.S., Braden Z., Carroll D., Kerbis Peterhans J.C., Bates J.M. & Esselstyn J.A. 2013. A new hero emerges: another exceptional mammalian spine and its potential adaptive significance. Biological letters Biol Lett 9: 20130486. <http://dx.doi.org/10.1098/rsbl.2013.0486>

Laudisoit A., Falay D., Amundala N., Dudu Akaibe M., Goüy de Bellocq J., Van Houtte N., Breno M., Verheyen E., Wilschut L., Parola P., Raoult D., and Socolovschi C., 2014. High Prevalence of *Rickettsia typhi* and *Bartonella* Species in Rats and Fleas, Kisangani, Democratic Republic of the Congo. American Journal of Tropical Medicine and Hygiene: published online January 20, 2014; doi:10.4269/ajtmh.13-0216

Iyongo L.W.M., De Cannière C., Ulyel J., Dudu B.A., Bukasa K., Verheyen E., Bogaert J. 2013. Effets de lisière et sex ratio de rongeurs forestiers dans un écosystème fragmenté en République Democratique du Congo (Réserve de Masako, Kisangani). Tropicultura 31(1): 3-10

Main issues encountered

- Because these rehabilitations (REFORCO & 'Boyekoli ebale Congo project' to building the 'centre de surveillance de biodiversité (CSB)') took more time than anticipated, the scientific personnel sometimes struggled to find a place to work. Even recently, they often lacked reliable internet and uninterrupted electricity to work efficiently. With the new building of the CSB fully functional since a few months, with a more reliable internet and electricity supply, this problem should be a problem from the past from now on.
- Like the vast majority of the Congolese researchers, our current trainees read, write and speak English insufficiently well to independently write manuscripts that are acceptable for international scientific journals. Although Falay Dadi Sadiki has (and Philibert Tazole had) made significant progress, this remains a difficulty that has to be addressed to avoid that the same problem arises for the next series of Congolese students (such as Casimir Nebesse, and the new trainee that will be selected to replace Philibert Tazole). The English courses provided last year in the context of the VLIR CUI-project seem to have been insufficiently effective to improve the academic English of our target audience. This implies that new initiatives aiming at strengthening the capacity of the local scientific community need more specific/specialized language courses

that are better tailored to the needs of their target audience. This issue was also addressed in the Strategic Plan of the CSB and the developed activities programme for the CSB will provide additional training in English academic writing for the CSB personnel, including the academic personnel of the University of Kisangani.

- The lack of basic skills of Congolese trainees to analyse their data is a growing concern. Basic statistical skills are very limited, and the lack of experience using software packages to statistically analyse results is a real problem. From now on, we have decided to provide every trainee with the free software package PAST (<http://folk.uio.no/ohammer/past/>) that has a good manual scientific data analysis, with functions for data manipulation, plotting, univariate and multivariate statistics, ecological analysis, time series and spatial analysis, morphometrics and stratigraphy.
- Visa problems: It took two attempts to get Dr Falay to Belgium because of problems raised by the 'Maison Schengen' concerning his previous stay in Belgium. On the basis of the fact that they discovered that our trainee had - with the permission of the supervisors - visited relatives in France at the end of his stay, they concluded that he had abused his visa for activities that are unrelated to his work. After this 'issue' became clear, the necessary letters were sent to explain the situation and to specify that Dr Falay had not 'escaped to France on a vacation' instead of carrying out his activities as a trainee in the laboratory of his supervisor. This issue resulted in considerable financial loss for the project (cancelled tickets, cancelled accommodation in Belgium, a lot of time spent by the project staff and the supervisor to sort out these issues), but also for the applicant, who is a staff member at the University Hospital and pediatrician at the 'Cinquantenaire' in Kisangani. It is clear that the weeks that he had to wait in vain for his visa has resulted in a significant financial loss for him personally.



Fig. 19: analysis of macro-invertebrate samples, near Kisangani

T2-IMAB-02. Cooperation with Institutions of Conservation to improve the management of protected areas

The institutional cooperation was conducted in three priority countries for the Belgian cooperation: DR Congo, Burundi and Benin. The 2013 activities served as a transition between those carried out during the previous five-year period and the 2014-2018 programme, focusing on the following areas:

- Monitoring of the dynamics of habitats and preparation of didactic materials, mainly the lexicons of dominant plants in habitats of protected areas;*
- Promoting research on ecosystem services and individual plant species with great economic and ecological value.*

Table of contents

1. Partnerships in DR Congo

1.1. Activities with the partners

- 1.1.1. ICCN, UNILU: Katanga, woodland of Luswishi
- 1.1.2. UNIKIN, ERAIFT, WWF: Bombo –Lumene
- 1.1.3. Geology for an Economical sustainable development (GECO)

1.2. Didactic materials prepared on the types of habitats and the monitoring of their dynamics

- 1.2.1. The Kahuzi –Biega National Parc
- 1.2.2. The Itombwe Natural Reserve

1.3. Promotion of research on the dynamics of habitats and ecosystem services

- 1.3.1. The doctoral thesis of Mr Mangambu Mokoso Jean de Dieu (UOB-UA) .
- 1.3.2. Preparation of memoirs (master's degree) focused on the development of knowledge of ecosystem services

2. Partnership with the INECN in Burundi

2.1. Monitoring of the dynamics of habitats

2.2. Preparation of the lexicon of the dominant plants in the National Park Kibira

2.3. Promotion of scientific research

3. Partnership with the 'Université d'Abomey- Calavi (UAC), Benin

1. Partnerships in DR Congo

1.1. Activities with the partners

1.1.1. ICCN, UNILU: Katanga, woodland of Luswishi

- **Introduction**

In 2013, the effort were focused on the application of the most relevant results generated by the programme on "Law enforcement monitoring" carried out by ICCN with the support of the RBINS along the former five years period (2008-2012).

Examination of the data from the Katanga province (including the PNU) showed that remnants of dry forests of Muhulu type, which represent the most advanced stage and steady habitats in the area of woodland, were generally found on soils of termite mounds. This finding is particularly interesting in terms of conservation. Indeed we know also from the research carried out at the UNILU and the UGent (Mujinya 2012) that such soils extend on about 1/5th of the Zambebian basin. It is also known that each termite mound is characterised by very complex food chains (Malaisse 1978, 1997). Therefore the RBINS support was provided to the ICCN and the UNILU to establish a reference device for the monitoring of the dynamics of habitats on termitosols, on a model site that is serving also in promoting the ecosystem services that are inherent to termite mounds, under the supervision of Prof. Basile Mujinya Bazirake (Agricultural Faculty, UNILU). This application has been set up within the woodland of Luswishi (30 km from Lubumbashi). Five transects were installed and ten permanent plots of 20,000 m² each one were delineated along these transects and the whole device was georeferenced.

- **The Luswishi forest reserve (30 km from Lubumbashi)**

In order to assess ecosystem services that are inherent to termite mounds, ten permanent plots were established along two transects within forests that were observed on termitosols.

Below are mentioned three students involved as assistants at the UNILU and the field of research they are carrying out for their DEA in this reserve:

- Mr Fidèle Cuma Mushagalusa: study of the termitophilous inter-relations in Miombo woodland;
- Linda Basheke (Soil Science): the identification and characterization of ecosystem services that inherent in termite mounds ;
- Mr Augustin Nge: accountancy of ecosystem services provided by termite mounds.

Locally, coordination was globally ensured by Professor Basile Mujinya Bazirake. We were deeply involved in the launch of this initiative and we participated in mentoring, especially regarding the flora component and forest ecology. RBINS granted also the basic equipment required (1 GPS, 2 cameras and 1 gorilla solar kit). During the RBINS mission on the field in February 2014 (Fig.20), we examined the research device and we provided recommendations to improve the methodology implemented by our colleagues at UNILU to better characterize the types of habitats crossed by the transects.



Fig. 20. Mr Cuma Mushagalusa (UNILU) discussing with Dr. François Muhashy (RBINS) on a plot of vegetation sampling in the forest reserve of Luswishi

The Miombo woodland are particularly rich in fungi. The genus *Termitomyces* include wild edible species which are very popular in the tropics (Fig. 21a & b). These fungi grow only in symbiotic association with termites of the subfamily Macrotermitinae (or fungus-growing termites). Their nutritional value is somewhat higher than in other fungi. They are regularly collected and sold. The termitosols are deemed very fertile, where local populations develop preferentially their main food crops.



Fig. 21a. Termite mound colonized by fungi of the genus *Termitomyces*



Fig. 21b. View on part of a fully developed *Termitomyces* colony

A first classification of ecosystem services that are inherent to termite mounds in the Luswishi Forest Reserve was established

1.1.2. UNIKIN, ERAIFT, WWF: Bombo –Lumene

- Introduction

Concerning the other protected areas, the support consisted in helping rangers to put in practice the capacities acquired during the earlier work programmes. During our mission in the RDC, Bombo-Lumene (July 2013) we answered questions issued by the rangers and delivered information on the indicators of the stages of dynamics in savannahs and forest ecosystem. The follow-up was ensured by Baudouin Matuba and Florence Kamana who were preparing their memoirs respectively at the ERAIFT and UNIKIN with the support of the RBINS programme. A remote training was provided to Kazadi Lenge (PNKu) and Kasongo Pascal (PNU) on the basis of vegetation photographs we received from them. Unfortunately The war situation did not allow us to meet them during our mission in the Katanga province (February 2014).

- Results of the RBINS mission in DR Congo (15-31.07 . 2013)

(i) Collection of information on the uses of wild plants which were mentioned in our publication on the " Habitats de la RDCBL - Lexique des plantes dominantes dans ces milieux" A total of 40 different plant species were recorded. The uses of these plants were given to us by the guides who have worked with us on the field, including members of the CCN personal permanent in the RDCBL (Malio Ngaliema Kitoko Dikulu, Prospérine Mfwilu Mayindu) and two household (Angélique Mumfa Ngolo and Ilda Maoño) who know the local uses of these plants (Fig. 22) .



Fig. 22. Requesting information on the plants uses

Information obtained bear on diseases treated, the plant organs and methods used for their preparation and administration. Specimens of plants collected as reference to the identification of corresponding species were prepared (Fig. 23a) and conserved in the herbarium of the UNIKIN (Fig. 23b).



Fig. 23a. Preparation of the herbarium simultaneously with the consultation of local people to obtain additional information on the plants uses

Fig. 23b. Specimens of plants within the drying process at the herbarium at the UNIKIN

1.1.3. Geology for an Economical sustainable development (GECO)

Moreover our synergies with the team of at the RBINS were fruitful. The assessments of the threats on biodiversity in protected areas surrounded or overlapped by mining activities were strengthened by the publication of our manuscript entitled 'Detecting land cover change using multi-temporal remote sensing on major mine sites in Southern Katanga (Democratic Republic of Congo) in the *Journal of Land Degradation & Development*.'

1.2. Didactic materials prepared on the types of habitats and the monitoring of their dynamics

1.2.1. The Kahuzi –Biega National Parc

In 2013, the edition of the manual entitled " "Habitats du Parc National de Kahuzi-Biega – Connaître et suivre leur évolution à l'aide d'un lexique des plantes" (189 p.) was completed (Fig. 24). The data considered were collected mainly by our colleagues who are based on the field: Prof. Masumbuko Ndabaga Cephas (UOB) and Dr Leonard Mubalama Kakira (WWF). The content was illustrated by 129 figures showing mainly the dominant plants in the habitats. In total 147 plants were identified by their scientific names. Concerning their names given by people who live in the vicinity of the park, 92 names were given in Mashi, 75 in Kitembo and 46 were obtained in Kilega languages. These indigenous knowledge corresponds to 88% of scientific names. This glossary was intended to be used by among other the guards, not only to help classify habitats they monitor. The ICCN and other stakeholders can also use this manual to provide educational outreach initiatives in the field of environment, as the vernacular names of plants often refer to the use and / or the link of the species with the ecosystem.



Fig. 24. The lexicon published on the habitats of the PNKB

1.2.2. The Itombwe Natural Reserve

Since October 2013, our colleague Masumbuko Ndabaga Cephas (UOB) began preparing the lexicon dedicated to the habitats of the Itombwe Natural Reserve. Two members of the same university participated in this work: a young researcher in ecology and a botanist, who decided to work there in the frame of their memoirs at the UOB. The team also included a cartographer and several rangers attached at the reserve. Together, they collected data in the Fizi and Shabunda territories, which constitute half of the enormous area of this reserve (7,600 km²) and which are occupied mostly by the ethnics groups of Bembe and Lega respectively. For each individual habitat, photographs were taken. A total of 210 plant species (trees, shrubs and herbs), serving to characterize vegetation and their dynamics, were inventoried and photographed, and inserted into herbarium. The names of these plants were obtained in the following local languages: Kifuliru, Kibembe, Kinyindu, Kinyarwanda and Kivira.

1.3. Promotion of research on the dynamics of habitats and ecosystem services

1.3.1. The doctoral thesis of Mr Mangambu Mokoso Jean de Dieu (UOB-UA) .

Subject: "Ecologie et Taxonomie des ptéridophytes de l'Ecosystème forestier de montagnes du PNKB, R. D. Congo"

Dr François Muhashy Habiyaemye (RBINS) reviewed all of the work, especially its ecological component which he had been following up since the beginning of this thesis in 2009. This led to the publication of the part on the "Diversity of Ferns and their allies along the altitudinal gradient in the mountain forest" (see paragraph 4.2). Finally Mr Mangambu publicly defended his thesis at the UA (11/25/2013) (Fig. 25). For the ICCN, the importance of

this research is that it contributed to the identification of indicator species of the evolution of the forests in the PNKB.



Fig. 25. Mangambu Mokoso Jean de Dieu in front of the jury of his doctoral thesis defended at the UA, 25.11.2013

1.3.2. Preparation of memoirs (master's degree) focused on the development of knowledge of ecosystem services

- Matuba Baudoin: « Les usages alimentaires des plantes spontanées de la RDCBL. Contribution à l'évaluation de la disponibilité de *Gnetum africanum* »
- Kamana Habineza Florence: « Contribution à l'inventaire des services écosystémiques des Clusiaceae dans l'aire de la RDCBL ».

After a month of work on the field during the 1st trimester of 2014, each of the two students will have collected enough data to serve in the edition of his thesis.

We contributed to define the subjects above and we have continuously provided scientific advices, this additionally to local mentoring that has been ensured respectively by Prof. Kasali (ERAIFT) and Habari (UNIKIN).

For each of the two students, RBINS granted the fund for a month mission to collect the research data on the field and they obtained basic equipment (1 GPS + 2 cameras) needed to accomplish this work.

By the end of February 2014, Mr Matuba (ERAIFT) produced his report on the methodology used. The geolocalisation of the surfaces containing *Gnetum africanum* in RDCBL was done as well as counting and quantification of these vines. He also investigated in 98 households within six villages to estimate the differences between the production available in the nature and that harvested by the villagers.

Ms. Kamana also presented the chapter of the methods of her investigations on the kinds and the interviews on the uses of plants. Below are the species of the Clusiaceae family that she inventoried and inserted into the herbarium: - *Allanblackia floribunda*, - *Garcinia huillensis*, - *Garcinia kola*, - *Harungana madagascariensis*, - *Psorospermum febrifugum*.

They are used especially as medicine. Information on the diseases were registered. From time to time, the Clusiaceae of the RDCBL serve also as food.

2. Partnership with the INECN in Burundi

In March 2014, Luc Janssens de Bisthoven and Han de Koeijer made a formulation mission in Burundi in order to start a new 3 year programme with INECN. Some deliverables of this mission are presented under 'Institutional cooperation'.

2.1. Monitoring of the dynamics of habitats

Table 5 below contains the names of the INECN personal who made observations on the dynamics of habitats, their functions and their respective locations

Table 5: The team that carried out the monitoring of habitats dynamics in 2013

N°	Personal	Function	Protected area	training beforehand	received
				(1)	(2)
1	Hakizimana Claude	Conservateur	PN Kibira	+	—
2	Ndikuriyo Melchior	Garde forestier	PN Kibira	+	—
3	Niyonkuru Patrick	Garde forestier	PN Kibira	+	—
4	Vyabagabo Daniel	Garde forestier	PN Kibira	+	—
5	Barayandema Jean-Baptiste	Chef de secteur Musigati	PN Kibira	+	—
6	Ntabashira Azarie	Chef de secteur Mabayi	PN Kibira	+	—
7	Niburana Deus-Dédit	Chef de secteur Teza	PN Kibira	+	—
8	Mugisha Christophe	Chef de secteur Rwegura	PN Kibira	+	—
9	Kanyamugambwe Gabriel	Palmeraie Chef de secteur	PN Rusizi	+	—
10	Kakunze Alain	Conservateur	PN Rusizi	+	—
11	Sinzohagera Bosco	Garde forestier		—	+
12	Nizigiyimana Déo	Garde forestier		—	+
13	Buvyiruke Evariste	Conservateur	PN Ruvubu	+	—
14	Sabiti Feruzi	Chef de secteur RD1	PN Ruvubu	+	—
15	Manirambona Félicien	Chef de secteur RD2	PN Ruvubu	+	—
16	Nzohabonayo Athanase	Chef de secteur RG1	PN Ruvubu	+	—
17	Banyarushatsi Balthazar	Garde forestier		—	+
18	Mbonimpa Louis	Garde forestier		—	+
19	Nkuzimana Frédéric	Garde forestier		—	+
20	Nihabose Aloys	Garde forestier		—	+

21	Nyabenda Mathias	Laborantin	Direction générale (DG)	+	—
22	Ntampera Dieudonné	Laborantin	DG	+	—
23	Nzigidahera Benoît	DG	DG	+	—

(1) Ensured by the RBINS during the workshop organized in December 2012

(2) Trained by their colleagues who attended the workshop of December 2012

The funds used to carry out this campaign of data collecting was provided by RBINS, as well as the equipment required: 9 GPSs, 8 cameras, 3 sets of solar energy sensors and batteries (Powertraveller Gorilla).

2.1. Preparation of the lexicon of the dominant plants in the National Park Kibira

In 2013, Mr Nzigidahera Benoit, Scientific Director INCN, completed the data whose collection was initiated during the practical part of the workshop on the dynamics of habitats in Rwegura sector (Kibira) in December 2012. Fig. 26 shows the itinerary (transect) followed to prepare the lexicon.

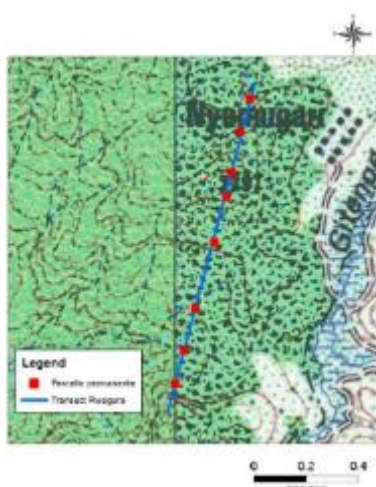


Fig. 26. The transect established for the monitoring of changes in habitat in Rwegura Sector (Kibira). Permanent parcels for forest observations are highlighted

As results, 230 plant species were recorded and identified by their scientific names; for 145 of them vernacular names Kirundi, thus 63% of the total inventory were obtained. The herbarium of these species was installed at the INECN. A manual containing these data is currently being written. It will serve to identify habitats and to monitor their dynamics.

The transect created by RBINS-INECN is the same as the path along which Mr D. Hakizimana conducted ethological observations on chimpanzees in the frame of a doctoral thesis at the University of Liege (Belgium). This allows synergies particularly for the interpretation of the interrelationships between habitats and wildlife. The altitude of this ecological and didactic path is comprised between 2000 - 2400 m. Furthermore, the transect can serve in other various programmes, such as the REDD +.

2.2. Promotion of scientific research: studies conducted along the ecological paths in protected areas

Research that was defined previously as part of the "establishment of systems to monitor the dynamics of habitats, populations and species for the management of protected areas of Burundi" resulted in the presentation at the UB, of three memoirs by MM Marc Manirakiza, Niyongabo Elias, Nsengimana Egide. They worked respectively in Kibira National Park, Ruvubu National Park and the Natural Reserve of Rusizi, under the supervision of Mr Benoît Nzigidahera (INECN) and Prof. Habonimana Bernadette (UB).

In 2013, three other students defined their subjects of research in connection with the same theme. This extends the research on the dynamics of habitats on six of the ten sectors constituting the three major protected areas in Burundi.

As part of the preparation of their memoirs of the master at the "Université du Burundi" (UB), two students began assessing the availability of edible mushrooms in natural forests. This investigation was undertaken in the forests by Nkengurutse Jacques and his colleague Niyongabo Elias, respectively at Rumonge and Kumoso areas. The scientific mentoring was mainly provided by Dr. Jerome Degreef, the head of the department of Cryptogamie at the National Botanic Garden of Meise (Belgium).

3. Collaboration with the 'Université d'Abomey- Calavi (UAC), Benin

We are starting a new partnership with this institution following its expression of interest in the methodology implemented in the framework of our partnership with ICCN in DR Congo and with the INECN in Burundi. The UAC hoped in particular that our cooperation can increase the understanding of the scientific content of the results of previous research on bushfires and pastoralism and better put this documentation within the reach of users in order to improve the management of the protected area of the Pendjari National Park (sahelo-sudanese ecosystem). In this perspective, Dr François Muhashy Habiwaremye (RBINS) conducted an exploratory mission in Benin (May 2013), which allowed first consultation with key managers of national parks and forest reserves (Fig. 27).



Fig. 27. In his office, Mr Athanase Kentonou, Manager of classified forests of the Basila area and Mr Roul Behoundja (on the left) are discussing with the RBINS UAC team, before the visit of the experimental plots of the use of fire in the management of habitats (05/16/2013).

The information on this mission was disseminated via the website “<http://bj.chm-cbd.net/news/rbins-universite-abomey-calavi>” of the CHM of Benin. To continue preparations of our partnership, the Rector of the UAC, Prof. Brice Sinsin paid a visit at the DGD unit within RBINS in Brussels, in August 2013 (Fig. 28).



Fig. 28. Director of the RBINS, Dr Pisani and DGD team meeting with Prof. Brice Sinsin, rector of the UAC (27.08.2013)

Similarly, Prof. Marcel Houinato, also a Professor of UAC, visited the RBINS (11/12/2013).

These consultations resulted in the development of a pre-agreement on the planning of our partnership during the next years. In April 2014 a formulation mission was carried out by Luc Janssens de Bisthoven and François Muhashy in Benin. This will be reported in the annual report 2014.

T2-IMAB-03. Application of the COHERENS model

The focus of this project is building capacities for marine ecosystem management. The methodology for setting up a biodiversity assessment in a marine environment is not as straightforward as the methodology used in a terrestrial environment. Because of the fluid nature the marine environment is much more dynamic with changing tides, sea water temperatures, fluctuating salinity at river mouths as a few of many examples. The consequence of this is that the habitats of marine life change constantly as well. To handle this dynamic nature in a first stage the abiotic environment is modelled. The tool for hydrodynamic forecasting that the participants of the trainings acquire is COHERENS. We use this tool as it is produced in house, hence it places us in the position to explain the physics and the underlying principles of such a tool to the participants. After the project they will be capable of using such tools with sufficient expertise. As soon as the participants are able to produce good predictions of the environmental processes, they can proceed to the second phase of the project which links the environmental physics to biodiversity. Some of the skills are computer programming, data handling, interpretation of physical phenomena, being able to differentiate between human errors in the calculation process and actual physical phenomena. Activities consist of an educational component (organization of training courses), a scientific component (specific research projects proposed by each partner, exchange of scientific personnel) and a User Support Desk. This project is particularly interesting as it combines strong scientific and technical components, and contributes to the technology transfer programme of the Convention on Biological Diversity.

In 2013 we worked in Brazil and Colombia. The first focus in 2013 was deploying exit strategies in these Latin American countries and providing on line coaching, due to the change in priority countries of the Belgian cooperation. Both countries were part of the extended list of countries² where RBINS could operate in the past. Due to the concentration of ODA following the Paris declaration, excluding these middle income countries, both countries were set in an exit strategy in the transition year 2013. The team of Coherens negotiated with RBINS/DGD in order to identify the priorities for the next years. Peru and Vietnam came out as priority, also with the active support of the local Belgian embassies to start a more institutionalised cooperation. The Coherens team will in the future concentrate on cooperation with individuals who can strengthen their institute, rather than individual grantees from a diversity of institutes.

Therefore, for the year 2013, unfortunately, only half of the budget could be spent, but the Coherens team is now geared to initiate institutional cooperation with Peru (formulation mission planned in the summer of 2014) and in Vietnam (formulation mission planned in April 2015), where it already had excellent cooperation within the DGD-programme and with BELSPO funds.

The secondary focus was on developing new contacts and revising the methodology. We improved the methodology for knowledge transfer with a 'COHERENS for dummy's' manual and improved our cooperation set up method so the second phase of the project (linking environmental parameters with biodiversity) is reached more efficient. Two projects with Peru and Vietnam were prepared.

² Extended list of countries for the Belgian cooperation where RBINS could intervene until 2013: Algeria, Bangladesh, Benin, Bolivia, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, China, Colombia, Côte d'Ivoire, Cuba, Democratic Republic of Congo, Ecuador, Ethiopia, Guatemala, Guinea, Haiti, India, Indonesia, Kenya, Madagascar, Mali, Morocco, Mozambique, Nicaragua, Niger, Palestine, Peru, Philippines, Rwanda, Salvador, Senegal, South Africa, Suriname, Tanzania, Uganda, Vietnam, Zambia and Zimbabwe

Exit strategy for cooperation with IEAPM, Brazil

The IEAPM (Instituto de Estudos do Mar Almirante Paulo Moreira, <http://www.ieapm.mar.mil.br/>) is a research department of the Brazilian navy and is located in Arraial do Cabo. Due to its location with several upwelling sites it hosts a high biodiversity. The area is under threat due to fishing methods, tourism and industrial development. The participants of the programme provided us with an overview of all the actors of the region that are defining it.

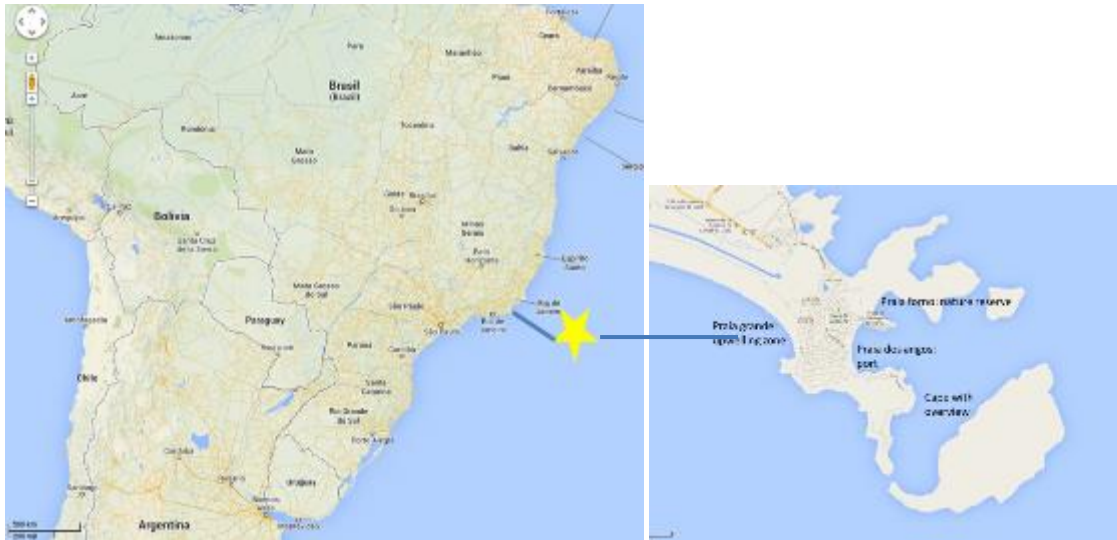


Fig. 29. On the left a map of Brazil, the star shows the location of Arraial do Cabo. On the right a detailed map of Arraial do Cabo

Upwelling zones are located at Praia grande, because of the waves this beach also attracts a lot of surf and dive tourism.



Fig. 30: Upwelling zone in Arraial do Cabo, Praia Grande is situated on Fig.

The port is located at Praia dos Anjos (Fig. 29 and 30 for location). The main activities are local transportation, fishery, national transport of containers. Though trawling is officially prohibited it is an often used technique for fishing. The traditional beach trawling is allowed since it does not disturb the ecosystem as much and is an important addition to the diet of part of the local community.

Below pictures of some interesting hydrodynamic features. The picture on the left shows the braking waves, the middle one shows 'cat paws' a wind induced phenomenon. In winter humpback whales

are observed. Sea turtles are quite common in this area. Many people would like to see the region turned into a marine reserve.



Fig. 31: Wave reflection (left), cat paws (middle); cat paws are dark patches in the water and are symptoms of very strong and sudden winds. Sea turtle (right)

Closing the gap between physical and biological sciences

As explained in the introduction some extra biological skills are required to enter phase two of the programme. To close the gap between the physical and the biological sciences we gave two presentations to the biological department of IEAPM. The first presentation of P. Luyten was about the hydrodynamic model. The second presentation of K. Baetens explained our experience with phytoplankton modeling and how to make use of a hydrodynamic model. There were a lot of questions about the validation technique, the inclusion of benthos, the physical boundary conditions. The head of the biological research team (Dr. Eliane Gonzalez) was in favour of a closer cooperation and mentioned there are already a lot of data available.

Discussing the future

The work done was summarized and the plans for a strong interdisciplinary COHERENS team were discussed. The senior scientists (L. Callado and R. Soutelino) would teach the basics to three of their students and send them with the Brazilian 'science without borders' programme to Belgium. Further possibilities for financing the future project were discussed. The cooperation with UFF (University Fluminense Federal) was also discussed together with representatives from the marine biological department.

The goal of the future project would be the sustainable use of ecosystems and services and the mechanics of invasive species. This reflects that it is important for marine biologists to have a solid and reliable physical base to test their hypothesis on.

Project set up and exit strategy Colombia

This project was very short term, hence both set up and exit strategy are discussed. Colombia is no longer on the list of eligible countries to work with, in the framework of DGD. A meeting has been organized on September 13 by the Colombian Ocean Commission (CoC) in Bogota which is the central authority in Colombia for marine affairs (scientific, management and monitoring, ship traffic, legislative aspects, coast guard, ...). Attendants were Patrick Luyten (RBINS), Laura Camacho, Jean Linero (CoC) and Nancy Villegas (Univ. National, Bogota). Patrick Luyten started with a general description of the DGD-RBINS programme and the possibilities of COHERENS as a tool for the first phase of the research strategy for studying marine biodiversity. Previously, a training course was organised in Carthagena (20-27 October 2011), organized by the CoC.

The Colombian delegation discussed possible strategies for applying COHERENS in Colombian coastal waters. The territorial waters are about one third of the total territory (land+sea) and consist of two separated areas located in the Caribbean Sea and Pacific Ocean (Fig. 1), each having different physical regimes.

The following projects are of interest to the Colombian researchers:

- Providing solutions for restoring the erosion versus sedimentation balance. Retreat of coast lines poses a severe environmental danger for the population and infrastructures along the Caribbean coast (for example the Magdalena river outflow zone, Fig. 32).



Fig. 32: Coast erosion caused by dam construction at the Magdalena river mouth

- Monitoring the dispersion of contaminants: oil spills, waste discharge (Fig. 33), coals from a ship, etc...



Fig. 33: Dispersion of a contaminant (in case natural oil) from a factory

- Studies of upwelling with associated algae blooms at the Pacific coast which is of importance for local fisheries
- Response of coastal and insular ecosystems to climate change and pollution. For example the coral reefs within the San Andres Archipelago (Fig. 33).

In December 2013 Nancy Villegas (Colombian University) and Jean Linero (COC) came to RBINS To receive some more in depth training on the use of COHERENS. Prof. Nancy Villegas was already quite advanced, as Mr. Linero still had to learn some of the basics. After giving a short introduction Jean Linero preferred to work together with prof. Villegas in order to proceed faster. She is currently making a study of Gorgona island, a marine reserve in the Pacific part of Colombia.

Online coaching

A lot of online assistance was provided to prof. Villegas, the set-up of her model is ready so after validation she can proceed to phase two of the strategy. The continuation of this project is up to her, Colombia is an exit country of 2013. Contact will be remained and if opportunities arise, our institutes will work together again.

T3. Enhancing biodiversity information networks (CHM)

Efficient biodiversity information networks are essential for the successful implementation of biodiversity policies. Scientific information is crucial to establish adequate policies and to plan management interventions in the field. In turn, information on national and international policy needs and constraints is necessary for scientists to frame their research work.

The Convention on Biological Diversity encourages the setting up of electronic networks. At their core, the national 'CHM websites' link together electronic information (reports, policies, etc.) and databases (species, habitats, experts, etc.). Their aim is to help implement the national biodiversity strategies and action plans of each country.

The Belgian CHM works with its partners to improve the access to information and furnish means to relay this information efficiently through web-based technologies. In addition, the CHM encourages using the information to raise awareness on the importance of biodiversity.

The general objective of this sub-programme is to enhance biodiversity information networks for scientific and technical cooperation, in line with the philosophy of the Clearing-House Mechanism of the Convention on Biological Diversity.

The specific objective is to improve the access to biodiversity information and develop means to relay it efficiently at national level, among others through web-based technologies and networking.

What is the Clearing-House Mechanism (CHM)?

The 'Clearing-House Mechanism' is a networking mechanism to encourage the exchange of information and promote scientific and technical cooperation.

The CHM consists of three main elements:

- people and institutions constituting the physical nodes of the network,
- tools (e.g. websites, discussion lists) and mechanisms (e.g. meetings and workshops) that maintain the connections between the physical nodes.

The main players of the CHM currently are:

- the CBD Secretariat (and its website that includes a comprehensive digital information centre)
- a network of national CHM focal points in member countries (and their own websites)
- various partner organisations who host comprehensive biodiversity information (and their own digital data centres).

At European level, the network is called the EC CHM (European Community Clearing-House Mechanism). It has developed a powerful electronic tool, the EC CHM Portal Toolkit. This 'PTK' is a tailored-designed web content management system used by many European countries as well as by most African partners of the Belgian CHM partnership.

T3-CHM-01 Training of CHM webmasters and web content managers

Several training courses are offered, depending on the level of advancement of the partner: basic and advanced webmaster courses, web content manager courses, networking, databasing. A good proportion of the training is devoted to learn how to use the web content management tool developed by the European Environment Agency (the 'European Community CHM Portal Toolkit' or PTK as referred further in this report). The PTK is an 'out-of-the-box' CHM website with integrated content management and administration features. It facilitates greatly the establishment of websites by non-specialists, since it does not require any programming. The toolkit also provides a number of predefined sections that provide guidelines for establishing the content of the website. The trainees have to be actively involved in the management of the national CHM website and in the implementation of the Convention in their country. They do not necessarily have to be IT professionals, but must show sufficient experience with computer applications. Thanks to the long term running of the CHM programme, many trainees are now well established in their webmaster function and have already participated in several training sessions.

Training in Belgium

Two training sessions for managers of national CHM websites were organized in Belgium in 2013. **The first training** took place from 16 to 20 September 2013 and included 3 participants. The participants came from Burkina Faso (Mr Robert Louari), Côte d'Ivoire (Dr Djakkalia Ouattara) and the Democratic Republic of Congo (Mr Adélard Mutombo). They were trained in adding information on their CHM websites using the PTK, and how to administer and manage these websites.. The requests from Burkina Faso and Côte d'Ivoire were a follow-up of the regional workshop that we had organised in March 2013 in Marrakesh, Morocco, for partner countries, in cooperation with the Secretariat of the Convention. The trainee from the DR Congo will be replacing in future the actual CHM national focal point, with whom we refuse to collaborate any longer due to his inactivity despite many trainings. Until the current CHM focal point was nominated in 2006 DR Congo used to be one of the most active countries in our partnership. We have good hopes that with the training of Mr. Adélard Mutombo, we will be able to revamp the CHM of DR Congo. Since the participant from Rwanda did not get his visa again and informed us only a few days before the training that his administration did not will to give their authorisation for the mission to be able to get a Schengen visa, we have decided that we will no longer invest for the time being in the cooperation with Rwanda, it will be resumed when we get an official letter from the government of Rwanda that they are still interested.

The second training took place from 10 to 24 March 2014. It was organised on the request of the Government of Benin through an official letter from the Minister of Environment. He showed his commitment to the training of 2 people by paying from their own funds the plane tickets for the trainees. The 2 trainees, Mr Jean-Didier Akpona and Mr Bertrand Ayihouenou, did not only receive training in the PTK but also in a new tool, the TCT 2020 tool, that will facilitate future reporting to the CBD and biodiversity related Conventions. More information on the tool is available in CHM-05.

Training in situ

Three national and one regional training workshops were organized in 2013 for a total of 56 participants. All the training sessions were organized by the national CHM manager and included participants from not only the hosting ministries but also people from universities, NGOs, research institutes and other ministries.

The first training took place in Côte d'Ivoire from 17-20 December 2013. It was a follow up to a first national training that was held in 2009. In 2010-2012 there was unfortunately no follow up to the first training due to the civil unrest in Côte d'Ivoire. In 2013 on the request of the national focal point it was decided to organise another training course as the participants from the first training course did not receive any follow-up or had changed jobs since. In total 16 people participated in the training. As a direct result of the training the number of pages added to the CHM of Côte d'Ivoire <http://ci.chm-cbd.net> increased significantly.

Under CHM-03 a two-day follow up training took place from 25 to 28 February to follow up on what the trainees had done with what they had learned, to fine tune their work and learn additional skills. Only people that had actively participated in the CHM by adding items were invited to the training, 13 persons from the original 16 trainees participated in this training. The participants also decided to share the burden of the work by assigning tasks to each person or Ministry to be responsible for a section of the CHM. It was also decided to organize weekly sessions of 2 hours every Tuesday to stimulate people to take just a small portion of their time to add information.

The second training took place in Cameroun from 27 till 31 January 201. It was organised under CHM-05 as Cameroun is working together with Chad, Congo, Central African Republic and Gabon to assist them with their national CHMs. There were in total 17 participants, they came from Cameroun (11), Congo (2), Chad (2) and Gabon (2). The participants from C.A.R. could not come due to the civil unrest and the occupation of the airport by refugees.

As for the training in Côte d'Ivoire, **a follow-up training was also organised in Cameroun** under T3-CHM-03 (budgeted under T3-CHM-05) to stimulate people to continue working on the CHM. This training was organised from 1 to 2 April 2014, in total 10 of the original 11 trainees were involved.



Fig. 34: CHM training, Cameroun, January 2014.

Table 6. List of national CHM training workshops and their main characteristics.

Dates	No.	Type	Place	Country	Trainees	Language	Trainers
17-20.12.2013	23	National training session	Abidjan	Côte d'Ivoire	16	French	Han de Koeijer, Marie-Lucie Susini
27-31.01. 2014	24	National training session*	Yaoundé	Cameroun	17	French	Han de Koeijer, Marie-Lucie Susini
25-28.02.2014	25	Follow-up of national training *	Abidjan	Côte d'Ivoire	13	French	Marie-Lucie Susini
1-2.04.2014	26	Follow-up of national training	Yaoundé	Cameroun	10	French	NFP Cameroun

Other activities

Bhutan, Bangladesh, Mauritania, Sudan, Yemen and several other countries have contacted Han de Koeijer during his participation to SBSTTA 17 and ICNP about the possibility to receive national trainings for the CHM. We had to inform them that it would not be possible to assist them directly taking into account that they do not belong to the list of partner countries of the Belgian development cooperation.

We informed them that if they had GEF funding for the NBSAP review, the CHM allocation in the budget could be used to invite us to come to their countries. We gave during the meetings one-on-one training to most of the above mentioned countries.



Fig. 35: CHM training, Ivory Coast, December 2013

T3-CHM-02. Distance learning through the Belgian CHM website

Following recommendations made by our trainees, we are regularly updating the training modules developed for the CHM training activities (T3-CHM-01) for their dissemination through the Internet. A special web portal dedicated to this 'PTK training' is now fully operational and includes training manuals and exercise sessions, with the option to work on-line (e-learning section) or to download the documents (downloading section). See <http://training.biodiv.be/formationptk/manuals>

In 2013, 9 new manuals both in English or French have been developed on the administrative functions of the Portal ToolKit (PTK). All these manuals can be uploaded online by our partners on our dedicated training website: <http://training.biodiv.be/formationptk>.

The new manuals are the following:

In English:

- How to add a picture on a main section of the PTK?
- Administration section of the PTK: Chapter 4: User's management
- Administration section of the PTK: Chapter 5: Translations
- Administration section of the PTK: Chapter 6: Lists of links
- Administration section of the PTK: Chapter 7: Notifications

In French:

- Comment modifier les images du slider sur la page d'accueil d'un site PTK ?
- Comment partager une vidéo en ligne sur un site web CHM ?
- Comment ajouter une image pour une section principale d'un site PTK ?
- Comment créer une enquête en ligne sur un site PTK ?

We also updated old manuals to reflect the constant evolution of the PTK. So far, 28 manuals have been developed in English and 30 manuals in French.

In 2013, we continued using the preparatory phase based: two weeks before each training in a partner country, the invited participants receive instructions via e-mail asking them to upload and read the general presentation manual entitled "Introduction to the PTK and creating a user account". Participants are also asked to create their own account on the training website.

T3-CHM-03. Technical support and cooperation for the maintenance of CHM websites

The development of CHM websites of partner countries is often hindered by various technical problems, not the least a difficult access to the Internet. Even though conditions have improved substantially, the situation remains difficult in some countries (slow bandwidth, frequent power shortages, decentralised offices with little or no equipment, etc). This activity offers support 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 2013, the sixth call for proposals was launched for the reinforcement of CHM websites. Five of the six projects submitted have been selected: **Bénin, Burundi, Cameroon, Madagascar and DR of Congo**. Table 7 lists the 5 projects. In addition, there were second phases of a project started with **Niger** in 2012 and the follow-up training workshops in **Côte d'Ivoire and Cameroon** mentioned under T3-CHM-O1.

Table 7. The four projects selected in the framework of the reinforcement projects 2013, the continuation of a 2012 project with Niger and 2 follow-up training workshops..

TITLE OF PROJECT	DATES	PARTNERS
Renforcement des capacités du CHM-Burundais	Project signed on 12 September 2013, end 30 March 2014	Institut National pour l'Environnement et la Conservation de la Nature, Burundi
Amélioration de la connaissance et de l'engagement des acteurs nationaux et du contenu du centre d'échange d'informations	Project signed on 12 September 2013, end foreseen 31 April 2014	Direction Générale des Forêts et des Ressources Naturelles (DGFRN), Benin
Collecte de données sur la mise en œuvre de la CDB dans les Régions Anosy et Androy et mise à jour du CHM	Project signed on 12 September 2013, end foreseen 31 March 2014	Office national pour l'Environnement, Madagascar
Appui au transfert de base de données sur la diversité biologique à partir du CHM Marocain vers le CHM Niger et la formation sur son utilisation dans le cadre de la Coopération Sud-Sud entre la Niger et le Maroc	Contract signed on 26 June 2012, avenant December 2013, end foreseen 30 April 2014	SE/CNEDD, Niger
Conception et impression des dépliants et brochures faisant la promotion du Site Web du CHM Cameroun	Contract signed 24 September 2013, end foreseen 28 February 2014	MINEPDED, Cameroon
Atelier pour le suivi de la formation sous-régionale sur la mise en œuvre du Centre d'échange d'information dans le cadre de la Convention sur la diversité biologique	Project signed on 7 March 2014, end foreseen 15 April 2014	MINEPDED, Cameroon
Atelier pour le suivi de la formation régionale sur la mise en œuvre du Centre d'échange d'information dans le cadre de la Convention sur la diversité biologique	Project signed on 1 January 2014, end foreseen 30 April 2014	CNF, Côte d'Ivoire
Sensibilisation des acteurs de la biodiversité sur le CHM et le site web du CHM	Project signed on 9 September 2013, end foreseen 31 March 2014	SGECN, DR Congo

Details per country

Burundi, Niger, Bénin, Madagascar, Cameroon, Côte d'Ivoire, DR Congo

Burundi

The project had the following goals:

- To improve the information exchange on biodiversity through the national reference center on nature and biodiversity and by improving its classification system.
- To increase the operational capacity of the CHM in Burundi, including:

- facilitating the systems of collecting, diffusion and exploitation of information by non-web ways: among others, the dissemination of the scientific journal of the INECN, which is published online on the CHM (see <http://www.biodiv.be/burundi/biodiversity/fol827407>)
- improving Internet connectivity and its distribution in several offices

The national reference center was equipped under the project with three reference books on keywords used in library classification systems. The digitalization and classification of the library continued during the reporting period. During a mission to Burundi in March 2014 a visit to the library showed that it was more organized, well inventoried and the visitors had easier access to the information



Fig. 36 : the library of the technical section of INECN in Gitega

The results of the long-term reinforcement activities are more difficult to measure. However one can note the distribution of number 11 and 12 of the scientific journal of the INECN as well as the addition of 80 additions on the CHM website which is a doubling of the added information. The CHM website attracted 3266 visitors over the reporting phase, with 21245 pages consulted. This is a 45 % increase of the number of visitors and 90% increase in page views compared to the 2012 reporting phase.

During the formulation mission by L. Janssens de Bisthoven and H. de Koeijer in Burundi in March 2014 (Fig. 36), the library was visited and a debate was organised with the 3 librarians and the trainer from the University of Burundi. It resulted in a number of recommendations for the 2014-2016 programme.

Niger

The project had the following expected results:

- The webmasters are better equipped to add data and information on the Inventory System on the Biodiversity (SIB) of Niger.
- Data is entered in to the database
- Procedures are put in place to manage the database
- The SIB is online and accessible through the Internet.



Fig. 37: CHM training in Ivory Coast, February 2014.

In 2012 Morocco has developed a database to make an inventory of their national biodiversity. The demonstration of this database during the partnership meeting in Marrakesh, Morocco, inspired Niger to start a **South-South cooperation with Morocco** to also start the same type of system. We stimulated this cooperation by granting a small additional project in 2012. Due to problems to find the correct dates during the 2012 reporting period, the project was extended to 2013. After a first installation on a local machine with a training in September 2013, it was perceived that the database would have no use if the data entering would only be done by the CHM people and off-line. An additional project was allowed to get the database online and to train 3 representatives in how to add information in the database and to put it online. The training took place in February 2014 and

subsequently the database was put on line the 25th of March and can be accessed on the following link : <http://www.biodiversite-niger.ne/>. Starting April 2014 the database will be populated with information.

Bénin

The project had as objectives :

- To inform and raise awareness of the people responsible of information management at Sectorial Ministries and other stakeholders, such as professional associations about the importance of the CHM and their implication in the implementation of the national CHM
- Improve the content of the thematic sections “Scientific research” and “opportunities”

Three activities were undertaken to realize the objectives:

1. To inform and raise awareness of the people responsible of information management at Sectorial Ministries and other stakeholders, such as professional associations a workshop was organized. 42 people participated in the workshop. The participants didn't only listen to some presentations about the use of the CHM but also were taught the basic notions to add news and events to the side.
2. To improve the content of the thematic section a consultant collected and prepared for addition to the CHM 107 scientific publications on biodiversity research by Beninese researchers as well as 74 funding opportunities.
3. Trainees from earlier national training workshops added the information to the CHM. This increased their participation in the CHM as they used the opportunity to also add additional information on the work of their organisations to the CHM

The report on the project can be found at http://bj.chm-cbd.net/cooperation/coop/cooperation-bilaterale/parteneriat-benin-belgique/cooperation-dgfrn-RBINS/rapport_projet_renforcement_chm_2014_final.pdf

Madagascar

The project has for general objective to put in place regional CHM networks for the Regions Anôsy and Androy. The specific objectives are to:

- Improve the awareness on the CBD and the CHM and raise the interest of potential data providers and users,
- Capitalize and exchange of information on the biodiversity of the two regions by developing sub CHM sites for the two regions.



Fig. 38: Rain forest in Cameroun, January 2014

The second phase has been concluded and the results can be seen at <http://mg.chm-cbd.net/objectifs-d-aichi/>

Cameroon

The first project was developed under the call for proposals. The general objective of the project was to produce public awareness material about the CHM to inform stakeholders about the existence of the site and the official information that is available on it. The specific objectives of the project were to:

- Produce flyers to raise awareness among students and researchers in environmental sciences at the state universities about the official information available on the CHM
- Produce brochures to on the one hand inform the NGOs that work in favour of biodiversity about the existence of the site and the pertinence of the content, and on the other hand to train them on adding articles through a mini-tutorial included in the brochures.

The CHM committee has printed 2000 flyers and 1000 brochures. The conception phase of the material was done with a consultancy firm to ensure that the right message was given to the target publics, NGO's and civil servants of the regional environment departments. Members of the CHM committee visited the 10 different provinces of Cameroon and organized workshops with regional representatives about the CHM and distributed the brochures and flyers. The discussions focused on the wealth of information that is available on the local level, with NGOs and local communities. As a result of the visits to the provinces, the number of visitors to the CHM of Cameroon have increased. Also representatives of 5 regional NGOs were invited to the national training in January 2014.

The second project was a result of the regional training that took place in January 2014, Yaoundé. Seen the experiences of former national training workshops the new approach is to enable additional

training and a evaluation meeting a few months after a national training. Cameroun decided to use this possibility and got a small grant to get the former trainees together again. The additional training took place from 2-4 April 2014 and was attended by 10 of the 11 Cameroonian participants of the national training.

Côte d'Ivoire

Like Cameroon, Côte d'Ivoire also wanted to organise a national follow up training for trainees that attended the national training in December 2013. 13 of the 16 trainees participated in this follow up training workshop. Participants were invited based on what they had done since the national training in December 2013. During this workshop also a committee was established as well as a division of tasks for the coming months between the trainees for adding information to the site. The peculiar result of this workshop was that the participants agreed to add each Tuesday morning during 2 hours information to the site from their respective working places. This works quite well and at the moment of reporting more than 100 additions were made to the CHM of Côte d'Ivoire since the follow-up workshop.

DR Congo

The project has as general objective to reinforce the role of the CHM in the implementation of the NBSAP. It has 3 specific objectives :

- Draw the intention of the biodiversity stakeholders to the CHM, raise their awareness and stimulate them to use the CHM
- Increase the amount of information posted on the CHM
- Start a national network for the exchange of information and the CHM.

The report has not been received at the time of writing (end May 2014).

Web statistics

Like each year, web statistics are provided for a number of our CHM partner countries (see Table 8). They show trends and enable to reflect on the evolution of the websites.

For this reporting period, there are two striking numbers:

- the website of DR Congo has continued attracting visitors. Of course not in the same rate as in 2012 but we can see that adding information and working on getting the CHM known does make a difference.
- Overall the number of visitors has continued to grow, this is partly related to the number of items added to the site and special occasions organized under the calls. It shows that additional action to build capacity of the CHM give results.

The trends in page views over complete years of the programme show the same development as for the limited period of the year.

Table 8. Web statistics on visitors for a selected number of CHM websites and for a limited period during the year (01.01-31.03, a total of 3 months each year).

Country	Website	VISITS							% CHANGE					
		2008	2009	2010	2011	2012	2013	2014	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Benin	bj.chm-cbd.net	46	579	1169	835	789	1331	1938	1159	102	-29	-6	69	46
Burundi	bi.chm-cbd.net	192	587	544	605	576	885	1464	206	-7	11	-5	54	65
Côte d'Ivoire	ci.chm-cbd.net	103	2282	3414	2779	2656	2681	3648	2116	50	-19	-4	1	36
DR Congo	cd.chm-cbd.net	807	737	865	1328	54	800	1532	-9	17	54	-96	1381	92
Madagascar	mg.chm-cbd.net	304	1719	1668	1187	2690	2861	3077	465	-3	-29	127	6	8
Morocco	ma.chm-cbd.net	7148	14762	16762	11170	13701	7867	7157	107	14	-33	23	-43	-9
Niger	ne.chm-cbd.net	305	3012	3509	3702	3798	3526	3259	888	17	6	3	-7	-8
Zambia	zm.chm-cbd.net	619	747	366	773	835	1457	2080	21	-51	111	8	74	43
Belgium	www.biodiv.be	7083	9684	9270	6173	5874	5734	10885	37	-4	-33	-5	-2	90

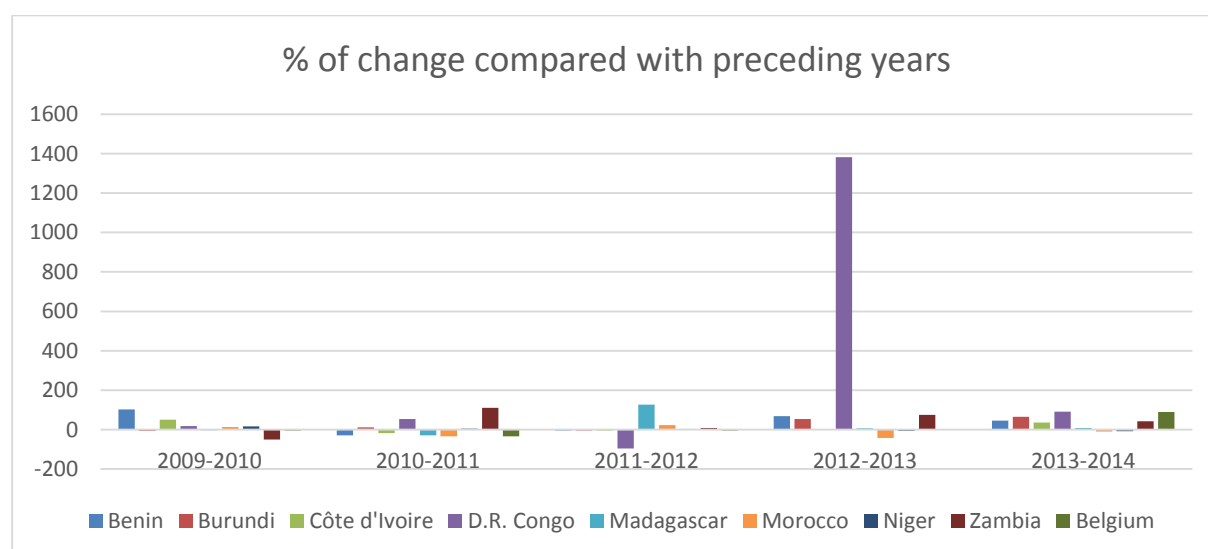


Fig. 39: Web statistics on the changes in page views during the programme phase 2008-2013

T3-CHM-04. Networking activities at national level

This activity is now integrated in CHM-01 as quite often during a national training one or several days of the workshop are used for national networking.

T3-CHM-05. Networking activities at supra-national level

Networking activities take various forms. They can be organised as workshops gathering the main biodiversity stakeholders of a given sub-region or region. The workshops are devoted to the exchange of experiences, the identification of difficulties and the elaboration of solutions. These workshops can be organised in complement to – and back-to-back with – the training of CHM web content managers (T3-CHM-01). They last from one day to several days.

This year several workshops have taken place under this activity: CHM training workshop for Cameroun and its partner countries in the interim year 2013 European networking as well as global networking activities have been undertaken in the preparations for the CBD's third Intergovernmental Committee for the Nagoya Protocol on Access and Benefit-sharing (ICNP-3), the 17th Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-17), an EU working group for the development of the reporting tool towards the Aichi targets, the expert group on capacity building for the Nagoya Protocol, as well as the usual involvement in the CHM Informal Advisory Committee and the EU CHM advisory group.

CHM training workshop for Cameroun and its partner countries in the interim year 2013

Cameroon had submitted a second project proposal under T3-CHM-03 for a training of NGO stakeholders. As we had received requests from Cameroon's partner countries for training on the use of the CHM we decided to not grant the national training but make it instead a networking activity on regional level. More information on the training can be found under T3-CHM-01.

The expert group on capacity building for the Nagoya Protocol

COP11 asked for an expert meeting to develop a draft strategic framework for capacity-building and development under the Nagoya Protocol, taking into account the synthesis of views and information submitted by Parties, Governments, international organizations, indigenous and local communities and relevant stakeholders regarding domestic needs and priorities and the proposed elements of the strategic framework contained in document UNEP/CBD/ICNP/2/10. Belgium proposed that Han de Koeijer would participate for the EU in this meeting taking into account his expertise. The Secretariat accepted his nomination and Han participated in the expert meeting that took place from 3 to 4 June 2013. The strategic framework was accepted and would be submitted to ICNP-3 to be endorsed.

ICNP-3 and SBSTTA-17

During *ICNP-3 and SBSTTA-17* H. de Koeijer used the occasions to meet as many partner countries as possible to discuss the partnership and the time changes for the 2013-2019 programme.

On behalf of Belgium H. de Koeijer was pilot or co-pilot for the EU during *ICNP-3* on agenda points:

3.6 Co-Pilot : Progress in the Implementation of the Pilot Phase of the Access and Benefit-Sharing Clearing-House

3.7. Pilot: Draft Strategic Framework for Capacity-Building and Development under the Nagoya Protocol.

As pilot for the EU H. de Koeijer had to draft, with the co-pilots, the EU position and do the negotiations in plenary for agenda item 3.7. The strategic framework was adopted with minor changes to the annexes. Many EU countries congratulated Belgium for the constructive negotiations for this subject that had not advanced much since the Nagoya Protocol was established in 2010.

On behalf of Belgium H. de Koeijer and L. Janssens de Bisthoven were experts for Belgium during *SBSTTA 17* on agenda points on:

item 3. (d) Scientific and technical needs related to the implementation of the strategic plan and to each of the Aichi biodiversity targets

ITEM 3. (d) Scientific and technical needs related to the implementation of the Strategic Plan and to each of the Aichi Biodiversity Targets. The reporting tool on AICHI targets that was developed for Belgium and the partner countries has been adopted by the EU and interested country to be used for preparing reporting obligations for the CBD, related Conventions and for the EU strategy. The EU-CHM network meeting from 2012 proposed to start a working group to develop the tool further. As lead country in the working group we were actively involved in the further development of the tool. At the moment of the reporting the tool has been used by 5 countries and more will follow in the coming months.

T3-CHM-06. Public awareness through the CHM



Fig. 40: Cameroun, January 2014

This activity aims to develop CHM activities in relation to the dissemination of information and outreach. CHM focal points have opportunities to increase their visibility in their country, and to increase the visibility of biodiversity as a crucial component for sustainable development.

The call for proposals for 2013 specifically focused on projects in relation to the global theme for 2014, Biodiversity and water, but other themes could also be used. Raising public awareness is the first Aichi Target: “By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably”.

Of the five replies to the call only 3 projects could be accepted due to budget constraints and relevance of the proposals. The 3 projects that were accepted can be found in Table 9.

Table 9: Public awareness through CHM, selected projects in 2013

TITLE OF PROJECT	DATES	PARTNERS
Sensibilisation des décideurs et des grands entrepreneurs sur la valeur des services écosystémiques et l'impact de l'inaction à la protection de la biodiversité	Project signed on 20 September 2013, end 30 March 2014	Institut National pour l'Environnement et la Conservation de la Nature, Burundi
Adoptons des gestes utiles pour l'eau et la biodiversité au Bénin	Project signed on 15 July 2013, end foreseen 31 March 2014	Direction Générale des Forêts et des Ressources Naturelles (DGFRN), Benin

TITLE OF PROJECT	DATES	PARTNERS
Sensibilisation et éducation du public sur l'importance de l'eau dans la gestion des ressources de la biodiversité au Cameroun	Project signed on 20 September 2013, end foreseen 31 March 2014	MINEPDED, Cameroon

Benin

The project of Benin to develop « **12 gestes pour la biodiversité** » received the full backing of the Minister for the Environment as he declared that it should be used in relation to the Presidents programme “un Béninois, un arbre”. The foresters were ordered to use the posters developed under the project as information material while raising awareness in schools and other places, nationwide. Also the project coordinator was invited to present the project on national television and for several journals. Many requests for the posters and other information were received, however not all demands could be met due to the limited funding for the project. The material developed under the project can be visited on the national CHM : <http://www.biodiv.be/benin/cooperation/coop/cooperation-bilaterale/partenariat-benin-belgique/cooperation-dgfrn-RBINS/sensibilisation-sur-les-gestes-utiles-pour-la-biodiversite-et-l-eau-au-benin>.



Fig. 41: Public awareness in practice: a booklet, product of the cooperation with Benin: 12 gestes pour la biodiversité au Bénin.

The report is available at http://bj.chm-cbd.net/cooperation/coop/cooperation-bilaterale/partenariat-benin-belgique/cooperation-dgfrn-RBINS/rapport-_projet_gestes_2013_final.pdf

During ICNP-3 we promoted the Benin project as a best practise with David Ainsworth, communication officer at the CBD. He was enthusiastic and proposed to add it as an example for the GBO-4, use it during the CEPA fair and that Benin should also give a presentation at COP12.

Burundi

The project has for general objective « The change of attitudes of politicians and big enterprises and their implementation in the conservation of ecosystem services ». The specific objectives are to:

- Establish a base line study on ecosystem services and the price of in-action for the protection of biodiversity.
- Organising a national workshop to raise the awareness of politicians and big enterprises on ecosystem services and the price of in-action for the protection of biodiversity.

The results of the base line study were published in a special edition of the scientific bulletin of the INECN. The studies were well thought out but the calculations weren't always scientifically correct. The studies were presented during a workshop in which more than 30 people participated. They represented several types of stakeholders : senators, Director of Ministries, scientists and representatives of NGOs and indigenous communities. They asked a lot of questions to the authors of the studies.

We involved the Belgian Embassy in the opening of the meeting by inviting them to give an opening statement. Even though most people from the embassy were occupied with the Belgian week in Burundi, Delphine Perremans, former ABS focal point for Belgium, the new DGD attaché at the Embassy gave the statement on behalf of the Ambassador.

Han de Koeijer gave at that event a presentations about ecosystem services in the framework of CBD.

Cameroon

The project had as general objective “ To contribute to the conservation of the biodiversity of Cameroon by a better information to the general public on the importance of our water resources”. The specific objectives are the following :

- To raise the awareness of the specific target group on the importance of water in the conservation of biodiversity.
- Educate the specific target group on best practices towards the management of the shared water resources in favour of biodiversity.

The project team has chosen the population of part of Yaoundé as target group for the project taken into account the high level of water consumption in urban areas compared to rural areas. Among the target group special attention was given to school children, local authorities and others. Among the materials produced under the project are: a radio spot about the theme (diffused on 3 radio stations over a month time), posters and brochures for schools and strategic spots in the town. The radio stations draw at the time of emission around 500K listeners.

2 workshops were held with local authorities, NGO's and local representatives of ministries. First a workshop was held on “l'importance de l'eau dans la conservation de la biodiversité” with 47 participants which was followed by a second workshop a week later on « bonnes pratiques en matière de gestion des ressources en eau dans une optique de conservation de la biodiversité » for the same people.

The results of the different projects will be communicated to the Secretariat of the Convention, at their request.

T3-CHM-07. Participation in CHM meetings and conferences

The RBINS is invited to participate in meetings organised by the CBD Secretariat (for the global CHM) and by the European Environment Agency (for the European Community CHM). The aim is to share the Belgian experience on capacity building and networking activities. In addition, Han de Koeijer, as the Belgian CHM Focal Point chairs the Informal Advisory committee for the CHM of the Convention.

In the current reporting period H. de Koeijer was accepted as expert in the expert group for the development of the framework for capacity building under the Nagoya Protocol (See T3-CHM-05), pilot for the EU on capacity building for ICNP3, as member of the renewed CHM-IAC that will have its first meeting in June 2014. He also participated in the EU-CHM network meeting in November 2013 in Copenhagen and chaired the working group meeting for the development of the TCT for reporting to the Aichi targets.

T4. Providing scientific support to biodiversity policy (POL)

Biodiversity is essential for human life and well-being. However, the loss of biodiversity continues at an unprecedented rate. Despite several decades of policy making, we have not yet implemented in a sufficiently efficient manner the policy targets adopted to halt this loss and to safeguard the ecosystem services biodiversity provides.

Knowing what to do and deciding exactly what should be done in practice remains a challenge. Most of the world's biodiversity lies outside protected areas, on land and waters dedicated to economic production activities. Therefore, the mainstreaming of biodiversity into economic activities such as agriculture, forestry, fisheries, mining, tourism, spatial planning constitutes a key approach to achieve the sustainable use of biodiversity.

A crucial step towards more effective policy-making is to foster appropriate connections between all the stakeholders involved in the exploitation of natural resources. Among these, policy makers, businesses, conservationists, scientists and other knowledge holders should be able to exchange their points of view, as well as share their needs and constraints regarding the use and conservation of biodiversity.

The RBINS possesses a wide range of scientific expertise on biodiversity and ecosystem management. In the other programme components, the focus is put on generating scientific knowledge on biodiversity (cf. T1-GTI, T2-IMAB) and to share this knowledge with the wider community (cf. T3-CHM). In addition, 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, it has also acquired experience in the policy-making context.

Under this programme component, the RBINS seeks to use this vast expertise to improve the mainstreaming of biodiversity into development activities. It puts its expertise and the knowledge generated by its activities with its partners in developing countries at the service of the Belgian Development Cooperation and of other administrations in Belgium.

The general objective of this programme component is to help bring scientific knowledge and information on biodiversity to the forefront of policy discussions.

The specific objective is to draw on expertise of the RBINS and its partners to provide sound scientific advice to Belgian policy making on issues related to biodiversity and development.

Traditionally, activities under this programme component are based on the demands arising throughout the year. They are extremely varied in nature, ranging from informal networking to formal advice on policies and programmes of the Belgian Development Cooperation.

T4-POL-01. Scientific services on biodiversity issues

The RBINS holds the mandate of “National Focal Point” to the Convention on Biological Diversity. It also holds the mandate of several thematic focal points, two of which are particularly relevant for the DGD-RBINS specific convention: the ‘Global Taxonomy Initiative Focal Point’ and the ‘Clearing-House Mechanism Focal Point’. These focal points serve as the interface between the government of Belgium and the Secretariat of the Convention. They also serve as facilitators and coordinators for the implementation of the CBD by Belgium.

Activities are undertaken on a demand-driven basis, pending the requests from the federal and regional administrations or other parties that ask for expertise.

In this section, we also report on activities that are not strictly speaking policy-support consultancies but can be more general (provision of expertise on biodiversity to third parties).

Table 10. National-level expertise and consultations provided in 2013.

REQUESTING BODY	SUBJECT	TYPE OF WORK	PERSONS INVOLVED
Belgian Development Cooperation (DGD) and its indirect actors	Belgian coordination process on agricultural research for development	Advice on process, meeting attendance	H. de Koeijer
	VVOB	Networking for awareness in RD Congo	Luc Janssens de Bisthoven and Han de Koeijer
Belgian Science Policy Office (Belspo)	Brain axes development meetings, ERA-Net Africa	Participation in meetings to develop the strategic axes 4 and 5 for research in Belgium and to ensure that biodiversity would also be taken into account	H.de Koeijer, L. Janssens de Bisthoven
Federal Public Service Public Health, Security of the Food Chain and Environment	Consultation on implementation of ABS in Belgium	Meeting with the experts for input in the document, participation in meetings on results	H. de Koeijer

REQUESTING BODY	SUBJECT	TYPE OF WORK	PERSONS INVOLVED
Overall Belgian Policy	Development of framework convention DGD- RBINS	RBINS -DGD convention and input in the development	L. Janssens de Bisthoven
	Development of five year programme DGD-RBINS	Editing, negotiation	L. Janssens de Bisthoven and whole team
	Development of framework convention FPS-Environment - RBINS	Sharing of expertise from - RBINS -DGD convention and input in the development	L. Janssens de Bisthoven
	Development of the Belgian Strategy 2013 - 2020 for Biodiversity	Participate in meetings, prepare on the CHM a special section on the revision of the Strategy, a public consultation, and much more	H. de Koeijer, M.-L. Susini, L. Janssens de Bisthoven
	Participation in the ABS-Workgroup	Development of the Belgian position on the EU ABS regulation	H. de Koeijer
	Ministry of finances	Free waiver for taxes on export of material for developing countries	Luc Janssens de Bisthoven, Vincent V. Pinton

At the end of 2010, the CBD adopted numerous decisions during its 10th Conference of the Parties, in Nagoya (Japan). In 2012, active ‘inter-sessional’ work took place to implement these decisions and to prepare for the next conference of the Parties (COP 11), which took place in Hyderabad (India) in October 2012. The RBINS, as CBD National Focal Point, played an active role for this inter-sessional work and the COP 11. Of direct relevance for the DGD-RBINS partnership is all the work related to our CHM and GTI activities, as well as the work done on development-related issues, such as resource mobilization, technology transfer, biodiversity for development and south-south cooperation in the years to come, also 2013.

Table 11. International-level expertise and consultations provided in 2013.

REQUESTING BODY	SUBJECT	TYPE OF WORK	PERSONS INVOLVED
Secretariat of the Convention on Biological Diversity	Participation in the Expert Meeting to Develop a Draft Strategic Framework for Capacity-building and Development in Support of the Effective Implementation of the Nagoya Protocol on Access and Benefit-sharing, 02-05/06/2013	Assist as Belgian expert in the development of the framework	H. de Koeijer
	Belgian position on UNEP/CBD/SBSTTA/17/2 Facilitating the Implementation of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets through Scientific and Technical Means	Preparation of the Belgian position	H. de Koeijer, L. Janssens de Bisthoven
	Belgian position on UNEP/CBD/ICNP/3/7 Draft Strategic Framework for Capacity-Building and Development under the Nagoya Protocol	Preparation of the Belgian and EU position	H. de Koeijer
	Belgian position on UNEP/CBD/ICNP/3/6 Report on Progress in the Implementation of the Pilot Phase of the Access and Benefit-Sharing Clearing-House	Preparation of the EU and Belgian position	H. de Koeijer
	Chennai recommendations to WIGRI 5 and COP12	Participation, work on the barriers, peer review	Luc Janssens de Bisthoven
	ENVIRONET, OECD scoping paper	Peer review, input of information	Luc Janssens de Bisthoven
	SDSN (UN)	Peer review on SDGs	Luc Janssens de Bisthoven
European Environmental Agency	Development of NBSAP reporting tool	Advise on the further development of the NBSAP reporting tool	H. de Koeijer

REQUESTING BODY	SUBJECT	TYPE OF WORK	PERSONS INVOLVED
France	Clearing-House mechanism	Assistance for, training in and follow up on the use of the CHMPTK for revamping the French CHM	H. de Koeijer, M.-L. Susini
Mauritania, Sudan	Clearing-House Mechanism	Training on Implementation of the CHM in Mauritania, Sudan during SBSTTA and ICNP-3	H. de Koeijer
Kenya	Soda lakes, Protocol of Nagoya, involvement of local communities	First Workshop on Soda Lakes, 4-6 Dec. 2013	Financial support and expertise

T4-POL-02. Biodiversity training in Belgium

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. In 2010, we had the opportunity to start a new activity : capacity-building through training workshops in our own country. These workshops were completed in 2011. Unlike the rest of the programme, this capacity-building initiative does not target the scientific or information management communities. It is designed for non-specialists and policy-makers. However, it remains in line with our goal to disseminate information and raise awareness on the importance of biodiversity and ecosystem services. Moreover, it strengthens our efforts in favour of the mainstreaming of biodiversity considerations in (economic) development strategies.

Biodiversity training for the DGD

The necessity of mainstreaming biodiversity considerations into the Belgian Development Cooperation is underlined by the 'Federal Plan for the Sectorial Integration of Biodiversity'. Since several years RBINS has proposed to participate in the "attaché days" to inform development cooperation attachés, who are based in Belgian Embassies worldwide, about possibilities to include biodiversity in the bi-lateral cooperation. In 2012 DGD invited us to give a short presentation on ways to include biodiversity in to the development of PICs to attachés from countries that are starting the PICs process in 2014. The participants were very interested in the presentation but didn't yet see ways to incorporate biodiversity in the current programmes taken into account the current demands of the partner countries.

Due to the extra work load by the preparation of the five year plan and the protocol of cooperation, this activity has been postponed to 2015.

T5. Project coordination and management (COORD)

The project coordination ensures the coherence and integration of the various components of the specific convention. It also plays an important role of synchronisation with the activities of other RBINS departments, as well networking with other institutions, NGOs and administrations in Belgium and abroad. Among other tasks, the coordination is also responsible for the elaboration of the work programmes and reports (financial reports and reports of activities).

COORD-01. Representation and networking

This activity aims to intensify the exchange of experiences between the RBINS and other actors involved in biodiversity-related issues in Belgium and abroad. It also has for aim to make the activities carried out in the DGD-RBINS specific convention better known by the other actors of the Belgian Development cooperation. Typical representation and networking activities include the participation in CBD meetings in our function of Belgian CBD, CHM and GTI focal points. However, our work is not limited to the CBD arena. We are also active in many networks at national and European level. See the previous chapter for examples of networking activities (within the 'policy support' section).

COORD-02. Communication and outreach

Communication and outreach activities include e-mail exchanges with interested persons, written contributions in newspapers, magazines and scientific journals, contribution to electronic conferences, oral presentations during national and international meetings, elaboration of websites...

A selection of the communication material produced by team members is reproduced below.

COORD-03. Coordination

Steering committee meeting

The steering committee for the specific convention met three times at the Institute in 2013:

- 26 June 2013

- 7 October 2013
- 10 December 2013

For the preparation of the five year programme, Luc Janssens de Bisthoven made the redaction of a Synthesis of the last 5 years, based on the self-assessment done in 2012. It can be provided on demand.

Presentations

de Koeijer, H. 2013. Development of an internet tool for the follow-up of NBSAPs, presentation given at side event of CHM developments during SBSTTA 17, Montreal, Canada, and CGN meeting, Brussels.

de Koeijer, H. 2013. Development of an internet tool for the follow-up of NBSAPs, presentation given during EC CHM meeting, Copenhagen, Denmark, 11.2013.

Distance learning

Susini M.-L., de Koeijer H. 2012. 18 distance learning modules on the use of the PTK were developed (6 EN, 12 FR). The manuals can be found online here <http://training.biodiv.be/formationptk>.

Teaching modules on the PTK – report 2013

In 2013, 9 new manuals both in English or French have been developed on the administrative functions of the Portal ToolKit (PTK). All these manuals can be uploaded online by our partners on our dedicated training website: <http://training.biodiv.be/formationptk>.

The new manuals are the following:

In English:

How to add a picture on a main section of the PTK?

Administration section of the PTK: Chapter 4: User's management

Administration section of the PTK: Chapter 5: Translations

Administration section of the PTK: Chapter 6: Lists of links

Administration section of the PTK: Chapter 7: Notifications

In French:

Comment modifier les images du slider sur la page d'accueil d'un site PTK ?

Comment partager une vidéo en ligne sur un site web CHM ?

Comment ajouter une image pour une section principale d'un site PTK ?

Comment créer une enquête en ligne sur un site PTK ?

We also updated old manuals to reflect the constant evolution of the PTK. So far, 28 manuals have been developed in English and 30 manuals in French.

Scientific papers and reports

Masumbuko Ndabaga, C. ; Habiyaemye Muhashy, F. & Lejoly, J. 2013. Impact of *Sericostachys scandens* on forest regeneration in the Kahuzi-Biega National Park, D.R.Congo. Scripta Botanica Belgica 50: 130–137.

Nkono, C.; Dupin, L.; Burlet, C.; Habiyaemye Muhashy, F. & Vanbrabant, Y. 2013. Detecting land cover Change using multi-temporal remote sensing on major mine sites in Southern Katanga (Democratic Republic of Congo. Land Degradation and Development. ID: 2630031.

Mangambu Mokoso, J., C., Habiyaemye Muhashy, F., Janssens, R., V MVan Diggelen, R., Robbrecht, E., & Ntahobavuka Habimana, H. 2013. Diversité des Fougères et leurs alliées le long du gradient altitudinal au sein de l'écosystème forestier des montagnes du Parc National de Kahuzi-Biega (R D Congo). International Journal of Environmental Studies. ID: 778007, DOI:10.1080/00207233.2013.778007

Abstracts, posters

de Koeijer, H. 2013. Development of an internet tool for the follow-up of NBSAPs, Presentatie gegeven tijdens het side-event on CHM developments during SBSTTA 17, Montreal, Canada, and CGN meeting, Brussels.

de Koeijer, H. 2013. Development of an internet tool for the follow-up of NBSAPs, Presentatie gegeven tijdens de EC CHM meeting, Kopenhagen, Denemarken, 11.2013.

de Koeijer, H., Susini M.-L., 2012: Presentations (Powerpoint) on "introduction to the Clearing-House Mechanism", History and Management of the CHM Portal Toolkit", "Lay-out of a CHM site" during training sessions in Ghana, Côte d'Ivoire,.

Habumugisha Hitimana, I.; Habiyaemye Muhashy, F.; Ruremesha Kinyata, S. & Ayobangira Sanvura, F. 2013 Valorisation of the indigenous knowledge of the melliferous plants in the vicinity of the Virunga National Park (DRC) to contribute to an enhancement of its conservation. International Conference. Nutrition and Food Production in the Congo Basin (30 September - 1 October 2013). Abstract published

Susini M.-L., 31.05.2013. "Towards a better knowledge and protection of biodiversity in Africa using Web 2.0 technologies". Présentation orale donnée à la 8^{ème} conférence eLearning Africa, Windhoek, Namibia, avec support d'une présentation powerpoint de 28 pages

Janssens de Bisthoven, juin 2013, présentation du programme DGD dans brochure de la Plateforme belge pour la Biodiversité.

Archives

Three series of «Anciens Parcs nationaux du Congo Belge » were sent to Congolese institutions:

- ICCN (Parc National de Kahuzi-Biega),
- Institut Supérieur du Tourisme (Goma),

- Institut Supérieur de Développement Rural en Région des Grands Lacs (ISDR-GL Goma).

During 2013 69 archives were scanned and added to the site <http://www.apncb.be> by job students during July-August 2013. Almost the totality of the Séries des parcs nationaux are scanned now and available on line.

Press, media, public

Susini M.-L. et de Koeijer H. ont donné une interview à la presse ivoirienne durant la formation CHM, à Abidjan, Côte d'Ivoire en décembre 2013. Suite à cette interview, 2 articles sont parus dans la presse nationale ivoirienne en janvier 2014 (L'intelligent d'Abidjan, n°3004 du 8 janvier et Abidjan 24, du 9 janvier 2014).

M.-L. Susini a tenu 2 stands pour la Campagne Biodiversité pour le Point Focal National belge pour la Convention sur la Diversité Biologique, avec un focus sur les pollinisateurs, lors de 2 événements grand public (stand conjoint avec le SPF Environnement et Apis BruocSella) :

- 1 stand à Couleur Café (28 juin 2013)
- 1 stand à la fête nationale belge au Parc Royal (21 juillet 2013)

Janssens de Bisthoven, L. , Vrancke, K., Susini, M.L.: verschillende overlegmomenten ter voorbereiding van nieuwe web site DGD programmema. Vervolg in 2014.

Science Connect 43 (May-June-July 2014) : mention of the DGD-RBINS programme

Communication

Susini M.-L. et de Koeijer H. ont donné une interview à la presse ivoirienne durant la formation CHM, à Abidjan, Côte d'Ivoire en décembre 2013. Suite à cette interview, 2 articles sont parus dans la presse nationale ivoirienne en janvier 2014 (L'intelligent d'Abidjan, n°3004 du 8 janvier et Abidjan 24, du 9 janvier 2014).

Websites

GTI website <http://www.taxonomy.be>

The GTI section of the Belgian CHM website was thoroughly updated and transferred to a more easily accessible URL.

Abc Taxa website <http://www.abctaxa.be/>

A specific website has been developed for the presentation and promotion of the series of taxonomic manuals *Abc Taxa*. All published issues can be downloaded freely in PDF on this website. It also provides information for authors.

Belgian CHM website: <http://www.biodiv.be>

The website contains information on biodiversity in Belgium and on Belgian activities abroad.

PTK training website: <http://training.biodiv.be/formationptk>

This website provides tutoring for web content managers and webmasters on how to use the EC CHM Portal ToolKit (PTK) content management system.

Archives of the former National Parks of Belgian Congo: <http://www.apncb.be>

The website contains information on the archives of the Parks that have been entrusted to the Institute.

The team

Employed on the programme in 2013

Ten staff members were employed fully or partially on the programme for a total of 73.3 person-months and 365.186,32 €.

- Han de Koeijer, Belgian CHM Focal Point and CHM training (100% on the programme).
- Mariam Agarad, Technical and administrative assistant (50% until 31 December 2012 and from 01/01/2013 60% on the programme)
- Katrijn Baetens, Assistant on the COHERENS project, parttime Vietnam (5 months full time on the programme).
- Luc Janssens de Bisthoven, programme coordinator (100% on the programme during 8 months).
- Patrick Luyten, COHERENS activities (1 months full time on the programme).
- François Muhashy Habiyaemye, Cooperation with Institutions of Nature Conservation in the DR Congo and in the Republic of Burundi (100% on the programme).
- Vincent Pinton, accountant and logistician (100% on the programme).
- Marie-Lucie Susini, responsible for GTI capacity building activities, support to the reinforcement of CHM capacities (100% on the programme).
- Kristien Vrancken, infographist (12 months on the programme; 4 days/week, 2,5 days/week from 01.2013). Various design activities (*Abc Taxa* website, GTI website, CHM websites (also of partner countries), posters, graphics for IYB activities etc.).
- Kempenaer Salima, 21.11.1984, F, SW1, from 01.04 - 30.04

Personnel contributing significantly to the programme in 2013, but paid by other sources of funding

Support ponctuel aux activités : détachement du Département II (Invertébrés)

- Barette Yves, assistant technicien (support au niveau informatique, occasionnel)
- Lamon Benoît, assistant administratif (logistique, support à la campagne d'engagements, 1j/semaine)
- Sinon Marc, collaborateur technique (support aux activités du GTI, occasionnel)
- Claerbout Jan, traducteur (support aux formations 'biodiversité et services écosystémiques', point 2.2.6)
- Pascale Balhaut, Secretary and logistician until March 2013.
- Jérôme Constant, Entomology department, GTI project in Vietnam.
- Wouter Dekoninck, Entomology department, GTI project in Ecuador.
- Thibault Delsinne, Biological Evaluation section, GTI project in Ecuador.
- Patrick Grootaert, Entomology department, GTI project in DR Congo
- Benoit Lamon, Invertebrates department, Logistician (archives).
- Brigitte Lauwers, Assistant of the director of MUMM, logistical and administrative help for the COHERENS project.
- Zoltan T. Nagy, Molecular Biology Laboratory, GTI project in DR Congo
- Erik Verheyen, Vertebrates department, Cooperation with the University of Kisangani (DR Congo).
- Hasson, Michel (Chairman of "Biodiversité au Katanga") regular visitor to the archives of the National Parks of Belgian Congo and the archives of J. Verschuren

Other support in 2013

- Involvement of scientific collaborators:

Jérôme Degreef, National Botanic Garden of Belgium, co-editor of *Abc Taxa*.

- Assistance of many RBINS researchers, scientific collaborators and technical staff, especially for the provision of practical training to GTI visitors.

- Support from other institutes such as the Royal Museum for Central Africa (RMCA) and the National Botanic Garden of Belgium (NBGB), for GTI and CHM activities and from various universities in Belgium for the provision of training to GTI visitors.

Job students

- Nina de Koeijer, digitization of the archives of the former national parks of Belgian Congo. Paid on the programme.
- Gishlain Kalima, digitization of the archives of the former national parks of Belgian Congo. Paid on the programme.

Masters and PhD students

See text IMAB

List of missions

DATE	PROGRAMME	OBJECT OF MISSION	PERSONS INVOLVED	FINANCING
29-31.05.2013	GTI	8th eLearning Africa conference, Windhoek, Namibia.	M-L Susini	DGD
03-06.09.2013	GTI	BIH Conference, Rome, Italy	M-L Susini	DGD
25-28.02.2014	CHM	Mission de suivi post-formation des gestionnaires du site web CHM national, Abidjan, Côte d'Ivoire	M-L Susini	DGD
07-13.04.2013	CHM	Dienstreis naar Bujumbura, Burundi en Kigali, Rwanda voor het geven van trainingen	H. de Koeijer	DGD
21-23.05.2013	CHM	Dienstreis naar Kopenhagen, Denemarken om deel te nemen aan Expert group for development of NBSAP reporting tool.	H. de Koeijer .	EU
10-25.05	IMAB	Identification mission in Benin, UAC	F. Muhashy	DGD
01-07.06.2013	CHM	Dienstreis naar Montreal, Canada om deel te nemen aan Expert group capacity building for ABS	H. de Koeijer	DGD
07.05	POL	Deelname aan de assisen Ontwikkelingsamenwerking, Egmond Paleis, Brussel	H. de Koeijer., Janssens de Bisthoven	
01.07	CHM	Vergadering voor ABS werkgroep, SPF Environment, Brussel	H. de Koeijer	
15-31.07	IMAB	RDC, ICCN, ERAIFT...	F. Muhashy	DGD
26.08, 23.09, 04.10	POL	Deelname aan vergadering ter voorbereiding van SBSTTA 17, KBIN en SPF environnement, , Brussel	H. de Koeijer., Janssens de Bisthoven, L	
03.09	CHM	Bespreking met Anne Teller ter voorbereiding van CGN, EU Commission Environment, Brussel	H. de Koeijer.,	
09.09	CHM	Vergadering met LNE over indicatoren voor NBS, Brussel	H. de Koeijer	

DATE	PROGRAMME	OBJECT OF MISSION	PERSONS INVOLVED	FINANCING
19.09.	POL	Deelname aan vergadering van de expertengroep Landbouw en voedselzekerheid, DGD, Brussel.	H. de Koeijer	
20.09	CHM	Deelname aan CGN van de EU over reporting tools voor NBSAPs, EU Commission, Brussel.	H. de Koeijer	
12-20.10.	CHM	Dienstreis naar Montreal, Canada om deel te nemen aan SBSTTA 17	H. de Koeijer Janssens de Bisthoven, L	DGD
08.11.2013	POL	Vorbereidende vergadering voor calls BRAIN, axen 4 en 5, BELSPO, Brussel	H. de Koeijer.,	
19-21.11.2013	CHM	Deelname aan EC CHM Meeting, Kopenhagen, Denemarken	H. de Koeijer	EU
4-6.12	COORD	Deelname aan Chennai meeting, India	L. Janssens de Bisthoven	DGD
14-22.12.2013	CHM-01	Dienstreis naar Abidjan, Côte d'Ivoire voor het geven van nationale training CHM voor Côte d'Ivoire	H. de Koeijer, M.- L. Susini	DGD
10-24.02	IMAB	RDC, Unikin, Unilu	F. Muhashy	DGD
25.01-2.2.2014	CHM-05	Dienstreis naar Yaoundé, Cameroon voor het geven van regionale training CHM voor Cameroon, Gabon, Congo en Tjaad	H. de Koeijer, M.- L. Susini	DGD
7.2.2014	POL	Vergadering met VVOB over synergieën tussen programmema's, Brussel	H. de Koeijer Janssens de Bisthoven, L	
21.2-1.3.2014	CHM-ABS	Deelname aan ICNP-3 ter voorbereiding van COP/MOP1 voor Nagoya Protocol	H. de Koeijer	DGD
12-28.03		Formulation INECN in Burundi	L. Janssens de Bisthoven, Han de Koeijer	

List of annexes

Annexes 1-5 can be downloaded from the Belgian CHM website at http://www.biodiv.be/cooperation/chm_coop/DGD-rbins-specific-convention

For user name and password, please contact hdekoeijer@naturalsciences.be

Annex 1 - GTI-01-2013-Grootaert-Constant-Vietnam

Annex 2 - GTI-01-2013- Grootaert-Wetsi-RDC

Annex 3 - GTI-01-2013-Nagy-RDC

Annex 4 - GTI-01-2013-Delsinne-Dekoninck-Cote-d'Ivoire

Annex 4 bis- Avis des étudiants - GTI-01-2013-Delsinne-Dekoninck-Cote-d'Ivoire

Annex 5 - GTI-03-2013-Degreef-Burundi

Annexes 6 and 7 are provided as file or in paper

Annex 6- Expenditures –excel file-details (pdf)

Annex 7- expenditures- word file, summary and comments