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# REPORT 2012

Building capacities for biodiversity and development



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## Highlights

2012 was the last year of the work programme 2008-2012. It became a year of consolidation, change and preparing for the future. During the year 2012 a new agreement has been agreed between DGD and RBINS for the strategy 2014-2023.

In November 2012 Dr. Ir. Anne Franklin stopped her activities as coordinator of the DGD project and the National Focal Point for Biodiversity, and was replaced ad interim by ir. Han De Koeijer until April 2013. In May 2013, the vacant position of coordinator of the DGD project was taken up by Dr. Luc Janssens de Bisthoven, while the National Focal Point for Biodiversity was assigned to Dr. Patrick Grootaert.

In 2012 the **partnership with INECN** (Burundi) continued well with a workshop on the “LEM habitats” given to 27 stakeholders in Bujumbura, together with media coverage and followed by a practical course in the “Parc national de la Kibera”. At the level of the CHM, a follow-up training was given at the INECN, the national reference center/library on the environment was reinforced by training the librarians, donation of equipment and valorization of natural and historical heritage of the protected areas by sending important parcels of double publications from the RBINS archives. The partnership between INECN and RBINS was discussed and prolonged for one year. In DR Congo, the **partnership with the “Institut Congolais de la Conservation de la Nature” (ICCN)** included the following 5 sub-activities: (1) supporting the implementation of the LEM-habitats (revision of 458 sheets of observations on the changes of the habitats in 10 protected areas), (2) support to Congolese students undertaking research in ICCN protected areas, mainly through the support of a post doc research and publications on invasive lianas and PhD research on Pteridophyta, (Ferns and their Allies as indicators of the forests state), (3) cooperation with the group of geology for an economical sustainable development (GECO), resulting in a manuscript, (4) teaching tools and lexicons of plants dominant in their habitats (see below) and (5) valorization of natural and historical heritage of the protected areas by sending important parcels of double publications from the RBINS archives.

**Institutional cooperation** also continued with various other institutes. 2011 built upon the outputs of the 2010 Congo River expedition, by establishing the ‘Centre de surveillance de la biodiversité’ in Kisangani, enabling the dissemination of the first results of the expedition. In 2012 efforts continued to capitalize on the Congo expedition and to sustain the expectations generated by the construction of the Centre de Surveillance de la Biodiversité (CSB) at Kisangani, a.o. through the support for the draft of its strategic plan, the sustained scientific and logistical collaboration with a number of academics of the University of Kisangani involved in that project through discussions of the progress of Masters and PhDs. More specifically, two 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. Moreover, new research areas are being defined concerning zoocoenoses, bush meat and fisheries, next to strengthening capacities in collection management.

At the activities level, 2012 will be remembered as a particularly fruitful year for our activities under the **Global Taxonomy Initiative (GTI)**. We supported projects and workshops in Ethiopia, DR Congo, Ecuador, Vietnam, and we invited 16 foreign visitors to Belgium, coming from Cameroon, Colombia

Cuba, Ethiopia, Ivory Coast, Kenya and South Africa. In terms of outputs, after many years of training and hard work, three of our students obtained their PhDs and two of our former trainees obtained professorship positions in their country. Many scientific and technical papers were produced. We also prepared the publication of volume 13 of our series of capacity building manuals, *Abc Taxa*. Students from developing countries have followed training in courses under the Global Taxonomy Initiative part of the DGD project. A new aspect of their training is to publish their results as well as to give presentations on their work. In 2012 this resulted in several publications but also some presentations to fellow researchers.

Concerning **IMAB**, In 2012, a **manual** entitled “Habitats de la Réserve et Domaine de chasse de Bombo-Lumene - Lexique Kiteke des plantes rencontrées dans ces milieux” was published. It lists 149 plants observed and it includes the vernacular names (in the Kiteke language) of each of these species, as well as photographs of most of them. This lexicon is an important didactic tool for the monitoring of habitats in the Reserve. During 2012, significant progress has been made in drafting a second lexicon for the Parc National de Kahuzi-Biega, with the collaboration of the Université Omar-Bongo – Université officielle de Bukavu and WWF South Kivu. It includes a hundred plants identified in Latin and it is illustrated by 150 photographs. 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 Indonesia, India, Brazil and Peru.

For the **Clearing House Mechanism (CHM)**, our activities were influenced by decisions taken at the international level. In 2010, the 10<sup>th</sup> 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 as well as during an EU CHM network meeting. The EU meeting decided that the principals of the tool are very useful and decided to continue the development of it and to include indicators. In parallel, we continued in 2012 our webmaster training activities, with workshops in Niger, Ghana and Burundi.

In 2012 we started to develop a proposal for a **new project cycle** with a strategic vision towards 2023. The vision includes new areas like Measurement, Reporting and verification, Access and Benefit Sharing as well as more attention to ecosystem services. The steering committee approved the strategy in its meeting of December 2012, following discussions with DGD. We have started to get involved in ABS activities during COP11 with H. de Koeijer as pilot for Belgium. As a first result Belgium nominated H. de Koeijer in the beginning of 2013 to participate in a experts meeting on capacity building for ABS to be held in June 2013. The Secretariat accepted the nomination and invited him to participate.

## PART I - THE YEAR IN BRIEF





## 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 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 Convention on Biological Diversity (CBD)**

The objectives of the CBD are:

- the conservation of biodiversity
- the sustainable use of the components of biodiversity
- the fair and equitable sharing of the benefits arising from the use of genetic resources.

Our programme of work contributes to these objectives and to the following articles of the Convention:

- identification and monitoring of biodiversity (Article 7)
- research and training (Article 12)
- education and public awareness (Article 13)
- the transfer of technology (Article 16)
- the exchange of information (Article 17)
- the promotion of scientific and technical cooperation (Article 18)



The 2012 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

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 2012

1 APRIL TO 31 DECEMBER 2012		
30 April-05 May	Participation by Anne Franklin to Subsidiary Body Scientific Technical and Technological Advise 16 (SBSTTA-16)	POL
03 May	Presentation by Han de Koeijer on Biodiversity and PICS during the attache-dagen van DGD	POL
05-11 May	Participation by Han de Koeijer to SBSTTA-16 and the Working Group to Review the Implementation of the CBD 4 (WGRI-4).	POL
08-24 June	Expedition by Z.T. Nagy (RBINS) – assessing the diversity of the Central African herpetofauna	GTI-01
25-29 June	A training session was given by Han de Koeijer and Marie-Lucie Susini (RBINS) to the manager of the national CHM web site of Bhutan at RBINS	CHM-01
15 June-20 July	Mission by J. Constant and P. Grootaert (RBINS) on the entomodiversity of Vietnam	GTI-04
12 July	Seminar given at RBINS by Dr. Kolo Yeo (Ivory Coast)	GTI-02
26 October	Seminar given at RBINS by Pavel Valdes (Cuba)	GTI-02
08-19 October	Han de Koeijer (RBINS) was part of Belgian delegation to COP 11, Hyderabad, India, EU co-pilot for 6 topics related to the project and cooperation, presiding CHM-IAC meeting.	CHM, GTI, NFP
06-07 November	EU CHM network meeting in Copenhagen, presentation by Han de Koeijer (RBINS) of the NBSAP reporting tool	CHM
10 November-11 December	10 day long course at the Galapagos Archipelago on on ant taxonomy and ecology to 8 students and rangers and a scientific mission to collect ant samples at Isabela Island by T. Delsinne and W. Dekoninck (RBINS)	GTI-03
10-30 November	Field trip by J.L. Boevé and A. Pauly (RBINS) to Ethiopia for review of entomological	GTI-01



fauna with emphasis on bee pollinisators

05-10 November	Patrick Luyten (COHERENS) attended ModOceano Workshop at IEAPM (Brazil) to present and train stakeholders on the Coherens model	IMAB-03
11 December	Short Symposium on African bees at RBINS, organised by Marie-Lucie Susini (RBINS)	RBINS
07-14 December	Theoretical and practical training given by François Muhashy (RBINS) at Bujumbura and in the Kibira national Park on "LEM habitats"	IMAB-02Bis
17-21 December	CHM training by Han de Koeijer and Marie-Lucie Susini (RBINS) to 15 participants in Niger	CHM-01

#### 1 JANUARY TO 31 MARCH 2013

February	Frank Adriaenssen (UA) provided training in Kisangani on the use of new labeling equipment	IMAB-01
25 February-01 March	CHM training by Marie Lucie Susini (RBINS) to 13 participants in Ghana	CHM-01
15 March	9th call for GTI proposals 'trainings in taxonomy' was launched by Marie-Lucie Susini (RBINS) and 5th call for CHM proposals was launched by Han de Koeijer (RBINS)	GTI/ CHM-06
18 February-02 March	Mission by François Muhashy (RBINS) to follow up the implementation of the "LEM habitat" by the ICCN and to launch the promotion of the ecosystems services with the collaboration of the ERAIFT and the UNILU	IMAB
11-15 March	Organisation and participation by Han de Koeijer and Marie-Lucie Susini in the Partner meeting of the CHM focal points to prepare programme 2014-2019, Morocco	CHM-05

#### After 31 March 2013 but under 2012 programme

08-12 April	CHM training by Han de Koeijer (RBINS) to 10 participants in Burundi	CHM-01
12 April	One-day training to CHM national focal point Rwanda by Han de Koeijer (RBINS)	CHM-01

## 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)	79 people trained either in Belgium (16), <i>in situ</i> (58). E-coaching for 5 persons.
	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. 13) prepared for production; website updated with literature. No new course module produced.
	Positive outcomes from the training (1 outcome for at least 25% of the trainees)	Many scientific papers produced (see : <a href="http://www.taxonomy.be">www.taxonomy.be</a> ).
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.	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.
	Supporting materials produced (at least 2 items)	One lexicon on vernacular names of plants of Kahuzi-Biega National Park (DR Congo) and 1 syllabus (80 p) on habitat dynamics in Burundi were prepared, as well as a 'powerpoint' comprising 185 slides.
	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.
The promotion and presentation to the public of the natural and cultural heritage in DR Congo foster a better understanding and appreciation	Educational and demonstration material produced or	5 complete series of the former publications on the national parks sent to DR Congo and to Burundi (respectively 3

	of the value of cultural and biological diversity for the well-being of the present and future generations.	disseminated	and 2 series) and disseminated to interested parties in Belgium
CHM	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.	People trained per year (at least 15)	1 trainee trained in Belgium, 55 participants at national and regional training sessions. E-coaching for 5 persons.
		CHM websites running and regularly updated (50% of websites updated)	60% websites regularly updated, 15% with 10-15 updates during the year, 25% with less than 10 updates during the year
		Level of activity of the network of partners (at least 5 activities)	5 projects CHM reinforcement. 3 public awareness projects on indicators 2011-2012.
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.	Consultancy requests honoured (at least 5)	One request on ABS expertise. Follow-up of revision of NBS Belgium.

## Where we work

In 2012, 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.

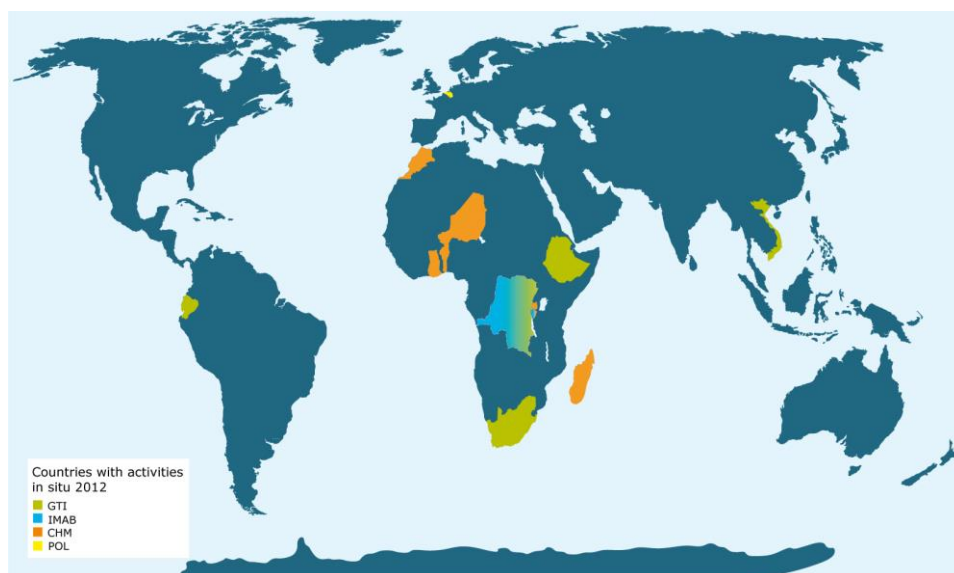


Figure 1. Distribution of countries where we maintained activities *in situ* in 2012. For the CHM (orange colour), project in Morocco targeted sub-regional workshop, to which many other countries of the sub-region took part (see part II of the report). Activities in D.R Congo (blue-green colour) occurred both for the GTI and IMAB programme components.

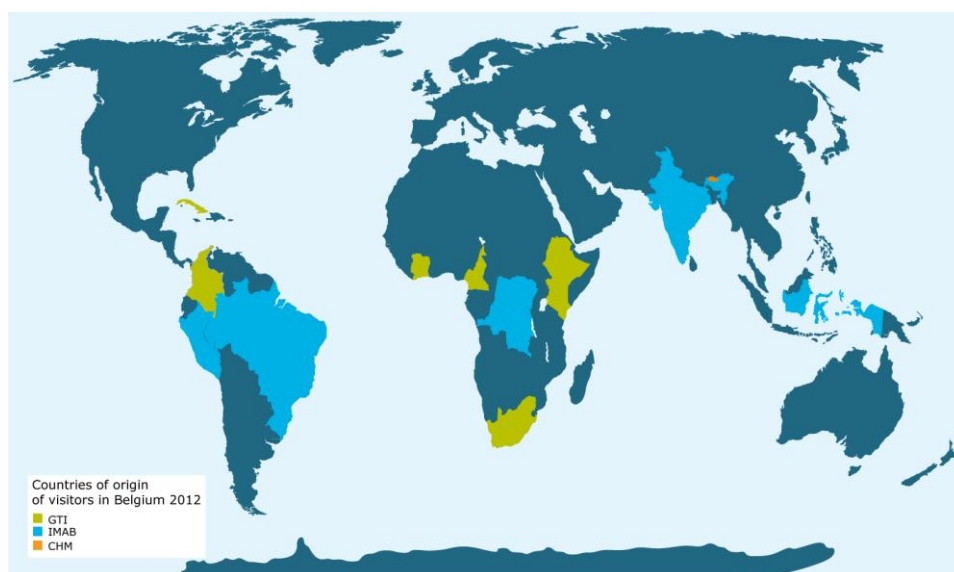


Figure 2. Distribution of countries from which our visitors to Belgium came from in 2012. These visitors were invited to participate in workshops or in individual training sessions, either at the RBINS or at one of our partner institutions in Belgium.

Table 1 shows the evolution of expenses per continent since 2008. Expenses per continent remain relatively stable throughout the years. Fluctuations are rather opportunistic, as for example with the organisation of a sub-regional workshop in India for the CHM in 2011.

The majority of our activities targeted African individuals or institutions (77.3%), 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 (13.9%) and Asian countries (8.8%). 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					ASIA					AMERICAS				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
<b>GTI</b>	48%	46%	36%	55%	59%	16%	18%	14%	17%	10%	36%	36%	50%	29%	21%
<b>IMAB</b>	70%	77%	73%	76%	91%	9%	18%	24%	7%	9%	21%	5%	4%	17%	0%
<b>CHM</b>	98%	100%	97%	88%	97%	2%	0%	3%	12%	3%	0%	0%	0%	0%	0%

## 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.

### *Face to face training*



*Figure 3: National training course for CHM stakeholders in Niamey (Niger) from 17 to 20.12.*

In 2012, we provided face-to-face training to about 215 individuals from partner countries (Table 2). This is slightly lower than in 2011, when we trained 233 individuals. The difference is mainly due to 1 training course less for the CHM





Figure 4: Working Group Session during regional CHM meeting, Morocco, March 2013

### *Distance learning*

The process of ‘distance learning’ has continued in 2012. 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.



Figure 5: Participants during field trip, regional CHM meeting, Morocco, March 2013

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

Distance learning thus takes the form of sharing of resource material through our 'GTI reader' website ([http://www.taxonomy.be/gti\\_course/](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 2012, 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, help in encoding data in databases, etc.

Table 2. Overview of training efforts in 2012 (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
<b>T1. Tackling the taxonomic impediment (GTI)</b>					
<b>GTI-01</b> Training through research	DR Congo (1)	DR Congo (1)		Ethiopia (20), 3 workshops in DR Congo	
<b>GTI-02</b> Visits in Belgium	Brazil (1), Burundi (1), Cameroon (1), Colombia (2), Cuba (3), Ethiopia (1), Ivory Coast (3), Kenya (2), South Africa (2)				Alumni, 5 persons
<b>GTI-03</b> Workshops <i>in situ</i>				Ecuador (8)	
<b>GTI-04</b> Institutional cooperation		South Africa (1)		Vietnam (5)	
<b>T2. Supporting biodiversity inventories, monitoring and assessments (IMAB)</b>					
<b>IMAB-01</b>  Cooperation with UNIKIS	DR Congo (4)	DR Congo (4)			
<b>IMAB-02Bis</b> Cooperation with INECN				Burundi (27)	
<b>IMAB-03</b>  COHERENS marine modelling	Brazil (1), Indonesia (2), Peru (1), India (1)			Brazil (15)	Vietnam (1), India (2), Brazil (1)
<b>T3. Enhancing biodiversity information networks (CHM)</b>					
<b>CHM-01</b>  Training	Buthan (1)			Niger (15), Ghana (13), Burundi (10), Rwanda (1)	
<b>CHM-02</b>					Rwanda (1), Togo (1), DR

Distance learning		Congo (1), Niger (1), Morocco (1)
CHM-03		Number of visitors to the CHM web site, see table 6
Technical support and cooperation		
CHM-02		Ad hoc
Distance learning		
CHM-03	Burundi (3)	Number of visitors to the CHM web site, see table 6
Technical support and cooperation		
CHM-04	See CHM-01	
CHM-05	Morocco (13)	
Networking at international level		

## Institutional relationships

The very first institutional relationships were initiated 12 years ago under our CHM programme. Today, the RBINS maintains 14 partnerships with CHM focal points in African countries and two regional organisations involved in biodiversity information management, in Africa (COMIFAC) and South Asia (SACEP).

The first formal agreements – with two scientific institutions in Cuba – were signed in 2006. Since then, the RBINS has signed formal agreements with seven institutions from four countries (Cuba, Vietnam, DR Congo and Burundi) and an international NGO (WWF). These formal partnerships aim at building capacities for the identification and monitoring of biodiversity and include support to strengthen local and regional centres of excellence.

Semi-formal agreements are maintained with seven institutions from Peru, Brazil, Colombia, Indonesia, Vietnam, India and China. These agreements cover very specific marine ecosystem modelling training activities. They establish partnerships for training and institutional strengthening for the period 2008-2012.

In 2012, no new agreements were signed or long-term partnerships established. However discussions for two new agreements were initiated with scientific partners in DR Congo (Institut Supérieur de Conservation de la Nature, Environnement et Tourisme) and Benin (Faculté des Sciences Agronomiques de l'Université d'Abomey-Calavi) to start capacity building activities in the field of biodiversity monitoring and conservation.

## **Formal agreements signed by the RBINS**

Institute of Ecology and Systematics, Havana, Cuba (2006)  
National Museum of Natural History of Havana City, Cuba (2006)  
Institute of Ecology and Biological Resources, Hanoi, Vietnam (2007)  
Institut Congolais pour la Conservation de la Nature, Kinshasa, DR Congo (2007)  
Université de Kisangani, Kisangani, DR Congo (2010)  
WWF and ERAIFT, DR Congo (2010)  
Institut National pour l'Environnement et la Conservation de la Nature (INECN), Burundi (2010)

## **Semi-formal agreements (marine modelling) 2008-2012**

Instituto del Mar del Peru, Callao, Peru  
Institute of Marine Environment and Resources, Hai Phong, Vietnam  
Numerical Modelling Laboratory of Oceanic Processes, Instituto Oceanografica, Univ. Sao Paulo, Brazil  
Bandung Institute of Technology, Bandung, Indonesia  
National Institute of Oceanography, Goa, India  
National Marine Environment Forecast Centre, Beijing, China  
Centro de Investigaciones Oceanográficas e Hidrográficas, Colombia (since 2011)

## **Main CHM partners since 1999**

### **Formal agreement**

Institut National pour l'Environnement et la Conservation de la Nature (INECN), Burundi

### **Long term partnerships**

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)

## **Partnerships under consideration in 2011-2013**

Institut Supérieur de Conservation de la Nature, Environnement et Tourisme, DR Congo  
Faculté des Sciences Agronomiques de l'Université d'Abomey-Calavi, Benin



## 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 set up 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.

### 1.1. 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 of the South. 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 and their function in poverty reduction. 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).*

In 2012, we launched our 9<sup>th</sup> call for proposals in March. Among the applications, 6 projects were selected for funding. Three projects were funded under GTI-01. These three projects were the continuation of projects initiated in previous years.

One project was funded under GTI-03 (Taxonomic workshops *in situ*).

One project was funded under GTI-04 (Cooperation with selected institutes in privileged partner countries).

Finally, remaining budget was used to fund a last project under GTI-04.



Figure 6: Students sorting out the ant reference collection conserved at the Charles Darwin Research Station, Galapagos, Ecuador

**The 3 projects funded under GTI-01 are:**

- Project 1. Review of the entomological fauna of Ethiopia with emphasis on bee pollinators and other Hymenoptera (Part III - Final part of the 3-year project)
- Project 2. Assessing the diversity of the Central African herpetofauna – a follow-up action to improve collections and herpetological knowledge in the DR Congo (Part II)
- Project 3. Étude des Lépidoptères à chenilles comestibles et de divers usages de leurs plantes hôtes dans les districts de Kisangani et de la Tshopo (Part II)

**Project 1. Review of the entomological fauna of Ethiopia with emphasis on bee pollinators and other Hymenoptera (Part III - Final part of the 3-year project)**

Promoters : J.-L. Boevé and A. Pauly (RBINS)

Participating institutions : Department of Entomology of the RBINS and Zoological Natural History Museum (ZNHM) in Addis-Ababa, Ethiopia.

Budget: 9.000,00 €

Duration (dates): 10-30.09.2012

Full report : Annex 1

This taxonomic study started in 2010 on two groups of Hymenoptera insects, wild bees (*i.e.*, pollinators) and sawflies (occasional pests), the RBINS researchers aimed at establishing institutional contacts between Ethiopian and Belgian institutions, by determining specific needs in terms of know-how and knowledge related to the Ethiopian entomofauna, and at setting up an insect collection framework through training Ethiopian scientists.

During this three-year project (2010-2012), the parties were interested in non-commercial research on the entomological biodiversity that is unique but highly endangered in Ethiopia. More specifically, the last mission (held in September 2012) aimed, first, at organizing an overview meeting on the project results, and, second, at collecting bees and sawflies from Southern regions of Ethiopia.

On 13.09.2012, a 1-day overview meeting was organized at the Holeta Bee Research Centre (HBRC). This meeting was attended by about 20 people, mainly staff members of the HBRC (see figure 6). The co-promoter and the promoter gave respectively a talk entitled 'Entomological fauna of Ethiopia with emphasis on bee pollinators and other Hymenoptera' and one entitled 'Wild bees of Ethiopia'.



Figure 7: A. Pauly speaking at the Overview Meeting at the HBRC4.

The field trip took place from 14 to 27.09.2012. The team left to the South of Ethiopia in order to sample material in three National Parks located in the Great Rift Valley. The field trip was fruitful as numerous bees and sawflies were collected. The researchers observed a large-scale anthropogenic use of most landscapes in the Great Rift Valley and that National Parks are generally preserved areas with a higher biodiversity. However, the trend for cattle to graze even in these protected areas was clearly observed, especially in the Abijata Shalla National Park. The recommendation would be, as far as possible, to strongly limit the access of cattle to these protected areas. Such concerns were clearly written in a questionnaire that the scientists filled in, at the main office of the National Park.

The main outcomes of the three consecutive GTI Ethiopia projects held from 2010 to 2012 are the following:

- Four Ethiopian trainees received thorough field training, they now have a good basic knowledge about the general biology of wild bees and sawflies, they know how to collect Hymenoptera insects, how to prepare and preserve them, and how to recognize several taxonomical subgroups. Furthermore, they are aware about the existence of a high biodiversity of wild bees in their country, but also about the endangered status of many of these species.
- More than 20,000 specimens of bees were collected during field trips performed by the trainees accompanied, or not, by the promoter and co-promoter of this project.
- Although the Hymenoptera samples are preserved in the entomological collections of the RBINS, they remain accessible at any time for researchers from Ethiopia. Moreover, a well identified reference collection was deposited at the ZNHM.
- An overview meeting was held at the HBRC, to present the results obtained so far, on the taxonomical and bio-geographical issues of the two targeted Hymenoptera groups.
- Several scientific papers have already been published, whereas others are currently being written and will be published soon (see full report for the references).

## **Project 2. Assessing the diversity of the Central African herpetofauna – a follow-up action to improve collections and herpetological knowledge in the DR Congo (Part II)**

Promoter : Zoltan T. Nagy (RBINS)

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

Budget: 9.000,00 €

Duration (dates): 08-24.06.2012

Full report : Annex 2

Despite the high diversity of its amphibian and reptile fauna, the DR Congo lacks well-trained specialists in herpetology, both in academic research and nature conservation. With this project, Z. Nagy aimed at continuing the training of a Congolese herpetologist, Zacharie Chifundera Kusamba, in contemporary field and laboratory methods, taxonomic practices and in modern collection building and management strategies. To achieve these aims, in 2012, on-site field trainings in two different localities in the DR Congo were undertaken, followed by morphological and genetic analyses of the collected material at the RBINS laboratories.

*Expedition to the Mangroves National Park (Parc marin des mangroves) and in the Luki Reserve, DR Congo*

Bas-Congo's human population is relatively large and keeps growing, causing an increasing surface of semi-disturbed and disturbed habitats.

A two-week expedition was carried out between 8.06 and 24.06.2012 at two locations: the Mangroves National Park and the Luki Reserve (Figure 8). The Mangroves National Park is one of the three Ramsar sites in the DR Congo. It includes unique aquatic and wetland habitats, and the brackish water hosts a unique aquatic fauna. It faces overexploitation by inhabitants.





*Figure 8: Disturbed habitat on the margin of the Luki Biosphere Reserve, Mayombe.*

In total, at both locations, 147 specimens and tissue samples were collected, representing frogs, toads and lizards. In addition, sighting records of rock pythons (*Python sebae*) and green turtle (*Chelonia mydas*) were made. Most of the recorded specimens represent widespread species. Specimens and genetic samples 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.

#### *Laboratory analyses of collected material at the RBINS*

DNA barcoding analysis of all collected reptile specimens were conducted. This analysis included over 300 samples. More detailed phylogenetic and/or phylogeographic analyses of selected taxa have been started as well. So far, the researchers have only achieved preliminary results.

Thanks to this work, existing collaboration has been strengthened and new collaborations with international renowned specialists on herpetology were initiated. The promoter of this project will also intensify his collaboration with Congolese partners. They started a collaboration with the founder and director Marcel Collet and his staff of the snake park of Kinshasa.. Zacharie Chifundera Kusamba will disseminate results through his extensive institutional network at the Centre de Recherche en Sciences Naturelles in Lwiro, at the National Pedagogical University (by tutoring a PhD student) and at the Centre Antivenimeux (both located in Kinshasa).

In concert with the project's aims, Zacharie Chifundera Kusamba agreed to recruit a team in his home country in the year following his training, and allocate research and curatorial capacities for the

identification of specimens collected during the field work and those preserved in local museums, and zoological gardens in Kinshasa, Bukavu and Lubumbashi. Having Zacharie Chifundera Kusamba acting as a multiplier, the long-term perspective of this project is to achieve a sufficient number of well-trained Congolese herpetologists with solid knowledge on the Congolese herpetofauna as well as on biological conservation issues (e.g. threats due to the global climate change, deforestations, pathogens).

### **Project 3. Étude des Lépidoptères à chenilles comestibles et de divers usages de leurs plantes hôtes dans les districts de Kisangani et de la Tshopo (Part II)**

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

Participating institutions : Department of Entomology of the RBINS and Faculté des Sciences of the University of Kisangani, DR Congo

Budget: 6.000,00 €

Duration (dates): March 2012-March 2013

Full report : Annex 3

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.

The supply of protein-rich food is becoming increasingly difficult in DR Congo, essentially because of the fast-growing population and poverty related factors such as weak transport stocking and marketing infrastructure. The exploitation of caterpillars as a nutrient source is currently unstructured and unsustainable in DR Congo. Moreover, caterpillar gathering in the forest has a negative impact on biodiversity and on the sustainable conservation of the forests, due to the associated deforestation. In order to achieve a sustainable exploitation, it is very important to collect information on all the phases of the gathering process and establish an inventory of the species.



Figure 9: Caterpillars sold at Kisangani central market.

The project started in 2011 in the DR Congo. After a first year dedicated to sampling and preserving collected material, the second phase of the project focused first, on identifying the collected material and second, on training students and on performing public awareness activities for local populations. Finally, a catalogue of edible caterpillars of Kisangani will be finalised in 2013.

A collection of identified specimens of the Saturniidae family is now conserved at the 'Musée zoologique de la Faculté des Sciences de l'Université de Kisangani (UNIKIS)'.

New species have been described in the 'Réserve Forestière de Masako': *Lobobunaea equatoriensis*, (Saturniidae) described in Bouyer, T., 2012; and a new prion (macrotoma) described for the first time in DR Congo. Many samples still need to be identified by Wetsi Lofete in collaboration with RBINS researchers.

Three workshops were organized targeting different audiences: one for students in Forestry at the 'Faculté des Sciences Agronomiques' of the 'Université de Kisangani' (Figure 10), one for the students at a secondary school in Kisangani and one for the farmers at Masako. The project will be finalized in 2013, with a visit of J-L. Wetsi Lofete to the RBINS



Figure 10: J-L. Wetsi Lofete during his workshop at UNIKIS.

## 1.2. 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 2012, we launched our 9<sup>th</sup> external call for proposals. We received 60 applications from young or professional taxonomists. After evaluation, 16 taxonomists were invited for a short study visit in Belgium (2 to 4 weeks). They received training at the Royal Belgian Institute of Natural Sciences, the National Botanic Garden of Belgium, the Royal Museum for Central Africa and/or the Université Libre de Bruxelles.

Table 3. List of visitors for the taxonomic training and access to collections in 2012 (sorted per country).

NAME	COUNTRY	STUDY PERIOD	TITLE	TAXA	TRAINING LOCATION
Janet HIGUTI	Brazil	08.10 to 05.12.2012*	Taxonomy of the Candonidae (Crustacea, Ostracoda) from Paraná (Brazil)	Crustaceans	RBINS
Longin NDAYIKEZA	Burundi	02.12 to 15.12.2012	Contribution à l'étude des interrelations entre les pollinisateurs de la Réserve Naturelle de Rumonge et ceux des milieux agricoles riverains	Bees	RBINS
Evariste Hermann TAEDOUMG	Cameroon	03.09 to 29.09.2012	Apprentissage des techniques utilisées en palynologie : cas spécifique de <i>Craterispermum</i> (Rubiaceae)	Plants	NBG
Mauricio BARRETO	Colombia	07.07 to 27.07.2012	Mites (Acari) of wild Colombian mammals and birds (Continuation)	Acarians	RBINS
Nancy ROJAS- RIÑO	Colombia	22.07 to 10.08.2012	Systematic study of the genus <i>Polythore</i> Calvert, 1907 (Odonata: Polythoridae)	Insects	RBINS
Maike HERNANDEZ QUINTA	Cuba	04.11 to 24.11.2012	Taxonomic revision of the genus <i>Jeanneretia</i> (Helicoidea: Cepolidae), endemic of the Western region of Cuba	Molluscs	RBINS
Jans MORFFE RODRIGUEZ	Cuba	04.11 to 24.11.2012	Taxonomic revision of the family Hystrignathidae (Nematoda: Oxyurida) parasitic of passalid beetles (Coleoptera: Passalidae)	Nematods	RBINS
Pavel VALDES	Cuba	04.09 to 29.10.2012*	Taxonomic review of the New World Ardistomina and relatives members of the tribe Clivinini in the Neotropical range	Insects	RBINS
Zewdu Ararso HORA	Ethiopia	02.12 to 15.12.2012	Diversity of wild bees in Ethiopia	Bees	RBINS
Tenon COULIBALY	Ivory Coast	30.06 to 22.07.2012	Diversité des termites (Isoptera) dans les vergers de manguiers et étude des attaques des termites ravageurs de la mangue: cas de la Région de Korhogo, zone fruitière dans le nord de la Côte d'Ivoire	Insects (pests)	ULB

NAME	COUNTRY	STUDY PERIOD	TITLE	TAXA	TRAINING LOCATION
Aurore KABLAN (Figure 11)	Ivory Coast	03.06 to 30.06.2012	Les peuplements de diplopodes comme indicateurs de la dégradation des écosystèmes forestiers en Côte d'Ivoire	Insects	RMCA
Kolo YEO	Ivory Coast	23.06 to 13.07.2012	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.	Insects	RBINS
Bernard AGWANDA	Kenya	03.09 to 29.09.2012	Taxonomic determination of invasive alien rodent species implicated in food security and public health cases in urban and rural Kenya	Rodents	RBINS
George Gatere NDIRITU	Kenya	03.11 to 30.11.2012	Compilation, analyses and identification of myxomycetes collections collected in Africa in the past	Mushrooms	NBG
Jennifer BRASH OLBERS	South Africa	19.08 to 08.09.2012	Taxonomy and biodiversity of the brittle stars (Ophiuroidea) of South Africa	Echinoderms	RBINS
Connal EARDLEY	South Africa	05.08 to 21.08.2012	Taxonomic revision of the Afrotropical Apoidea	Bees	RBINS

\* these researchers found extra-funding for a longer stay in Belgium

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](http://www.taxonomy.be/gti_calls/grants_awarded/grants_other)).



Figure 11: Ms Aurore Kablan working with her tutor, Dr Didier Van den Spiegel, at the RMCA.

We have continued our alumni programme and maintained contact with most of our former visitors and trainees. Some of them came back for further training, while others 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 (see URL above).

During the visitors stays in Belgium, the GTI team organized 3 short symposiums at the RBINS in order that the trainees could present their work in front of an audience:

- 'Utilisation de l'imagerie digitale comme outil pour l'identification des espèces de fourmis et la conservation des collections sèches en milieu tropical humide' par le Dr Kolo Yeo from the university Nangui Abrogoua (ex Abobo Adjamé) (Côte d'Ivoire), given on 12.07.2012.
- Studies on Neotropical Clivinini (Coleoptera: Carabidae: Scaritinae)» by Pavel Valdes from the Instituto de Ecología y Sistemática, (La Habana, Cuba), given on 26.10.2012.
- A short symposium on African Bees given on 11.12.2012 (see figure 12):
  - "Études des pollinisateurs des écosystèmes forestiers et agricoles du Burundi" by Longin Ndayikeza, from the Institut National pour l'Environnement et la Conservation de la Nature (INECN – Burundi).
  - "Wild Bees of Ethiopia" by Alain Pauly, entomology department of the RBINS.



Figure 12: Poster announcing the GTI symposium held on 11.12.2012



### 1.3. T1-GTI-03 Taxonomic workshops in situ

*When the demand arises, the RBINS organises workshops with partner institutions. The workshops may cover general taxonomic issues or target specific taxonomic groups. In the latter case, complementary expertise may be sought after in other Belgian scientific institutions and universities. The workshops are organised in the form of short and intensive training courses and are generally open to 20-50 participants.*

One project took place under this activity area in 2012: a "training in ant taxonomy in the Galápagos Archipelago (Ecuador) with focus on endemic ant species".



Figure 13: W. Dekoninck collecting ants © T. Delsinne.

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

Participating institutions : Section of Biological Evaluation, RBINS (T. Delsinne), Department of Entomology, RBINS (W. Dekoninck), Charles Darwin Foundation (CDF), Galapagos, Ecuador.

Budget: 8.000,00 €

Duration (dates): 10.11-11.12.2012

Full report : Annex 4

In 2011, 18 Ecuadorian biologists participated in a training on taxonomy and biology in Southern Ecuador funded by the GTI and organised by T. Delsinne and W. Dekoninck (RBINS). The experience was successful since several students are now conducting ant biodiversity studies in different parts of

Ecuador. A recurrent issue encountered by students is the difficulty to know what to do with suspected new species.

In order to help the Ecuadorian students, the Belgian researchers decided to offer an in-depth training on ant taxonomy in 2012, with a focus on taxa description. The myrmecofauna of Ecuadorian mainland is however too diverse and poorly known to be accessible by taxonomist beginners. It was necessary to focus on a less complex and better studied fauna. The ant assemblage of the Galapagos Archipelago appeared as an ideal playground since it is less diversified, has been intensively studied by the RBINS members for the last 10 years and the taxonomic status of some endemic species remains poorly understood.

The project was divided into 3 successive phases:

- i) Organisation of a 10 day-long ant course (19.11 to 28.11.2012) on ant taxonomy and ecology in the Galàpagos Archipelago. This formation was followed by 3 Ecuadorian students who attended the previous ant course in 2011 as well as two Galàpagos National Parc (GNP) rangers and three students in Entomology from the Charles Darwin Foundation (CDF) (Figure 14a).
- ii) Participation in the Entomological projects of the Charles Darwin Foundation.
- iii) A six day scientific mission (29.11 to 04.12.2012) to Isabela island and Alcedo and Darwin volcanoes to collect ant samples, in order to assess the taxonomical status of some ant genera at Galàpagos (Figure 14b).



Figure 14: Left (a): Ecuadorian students searching ants, Right (b): the group ready to sample ants in the wet forest at El Chato.

The Belgian researchers achieved several short and long term objectives during their project. During the 10 day-long ant course, the Ecuadorian students acquired the knowledge:

- to disentangle the taxonomic status of several assumed endemic ant species and genera;

- to develop a reference-type collection;
- to understand the importance of a good practice of adding type-material to a collection;
- to (re)describe species and genera.

The Belgian researchers also have the following long-term objectives:

- to stimulate ant taxonomy and drive up the number of new species described from Ecuador;
- to motivate Ecuadorian professors and scientists to include ant taxonomy and ecology in their teaching;
- to enhance the value and the quality level of Ecuadorian entomological collections, in particular the CDF ant collection;
- to provide a long-term stored collection of specimens preserved in alcohol (96%) to allow potential future genetic analyses and/or taxonomic revisions;
- to stimulate the integration of ants in biological surveys and conservation programs, at both regional and national scales for the coming years;
- the publication of an identification key for Galàpagos ant fauna in collaboration with the Ecuadorian instructors.

The co-promoters of the project collaborated with the CDF and the Galàpagos ant curator, Henri W. Herrera, on the curation and management of the CDF invertebrate collection as well as on the validation of the Hymenoptera collection. In the framework of the follow-up of invasive species and their impact on endemic and local fauna and flora of the Galàpagos Archipelago, it was also important to support research on this topic and especially those outlines where ants are involved.

Finally, during the exploration of Isabela island, more than 1000 nest samples of more than 20 different ant species were collected along a trail from the coast up to the top of volcanoes Alcedo (850 m) and Darwin (1500 m). All samples will be analysed in 2013 in collaboration with Dr Fr. Hendrickx (entomology Department). This sampling efforts also provides RBINS a long-term stored collection of specimens preserved in alcohol (96-98%) to allow potential future genetic analyses and/or taxonomic revisions.

#### **1.4. 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 most pressing needs and those we are able to respond to. The current privileged institutional partners are Museo Nacional de Historia Natural (Cuba), Instituto Ecología é*

*Sistemática (Cuba) and the Institute of Ecology and Biological Resources, Hanoi (Vietnam) but support to other institutions is not excluded.*

2 projects were funded this year under this programme element

The first project "A step further in the documenting and understanding of the entomodiversity of Vietnam (Part III)" funded under this activity component was our support to the partnership initiated with the Institute of Ecology and Biological Resources (IEBR) in Vietnam. This partnership was formalised via a MoU between the RBINS Entomology Department and the IEBR in 2007. It is the third project financed with the IEBR. It was selected through our 9<sup>th</sup> call for proposals under our 'Training through research' programme (see GTI-01 ).

The second project A comparative study of pollinations systems in different ecosystems in South Africa using molecular barcodes taken from pollen to identify the plants that bees visit was not originally planned in the annual program. The money to fund this project was made available by a part of Yves Samyn's salary since he left the team on 1st April 2012, which was not expected, and instead of hiring someone to replace him, we decided to use the money to fund extra activities by our partners in the South: especially, co-financing research through a PhD in South Africa, at the Agricultural Research Council (ARC), who studies the potential impact of introduced species on indigenous pollinators.

### **Project 1. A step further in the documenting and understanding of the entomodiversity of Vietnam (Part III)**

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

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

Budget: 10.420,00 €

Duration (dates): 15.06-20.07.2012

Full report : Annex 5

The project aimed at developing knowledge and studying Vietnamese entomofauna via two main axes:

- collecting, identifying and inventorying 7 target groups at three different sites in South Vietnam: Con Dao National Park, Dong Nai Biosphere Reserve and Cat Tien National Park. The training of the Vietnamese staff to field collecting techniques and identification routines, started in 2010, was continued.

- improving the entomological collections and the collection management capacity and studying the material preserved in IEBR. Environmental conditions have been improved since 2011 by the purchase and installation of a great capacity freezer to allow preservation of unmounted material and disinfection of parasitized material. The objective remains to develop in IEBR a modern reference collection of national, regional and international importance, using the best international standards, and to provide material allowing state-of-the-art mounting and study of the specimens.

The RBINS staff worked during five weeks in Vietnam, from 16.06 to 19.07.2012. As a general trend, the collected insects were not as abundant as the previous years in North and Central Vietnam. The abundance of insects was surprisingly low in Con Dao N.P., the researchers believe that it was due to the amazingly high number of bats. Moreover the working conditions were very hard, mainly due to the heavy rainfalls.

Identified specimens, including paratypes of newly described species, were brought back to IEBR and included in the reference collection by H.T. Pham during his visit to the RBINS in December 2012. This aims to facilitate the work of Vietnamese entomologists inside Vietnam in the future.

One paper dealing with new species collected during the GTI missions in 2010 and 2012 was accepted and will be published in 2013.

The rangers and authorities of the 3 parks expressed great interest in this work and the researchers received a lot of help from them. A new method was used to find the Fulgoridae: bike collecting. Biking instead of walking allows to check many more tree trunks along the paths and has been a great improvement in the collecting of those insects. About 2000 photos of insects and biotopes have been taken during the fieldwork. They will be used to illustrate scientific papers etc. Finally, the species lists will be provided to the authorities of the different national parks and reserves by H.T. Pham.

During the second phase of the project, the researchers rearranged the entomological collections of Cat Tien National Park (Figure 15). Cat Tien National Park has a small museum located at the park's headquarters. This museum mainly has educational purpose for tourists, groups and schools. It exhibits the skeleton of the last Javan Rhino found that died in the park in 2010. It also shows a collection of insects collected in the park. That insect collection was anarchically presented, most of the specimens were unidentified and some were broken.

All the specimens were removed from the entomological boxes, and sorted at least to order and family level by our staff. The boxes were restored and the specimens rearranged inside the boxes according to classification. Provisional labels were placed in the boxes, to be replaced by printed labels by the responsible of the museum.



The park now has a good educational tool to show the insect fauna present in the region.



*Figure 15: Rearrangement of the insect collections of Cat Tien National Park Museum.*

As a conclusion, one can say that this project has good results in all its aspects: insect collecting (many new species and new records), contacts between the members of the staff, learning experiences and sharing of knowledge, best practices and devising projects for future collaboration. As an additional result the 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.

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 Belgian researchers estimate that at least 300 to 400 non described species of stick insects might be present in the country.

## **Project 2. A comparative study of pollinations systems in different ecosystems in South Africa using molecular barcodes taken from pollen to identify the plants that bees visit**

Promoter: Connal Eardley

Participating institution: Agricultural Research Council (ARC), Plant Protection Research Institute, Pretoria, South Africa

Budget: 10.000,00 €

Duration (dates): April 2012-31.03.2013

Full report: Annex 6

This project is part of the PhD project of Ms Annemarie Gous, supervised by Dr Connal Eardley, with whom the RBINS, thanks to GTI funding, has a long ongoing collaboration (see former reports and the GTI website). The main objective of this aims at identifying bee pollen-plant networks to identify the pollen on the bee specimens in order to assess the vulnerability of indigenous bees to the introduction of alien pollinators.

There are a number of bees in South Africa that are oligolectic, i.e., they visit one plant species or a few closely related plant species. And oligolecty appears to be more common in the Western Cape than elsewhere in South Africa. In particular among short-tongued bees that are endemic to the Western Cape. But this is all anecdotal and we have little good evidence on oligolecty and polylecty (having more than one food plant) in South Africa. We believe that it is important to study bee-plant association, especially in the Western Cape, because the Western Cape flora is unique. It comprises two distinct biodiversity hotspots, one of which comprises an entire Floral Kingdom.

Bumble bees do not occur in sub-Saharan Africa, including South Africa. Periodically trials are made to introduce *Bombus terrestris* L. into the Western Cape for greenhouse pollination. This raises concern because if they naturalise they may affect pollination mechanisms in the Western Cape and cause endemic plants and their pollinators to go extinct. *Bombus terrestris* is a generalist plant visitor and begins visiting flowers early in the morning. Apparently the introduction of an alien pollinator into an ecosystem with a predominance of oligolectic pollinators will more likely displace indigenous pollinators than an introduction into an ecosystem with more generalist pollinations. Therefore the Western Cape pollinator fauna and flora could be under treat. There is a need for scientific evidence to counteract the introduction of bumble bees into South Africa as opposed to the anecdotal evidence that scientists have today.

To begin to understand oligolecty and polylecty in South Africa it is important to compare the Western Cape with another biome. The savannah was chosen because it is the largest biome in South Africa and it is separated from the Western Cape by other vegetation types, thus avoiding a spill over effect from bees not strictly confined to the Western Cape. The research question is, 'within a select few widely distributed bee genera, select a few species, some being Western Cape endemics and some that occur only in the savannah, and determine whether, within this sample, oligolecty is more common in the Western Cape than in the savannah.

The project will also:

- Streamline techniques for identifying pollen from DNA barcodes so that this can become a routine research procedure.



- Investigate the extraction of DNA barcodes from pollen on museum bee specimens and thereby add value to museum collections through the documentation of historic pollinator plant associations.

The student began work on the project on 2 January 2013. To date she has worked on:

- Extracting plant barcodes from pollen taken from bee scopae (pollen carrying apparatus).
- Extracting plant barcodes from pollen on specimens up to 20 year old. Further work in this area should improve her success rate.

This initial phase will enable her to use material from existing specimen collections to test her theory. It will give an opportunity to have bigger samples and to have more reliable pollen carrying data. She has also made it possible to add value to bee collection through using their pollen loads to add forage plants to their data bases.

The data will be published in peer reviewed scientific journal. The study should help in the conservation of pollination systems in fragile ecosystems and thereby conserve plant and pollinator biodiversity.

The techniques learned in the identification of plants from their pollen should help in pollinations research on agricultural crops.

Finally, the last remaining funds were used to purchase material for two partners in the South:

- equipment for water analysis for the 'Ecole Nationale des Sciences Appliquées d'Al Hoceima', Morocco, via Dr Ali Ait Boughrouh who has an ongoing collaboration with the department of invertebrates of the RBINS, with Dr P. Martin (GTI visits and one Abc Taxa).
- an Olympus microscope for the Université d'Abobo Adjamé, Côte d'Ivoire, via Dr Kolo Yeo, who visited Belgium thanks to a type 2 GTI grant (see above) and initiated a new collaboration with the department of Entomology of the RBINS, with Dr W. Dekoninck.

### **1.5. 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.*

Volumes 12 (Guide taxonomique des oligochètes dulçaquicoles du Maghreb) and 13 (Bréviaire de taxonomie des acariens) of Abc Taxa have been published in 2012.

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.

At present we have not published a digest that covers the taxonomy of sub-Saharan amphibians. However, because quite a few central African countries (notably the DR Congo) belong to the privileged partners of the Belgian Development Cooperation, the sponsor of Abc Taxa, we are open to investigate with attention project proposals that would treat amphibian taxonomy in central Africa, preferentially the DR Congo. Next to the usual prerequisites (for more info see our website), we would only expect such volume to be written in French so that there's minimum overlap with volume 4 written in Spanish and volume 5 written in English.

#### **Distribution of the Abc Taxa:**

##### **April-December 2012:**

Australia (1), Nigeria (1), Germany (2), Belgium (2), Botswana (1), Brazil (1), Cameroon (2), Sweden (1), Switzerland (1), Tunisia (2), United Kingdom (2), USA (2), Egypt (1), Ethiopia (1), Gabon (1), Italy (1), RDCongo (1), Malaysia (1), Morocco (1), Mauritius (1), The Seychelles (1), Singapore (1), South Africa (3), Czech Republic (1) + Austria (1), Colombia (3), France (1), Italy (2), Sri Lanka (34), Spain (1)

Moreover, 60 mailings were for free (partners) and 16 were after payment.

##### **January-March 2013:**

Philippines (1), Belgium (1), Spain (1), South Africa (1), India (1) and Germany (2), France (1), 3 mailings were for free (partners) and 6 were after payment.

Moreover, 180 copies of respectively volumes 12 and 13 were sent to GTI and CHM focal points. 20 ex. of volumes 12 and 20 ex. of volumes 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' (+/- 20 ex.). The writer of the preface + the corrector are sent two free copies of the volume they have revised.

#### **1.6. T1-GTI-06 Teaching modules for the Global Taxonomy Initiative**

*The teaching modules serve as educational support to the training courses. They are elaborated in such a way that they can be used not only by trainees but also by anyone interested in learning more on taxonomy. As not all the course material belongs to the public domain, a login and a password is required to access some of the sections (among others hundred scientific papers in PDF and many pictures/illustrations).*

Most of our support consisted in 'Taxon-specific courses' (cf. GTI-01 to GTI-04). No new theoretical courses were developed in 2012.

As a member of the Scientific Committee of the Bulletin Scientifique de l'INECN (Burundi), ML Susini reviewed the following article from B. Mpawenayo & C. Niyondiko "Etude de la flore diatomique en relation avec l'hétérogénéité des habitats et la conductivité électrique des eaux de la rivière Muha à Bujumbura".

## 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.

### 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.

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.



*Fig. 16: Practical training on “LEM habitats” in the Kibira National Park (Burundi), December 2012*

## **2.1. 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 National Botanic Garden of Belgium 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. 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 two Congolese PhD students**

- We organized two 3 month visits for two Congolese collaborators to assist them with the completion of their PhD theses. For both Amundala Drazo (AD) and Mukinzi Jean Claude (MJC) (both are 'Chef de travaux' at the University of Kisangani) this stay in Belgium is intended as their very last stay to finalize the work they have started approximately 5 years ago.
- To ensure that their stays would be as efficient as possible, they both had to prepare a detailed overview of the status of their dissertation, including a list of the work required to finalize their thesis shortly after their stay in Belgium. During their stay in Belgium they were supervised by Prof. Herwig Leirs (University of Antwerp) and Prof. em. Jan Hulselmans.
- For both visitors interactive sessions with the supervisor were organized to improve the existing drafts, actualise the references list, and discuss the missing links (data, analyses) that are required to make the data publishable in international scientific journals.



## Outcomes

- After his visit, all chapters of the PhD thesis of AD are completed, the only remaining portion of the thesis text that remained to be finalised was the general discussion' and a last review by his local supervisor (Prof. Dudu Akaibe). In the meanwhile AD has submitted his thesis' manuscript and is preparing to defend his PhD thesis before the end of the academic year 2012-2013. For the PhD thesis of MJC, the drafts of all but two chapters have been submitted for review by his local supervisor (Prof. Dudu Akaibe). We anticipate that he will also be able to submit his PhD thesis for defence before the end of this academic year.
- We are satisfied that the outcome of this activity is that both PhD students have made sufficient progress to expect that they will be able to defend their PhD thesis during this academic year 2012-2013. Both will have 1-2 publications (or at least submitted papers) in international journals. The fact that the Belgian supervisor insists that this is a criterion that has to be met before a PhD thesis is considered to be acceptable has delayed this process. Nevertheless, both PhD students and their local supervisors agree that it is a good investment to spend more time on order to be able to defend PhD theses with results that are (at least partially) published in a refereed international scientific journal.

## Main issues encountered

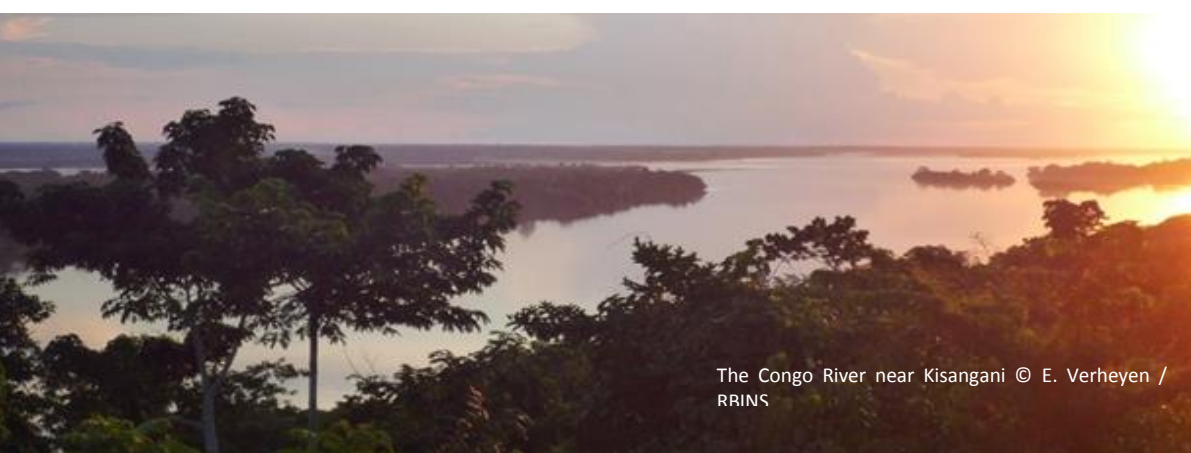
- Both AD and MJC are 'Chef de travaux' at the University of Kisangani. This implies that they are heavily solicited as assistants to supervise undergraduate and graduate theses, organize field campaigns for students, and to assist the faculty with many administrative tasks. Although the local supervisors are aware of this issue, and have attempted to relieve their collaborators of as many tasks as possible, their work while in Kisangani proceeds slowly. One of the main issues at this moment is the fact that several buildings on the campus of the faculty are simultaneously being rehabilitated. Because these rehabilitations (REFORCO & 'Boyekoli ebale Congo project' to building the 'centre de surveillance de biodiversité (CSB)') take more time than anticipated, the scientific personnel is struggling to find a place to work, and until recently lacked reliable internet and uninterrupted electricity to work efficiently. Although the new building of the CSB is at yet not fully functional, its internet and electricity supply are - thanks to the support of REFORCO - rather reliable.
- Like the vast majority of the Congolese researchers, both AD and MJC read, write and speak English insufficiently well to independently write manuscripts that are acceptable for international scientific journals. Although they have 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. The English courses provided last year in the context of a VLIR micro-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.

### **Development of fundable research projects for two Congolese academics**

- Over the last four years the IMAB grants had as a result that five ‘Chef de travaux’ at the University of Kisangani (Sylvestre Gambalemoke, Nicaise Amundula, Jean Claude Mulinzi Célestin Danadu and Guy Crispin Gembu) either have, or soon will defend their PhD thesis. The research projects of these PhD studies were locally developed, which implies that the research topics are all rather traditional (taxonomy, zoogeography & ecology), and that we should be aware that the expertises of these newly formed academics is probably too similar to really enrich the research activities in Kisangani in a significant way. Hence there is a need to target other research topics/disciplines that address other biodiversity related issues with a clear significance for the local development.
- After discussion with the scientific community of the University of Kisangani two new research areas were defined: (1) the importance of zoonoses for the health of the local population; and (2) the socio economic implications for the exploitation of natural resources by the local populations. On the basis of these criteria we received three proposals, two of which were retained (Falay-Sadiki Desire Dadi and Tazole Tamile Phillibert) and were submitted to external experts (Jan Jacobs, ITG; Anne Laudisoit and Marijke Verpooorten, Univ. Antwerp).
- Both Falay and Tazole were invited for a six week study visit in order to analyse their preliminary data and to develop their research proposals into proposals for external funding.
- For both visitors interactive sessions with their supervisor were organized to improve the existing drafts, actualise the references list, and discuss the missing links (data, analyses) that are required to make the research proposal ready for an application to one of the many funding agencies.



## Outcomes

- The analyses of the data dr. med. Falay generated while in Belgium have resulted in (1) the submission of a joint publication in an international peer review journal<sup>1</sup> and the finalisation of the analyses that allowed him to prepare his 'thèse de maîtrise' (pediatrics) that will be submitted before the end of this academic year.
- Preliminary discussions have allowed him to agree with Jan Jacobs of the ITG to jointly draft a research proposal that could lead to a PhD thesis. The preliminary title of this proposal is: 'Aspects épidémiologiques, bactériologiques et cliniques des septicémies dues aux *Salmonella* non typhi chez les enfants à Kisangani, République Démocratique du Congo'.
- The main outcome of the work of Tazole, realized during his stay in Belgium, are (1) the collection of a PDF library with publications that are pertinent for his research, and (2) a finalized research proposal entitled: 'Appui à la connaissance de l'importance socioéconomique, de la diversité biologique et à la gestion durable des Protoptères en République Démocratique du Congo (R.D.C)'.
- Since his return to DR Congo, Tazole has tested the methodological modifications in the query forms for the interviews with local stakeholders required for his project and is preparing to submit his proposal to an external funding agency.

## Main issues encountered

- The main issues described for Amundala en Mukinzi, Falay is working as a dr. med. at the faculty of medicine of the University of Kisangani, and Tazole is 'Chef de travaux' at the University of Kisangani. This implies that they are heavily solicited for many administrative tasks. This brings along the same issues as described in the activity 'Supervision of the work of two Congolese PhD students'.

## Activities (specific action: purchase of an electronic labelling system)

- The biological collections in the University of Kisangani has so far largely been managed by the individual researchers who gathered these collections. There is a need for a central collection management and in line with this there has been a training of a collection manager (Roger Angoyo). This person was invited for a three month formation in the context of VLIR-UOS project in the framework of 'D.R.Congo 2009–Special call: Soutien académique pour le développement de la recherche appliquée sur les petits mammifères nuisibles en DR Congo' (Promoter: Herwig Leirs (UA) and co-promoter Erik Verheyen).

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<sup>1</sup> Laudisoit A., Dadi F., Amundala N., Dudu A., Gouy de Bellocq J., VanHoutte N., Matteo B, Verheyen E., Wilschut L., Parola P., and Socolovschi C. (). Public health, rats and vector borne diseases in urban markets of Kisangani, Democratic Republic of the Congo. Emerging Infectious Diseases

- In order to increase his capacity to deal with the management and labelling of the collections that he has inventoried so far, we have purchased a printer, with adapted software to manage collections, as well as the ability to print labels with barcodes and a hand scanner for convenient retrieval of samples in large collections. The same system is being used to manage the considerable biological collections in the Biology department of the University of Antwerp, and it is Frank Adriaenssen, the responsible for the collection management of that team who has provided on site and hands on training in the use of this new equipment in Kisangani (February 2013).

### Outcomes & main issues encountered

- Because of the limited computer skills of the targeted personnel of the science faculty (Roger Angoyo, Patrick Mutombo and Prescott Musaba) we are interested to see to what extent this new equipment will increase their productivity, and improve the accuracy of the labels of the biological sample collection. The issue of lacking computer skills is also addressed in the Strategic Plan of the CSB and the activities programme for the CSB will provide additional training in the use of computers and software for the CSB personnel and the academic personnel of the University of Kisangani.

### Other comments

- The 5.000,00 € travel budget was not used because Erik Verheyen (EV) travelled four times to Kisangani for the administrative follow up of the creation and construction of the CSB funded by the Belgian Federal Ministry for Development Aid (period covered: 1-23 March 2012, 18 August–5 September 2012, 4–14 November 2012 & 3-19 March 2013). During every visit to UNIKIS, EV organized one-to-one meetings with all interested researchers to discuss the progress in their work towards a MSc or PhD diploma. Besides the main people targeted by this program, the work of several other people is followed, and whenever possible, a Belgian expert is contacted to assist the local supervisors in their task to coordinate the scientific activities of their academic staff.



*Figure 17: Local transportation conditions around Kisangani.*

## **2.2. T2-IMAB-02. Cooperation with the “Institut Congolais de la Conservation de la Nature” for the monitoring and management of protected areas**

*The RBINS and the ‘Institut Congolais de la Conservation de la Nature’ (ICCN) are sibling institutes in their quest for the conservation of biodiversity. Historically the RBINS was in charge of the ‘Institut des Parcs nationaux du Congo Belge’, which led to the creation of the ICCN after the independence. The institutes signed a convention for cooperation in 2007. Terms of reference for this cooperation have been established in 2008. The present activity helps strengthen the capacities of ICCN to monitor habitats and vegetation dynamics in protected areas and to study their relations with animal population dynamics. The building of capacities is undertaken in the framework of the ‘Law Enforcement Monitoring’ (LEM) of the protected areas, a programme which ensures the follow-up of the application of wildlife protection legislation and the monitoring of illegal wildlife trade. The data generated contribute to help the establishment of the management plans for the protected areas.*

This partnership is focused on two main areas of activity: (i) supporting data collection by ICCN on natural habitats and their dynamics in the framework of 'Law enforcement monitoring '(LEM-Habitat). This support is done through training of ICCN staff and supervision of students doing their research in the Congolese protected areas, (ii) the promotion of the historical heritage related to protected areas.

### **Sub-activity 1 : Supporting the implementation of the LEM-Habitat**

It had been planned to support the monitoring of habitats in the 10 protected areas (PNVi, RFLY, RDCBK, RFO, PNS, PNKB, PNKL, PPM, PNU, DCRBL)<sup>2</sup> where 15 rangers had been trained to carry out this activity.

This initiative was mainly to increase the results of LEM habitats and to compensate the deficit in this operation during its previous campaigns. Rangers reported on 900 data recorded to the Directorate General of ICCN, in charge of compiling and analysing them. The support of RBINS consisted of ensuring the follow-up and the standardised analysis of the dynamics of the habitats.

A total of 458 LEM sheets were received at the DG (Kinshasa) by February 2013; they came from the following protected areas: RFLY (73), DCBK (25), PNS (90), PNKL (62), PNU-N (80), PNU-S (14) et DCRBL (114). No results have been obtained from the following sites: Virunga National Park, RFO, PNKB. This was mainly due to the presence of hostile armed groups that occupy the parks and who are widespread in particular in the three sites mentioned above.

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<sup>2</sup> PNVi: Parc National des Virunga, RFLY: Réserve de Faune à Lomako-Yokokala; RDCBK: Réserve et Domaine de Chasse de la Basse Kando; RFO : Réserve à Faune d’Okapi ; PNS : Parc National de la Salonga ; PNKB: Parc National de Kahuzi-Biega ; PNK: Parc National de Kundelungu; PPM: Parc Président Mobutu ; PNU: Parc National de l’Upemba ; DCRBL: Domaine de chasse et Réserve de Bombo Lumene

## Sub-activity 2: Support to Congolese students undertaking research in ICCN protected areas

Our support was mostly oriented towards the facilitation of fieldwork, the provision of mentoring and the establishment of recommendations to the ICCN. We financed research which is being carried out by a student and the research projects that are subsequent to achieved theses.

### *Thesis being prepared*

- Mr Jean de Dieu Mangambu (Université officielle de Bukavu/University of Antwerp/National Botanic Garden of Belgium): Ecologie et Taxonomie des ptéridophytes de l'Ecosystème forestier de Moyenne et Haute altitude du PNKB. The data obtained from his previous field campaign have been used to prepare the first draft of his thesis. He also finished the correction of the manuscript "The diversity of the Pteridophytes along the altitudinal gradient in forest ecosystems in the mountains of Kahuzi-Biega (DR Congo)", which is now ready to be published.

### *Activity subsequent to achieved research*

- Dr Masumbuko Ndabaga Cephas (Université officielle de Bukavu, DR Congo), who defended his thesis at the ULB (2011) on the "Ecology of *Sericostachys scandens*, an invasive liana in the Mountains Forests of the Kahuzi-Biega National Park, DR Congo", continued to be supported by the RBINS, which enabled him to publish a part of this research in 2012. As mentioned on point 4.1, two articles were issued in international journals (Impact Factor 3 and 1). The implementation of the recommendations resulting from his research has started with an pilot phase.

The objective of the pilot phase is to attenuate the expansion of this liana in order to minimize its impact on the dynamics of the habitats and the other elements of the biodiversity.

One of the recommendations is to pull up preventively the seedlings of *S. scandens* in places where its expansion is still minimal. Eighty experimental plots, totalizing 8000 m<sup>2</sup> were delimited. Twenty plots of 10 m x 10 m have been installed in four selected locations (Mugaba, Madiriri, and Tshivanga Cibati). Each of them comprises the same number of both the control plots and those where the liana is being pulled up. A first evaluation is being done to estimate the degree of the effectiveness of this intervention.

- Mr Habumugisha Hitimana Innocent (Institut supérieur des Grands Lacs, in Goma), who received his master's degree thesis (2010) on the 'Connaissances des plantes mellifères par la population du groupement de Rugari: atout pour la sensibilisation à la conservation du secteur sud du PNVi', has extended his research to the globality of the forests located in the

vicinity of this park thanks to the RBINS support. However the campaign to collect further data on forest melliferous plants in the Nyiragongo territory and to investigate the importance of these species for the human wellbeing were unfortunately hampered by the war in the east of DR Congo since March 2012.

### **Sub-activity 3: Collaboration with the research project: Geology for an Economical sustainable development (GECO)**

This group is in charge of research for the enhancement of sustainable management of mineral resources particularly in Africa. With the GECO team which is based at the RBINS, we have developed synergies focused on the assessments of the threats on biodiversity in protected areas surrounded or overlapped by mining activities in Katanga Province, DR Congo. In 2012, The data collected previously were synthetized in a manuscript entitled 'Detecting land cover change using multi-temporal remote sensing on major mine sites in Southern Katanga (Democratic Republic of Congo)'. We co-authored this manuscript and it has been submitted to the Journal of Land Degradation & Development.

### **Sub-activity 4 : Teaching tools and lexicons of dominant plants in the habitats**

With the collaboration of Dr Masumbuko Ndabaga Cephas (UOB) and Dr Mubalama Kakira Léonard (WWF South Kivu), significant progress has been made in drafting a lexicon dedicated to the PNKB. Its content includes a hundred plants identified in Latin and illustrated by 150 photographs. The vernacular names of these species in four languages that are widely spoken in the vicinity of the PNVi (Fuliro, Mashi, Kilega and Tembo) are also mentioned. This document includes also a methodological section and an overview of the types of habitats that constitute the PNKB.

The Lexicon will be used by the rangers (and others) not only to help them identify the habitats that they are monitoring, but also to introduce educational initiatives in the field of environmental awareness. The vernacular names of the plants often refer to the uses and/or the autoecology of these plants. The lexicon being focused on mountainous ecosystem habitats, complements our previous publication that was devoted to the RDCBL, where mountains are not represented.

Finally, the steering committee of the DGD programme by September 2012 appreciated the preparation of the lexicons, based on the fact that the target audience and the purpose of the book in a development context are well-identified.

### **Sub-activity 5: Valorization of natural and historical heritage of the protected areas**

Fourteen series of publications relating to the former National Parks of Belgian Congo (97.4 X 14 kgs or 1364 kg), were provided to the ICCN and to Congolese scientific institutions that have requested this documentation. The following organisations have received shipments: ICCN: 2, Institut Supérieur Agricole de Mweso: 2, Institut Supérieur Pédagogique (ISP) de Goma: 2, ISP de Rutshuru: 2, Institut Supérieur de Conservation de la Nature, de l'Environnement et du Tourisme (ISCNET) à Rumangabo: 3, Université de Goma: 2, Université officielle de Bukavu: 1.

### **2.3. T2-IMAB-02bis. Cooperation with the Institut National pour l'Environnement et la Conservation de la Nature (INECN) in Burundi**

*Following our work with the ICCN in DR Congo, the INECN in Burundi expressed interest in the methodologies applied to the identification of habitats by park rangers and by the simple ways of recording their dynamics. Therefore the INECN, in the framework of the institutional partnership signed in 2010, requested to benefit from the work achieved with ICCN. It took account of the relevance of the old exploration data gathered at the time of the Institut des Parcs Nationaux du Congo Belge for the management of the ecosystems in the whole Congo basin (which includes the Burundian area) and of the potential importance of the IMAB-02 component for the sustainable management of the protected areas in Burundi. [Note: The INECN acts as CHM National Focal Point for Burundi. CHM cooperation with the INECN is reported under T3-CHM].*

The partnership agreement with INECN since 2010 was started following the demand of INECN to benefit from the experience of the implementation of the LEM by IRSNB and ICCN in the Protected Areas of the DR Congo. The relevance of the archives of the IPNCB for managing natural ecosystems across the Congo Basins of Congo, Nile and of the Zambezi was also taken into account. As in DR Congo, the IRSNB support focused in particular on the following areas:

- the training of the INECN staff to make observations on habitat change and to integrate them into a database that can be used to interpret the relationships between the habitats and wildlife.
- promotion of scientific research that can be carried out by young Burundian in the frame of a master's degree or PhD thesis aiming at providing relevant scientific evidence for the development of sustainable management plans protected areas.

#### **Sub-activity 1: Training on the monitoring of habitats**

The first workshop on the 'LEM Habitats' was held from the 07<sup>th</sup> to 14<sup>th</sup> December 2012. The objective of this training was to prepare the INECN rangers to collect standard data on the evolution of the habitats in the Burundian protected areas. The IRSNB delegated a trainer (Dr François Muhashy Habiyaemye) and it financed the entire cost of the workshop logistics. In total 27 persons attended the theoretical and /or practical phases of the workshop. Among the participants were 17 INECN members, 4 professors at the UB, 3 students and 3 journalists. The participation of members of the UB was especially motivated by their need to learn about the adaptation of scientific content of knowledge on ecosystems to help strengthening the conservation sector by actors who are not necessarily familiar with academic approaches.

A theoretical training was organized at Bujumbura (07 – 09.12.2012 (Figure 17). It prepared the participants to perform the *in situ* practical work (Figure 18).



The practical training was done in the “Parc National de la Kibira (Rwegura sector)» (10 -14 December 2013). This site is located in the mountains of the Congo-Nile ridge at an altitude of 2000-2400 m. The transect followed is the same as that Mr D. Hakizimana used to conduct ethological observations on chimpanzees in the frame of a doctoral thesis at the University of Liege (Belgium). This allows to foresee synergies for the interpretation of the interrelationships between habitats and wildlife.

Each participant received a recording sheet comprising all the criteria of habitat description and of prediction of their evolution. He had to use it to record details on the dynamic stages of the habitats recognized in this park. Those of the participants who proved to be familiar with this work were encouraged to contribute to the supervision of the practical demonstrations.

Six different vegetation stages were described, going from pioneer and herbaceous or shrub fallow to dense rain forest. About 400 specimens of the dominant plants were collected in order to serve as a reference for the recognition of types and the evolution of these habitats. They were carefully dried and kept INECN. The dynamic patterns explained in the theoretical part of the training were checked for both regression of the habitats and for a probable redeployment of the dense forest after its destruction in the Kibira mountains. All descriptors proposed to be used in the recording of the changes of habitats were considered relevant and practical by all beneficiaries of the training. The objective that was assigned to the workshop was therefore reached. At the end of the training the trainees received a certificate of attendance (photo 14).

The media coverage of training by the National Radio and Television of Burundi and by the Radio BONESHA contributed to public awareness on the importance of the monitoring of the habitats of the protected areas in Burundi. People were informed on the proposed approaches. This campaign was also disseminated by the African Public Radio, at the regional level. The CHM of Burundi also disseminated this information on its website “<http://bi.chm-cbd.net/events/atelier-de-formation-des-gestionnaires-des-aires-protegees-sur-le-suivi-de-la>”.



*Figure 18: The theoretical part of the workshop held at Star hotel (Bujumbura, 07.12.2012)*



*Figure 19: The practical part of the training : observations on the state of the mountain forest*



*Figure 20: Celebration of certificates of participation in the workshop*

### **Sub-activity 2: Research in INECN protected areas**

The INECN initiative that has been supported by the RBINS to establish ecological paths in the three main protected areas was carried out in synergy with 'Université du Burundi' (UB). MM Manirakiza Marc, Niyongabo Elias, Nsengimana Egide have prepared their master's degree at the UB, respectively in the 'Parc National de la Kibira', 'Parc National de la Ruvubu' and the 'Réserve Naturelle de la Rusizi'. The three activities focused on the «Instauration des systèmes de suivi de la dynamique des habitats, des populations et des espèces dans la gestion des aires protégées du Burundi». The supervision was ensured by Mr Nzigidahera Benoît (INECN) and Prof.. Habonimana Bernadette(UB).

The RBINS provided them the basic equipment needed (3 GPS and 3 photographic cameras). We also covered their living expenses during the field work and we advised the promoters above a.o. on the choice of the location of the permanent plots for the monitoring of the main stages of the dynamics of representative habitats.

### **2.3. T2-IMAB-03. Application of the COHERENS model to integrated coastal management and monitoring**

*This activity focuses specifically on building capacities for marine ecosystem management. The prime goal is the setup of an international collaboration and network with six partner institutes in South America and Asia for forecasting, monitoring and management of coastal marine waters via a common numerical tool, the COHERENS model. This computer programme serves to forecast the reactions of coastal ecosystems under different sets of physical, chemical and biological conditions. It is publicly available in the form of free software code and has a worldwide user-group. Activities consist of an educational component (organisation 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. For a full report, see Annex 7.*

#### **Training**

Patrick Luyten (MUMM) was invited to attend and to present the COHERENS model at the ModOceano Workshop which took place at IEAPM (Arrayal de Cabo, Brazil) from 5 to 10 november 2012. A half-day mini COHERENS training was organized and attended by ~15 young and senior scientists. The visit was considered as a means to study the possibilities of a new cooperation with Brazil which may continue after the end of the present phase of the DGOS project.

#### **Visitors programme**

1. Leandro Calado and Rafael Soutelino (IEPAM, Instituto de estudos do mar almirante Paulo Moreira, Departamento de Pesquisas, Brazil) 02.04-20.04.2013 came to explore the possibilities of COHERENS as a modeling tool tool for their research group. A first model has been set up for simulation of the upwelling in Cabo Frio through nesting
2. Prof.. Syamsul Rizal (Univ. Aceh, 14.01-03.02.2013) came to explore the possibilities for COHERENS as a modeling tool for his research group. He performed a simulation in the Malacca Strait, tidal influence
3. Faraf Hanifah (Bandung Institute of Technology, 14.01-03.02.2013) came to perform a study in the framework of her MSc thesis. She used the inundation scheme to study flooding in Jakarta bay (coastal zone Northern Java).
4. Gertrudes Hauncapaza and Rodrigo Mogollón (Instituto del Mar, Callao, Peru, 1/10-20/10/2012). Two MSc students whose aim was to gain some skill in modeling with



COHERENS and transforming a ROMS model setup to a COHERENS model set up. They were sent to explore if COHERENS was a good alternative for ROMS (it was). They studied the upwelling zones and larvae transports in the Peruvian coastal zones.

5. S. Vijith (National Institute of Oceanography, Goa, India, 07.06- 07.07.2012) came for perfection training in the study of COHERENS. He studied the Mandovi estuary (PhD thesis)



*Figure 21: Indonesian visitors coming to RBINS-MUMM for individual tutoring for COHERENS*

### **User support / continuous training**

User support has been provided to the persons who already visited the department. This includes Mr. Vu Duy Vinh (Vietnam), S. Vijith and P. Saheed (India), C. França (Brazil). There are new contacts with Cuba and Bangladesh.

### 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.

#### 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.

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.



### **3.1. 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***

A training session for managers of national CHM websites was organized in Belgium in 2012. It took place from 25 to 29 June 2012 and included 1 participant. The participant was from Bhutan (Ms Sujata Sunuwar). She was trained in adding information on a CHM website, administer and manage a website and how to start the national website. The request from Bhutan was a follow-up of the regional workshop that we had organised in December 2011 in Dheradun, India for SACEP countries, in cooperation with the Secretariat of the Convention and the Japan Biodiversity Fund. As only one country from that workshop had put in the request for starting a national CHM and training on the PTK we had decided that waiting for other countries would hamper developments in this country.



The trainee was all by herself as other trainees that had been invited to the training informed us only a few days before the training that their administration had not been able to give their authorisation on time to be able to get a Schengen visa.

### ***Training in situ***

Three national training workshops were organized in 2012 for a total of 38 participants. All the trainings 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 Niger from 17-21 December 2012. It was a follow up to a first national training that was held in 2009. In 2010 there had been no follow up to the first training due to the passing away of Madame Manou Ai, focal point for the CHM. In 2011 a new focal point was nominated and following discussion it was decided to organise another training course as the participants from the first training course hadn't receive any follow-up or had changed jobs since. In total 15 people participated in the training. As a direct result of the training the number of pages added to the CHM of Niger <http://ne.chm-cbd.net> increased significantly.



*Figure 22: Cape Coast harbour, Ghana.*

The second training took place in Ghana from 25 February till 1 March 2013. There were in total 13 participants from Ghana. This training was organized under a GEF project for which Ghana had

received GEF funding under a project "revision of the National Strategy". The project had started in 2009 and this training session was the 3rd session of training. It was directed to people that had participated in the earlier training sessions to be an up-date of their competences. All costs for the training were taken up by Ghana.

The third training took place from 8 till 12 April 2013 in Burundi. The "Institut National pour l'Environnement et la Conservation de la Nature" (INECN) has a partnership agreement 2010-2012 with RBINS for institutional capacity building for the CHM, GTI and IMAB parts of the project. Due to the transition year 2013, it was decided to visit Burundi to discuss an extension of the partnership for one year, evaluate the on-going projects and prepare a workplan for 2013. Burundi had also received funding from GEF for CHM training under the project "Revision of the national Biodiversity Strategy" and used the visit to organise a 4 day training workshop. Ten persons participated in the training, which was partly a follow-up training from the training in 2012 and partly a training of new people that replaced inter-institutional focal points.

Table 4. List of national CHM training workshops and their main characteristics.

Dates	No.	Type	Place	Country	Trainees	Language	Trainers
17-21.12.2012	20	National training session	Niamey	Niger	15	French	Han de Koeijer, Marie-Lucie Susini
25.02-01.03.2013	21	National training session*	Accra	Ghana	13	English	Marie-Lucie Susini
08-11.04.2013	22	Follow-up of national training *	Bujumbura	Burundi	10	French	Han de Koeijer

\* With the financial contribution of the Global Environment Facility (GEF).

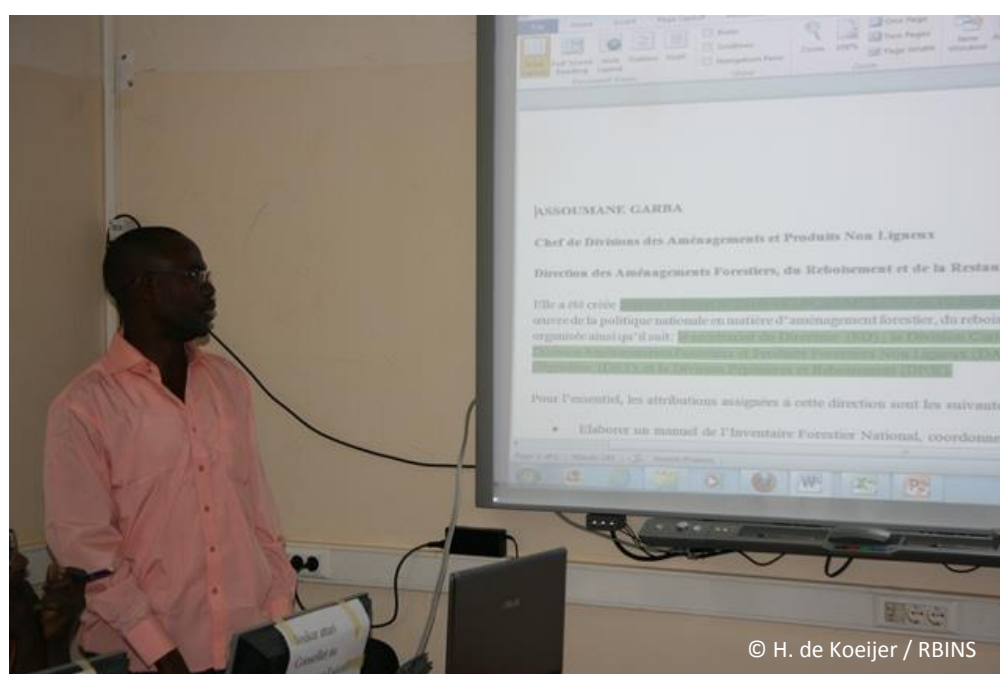
### **Other activities**

Since 2009, the RBINS has been involved as training consultant in one project with Ghana funded by the Global Environmental Facility (GEF). Originally the project should have finished in December 2010, however an extension was granted by GEF in 2011. Additional money was made available by GEF to Ghana to finalise the last training session in the beginning of 2013.

During WGRI-4, Montreal, Canada and COP11, Hyderabad, training on new features in the Portal Toolkit was given to partners that also participated in these meeting. This was done through individual training sessions of one hour between sessions of the meetings.

A one day training on new features in the Portal Toolkit was given during the partner meeting in Marrakesh, Morocco. This training was extended with an additional day as all the participants had to stay 3 days after the meeting due to flight connections. This was the occasion to give basic training to the new focal points from Burkina Faso and Côte d'Ivoire.

In Kigali, Rwanda, a one day training was given to the national focal point for the CHM. This was possible due to a 11 hour stop over for H. de Koeijer on his way back from Burundi.



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Figure 23: Presentation by stakeholder on biodiversity information held by his Institute, CHM training 2012 Niger

### 3.2. 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>*

Regarding the development of manuals for remote learning, in 2012, the focus was set on administrative functions of the PTK. These manuals are meant for PTK website managers / administrators. As usually, the manuals were developed both in French and English. We also updated old manuals to reflect the constant evolution of the PTK. So far, 23 manuals have been developed in English and 26 manuals in French.

The following manuals have been updated in 2012:

- Adding photos to the PTK (En)
- Organising your website into sections (En + Fr).

The following manuals have been newly developed in 2012:

- How to rename items on a PTK website (En + FR)
- Comment s'abonner aux notifications sur un site PTK ? (Fr)
- Administration section - Chapter 1: Portal properties (En + FR)
- Administration section - Chapter 2: Portal statistics (En + FR)
- Administration section - Chapter 3: Portal layout (En + FR)
- Section administration - Chapitre 4 : Gestion des utilisateurs (Fr)
- Section administration - Chapitre 5 : Traductions (Fr)
- Section administration - Chapitre 6 : Liste de liens (Fr)
- Section administration - Chapitre 7 : Notifications (Fr)
- Section administration - Chapitre 8 : Gestion de la carte (Fr)
- Restreindre l'accès à 1 sous-répertoire (Fr).

In 2012, we continued using the preparatory phase: two weeks before each training in a partner country, all 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.

We can finally add that manuals have been used for a National training where the Belgian CHM Focal point was not directly involved. Indeed, the Moroccan CHM organised a training for the students of the University of Meknès on 7, 8, 14 and 15 April 2012. They used our manuals and part of our training materials to teach the students. You can look at the training website here: <http://www.biodiv.be/maroc/formation/>

### 3.3. 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.*

In 2012 the fifth call for proposals was launched for the reinforcement of CHM websites. Three projects have been selected: Bénin, Burundi and Niger. Table 6 lists the two projects. In addition, there were second phases of projects started with Madagascar and Eau de Web in 2011/2012.

Table 5. The two projects selected in the framework of the reinforcement projects 2012, the 2-year project with Madagascar and the contract with Eau de Web.

TITLE OF PROJECT	DATES	PARTNERS
Renforcement du Système de Fonctionnement du CHM-Burundais	Project signed on 26 June 2012, end 31 March 2013	Institut National pour l'Environnement et la Conservation de la Nature, Burundi
Amélioration du contenu et mobilisation des acteurs pour la promotion du centre d'échange d'informations (CHM) du Bénin	Project signed on 26 June 2012, end foreseen 31 April 2013	Direction Générale des Forêts et des Ressources Naturelles (DGFRN), Benin
Appui à la mise en place d'un système de suivi des indicateurs des objectifs d'Aichi et la mise à disposition des informations au niveau du site web CHM/CDB de Madagascar	Project signed on 1 September 2011, end foreseen 31 March 2013	Office national pour l'Environnement, Madagascar
Sensibilisation des décideurs politiques et acteurs de la biodiversité sur le site de Centre d'Echange d'Informations sur la Diversité Biologique (CHM Niger)	Contract signed on 26 June 2012, end 31 December 2012	SE/CNEDD, Niger
Development of a database to follow the implementation of the NBSAPs and the reporting of the CBD's Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets	Contract signed 1 March 2012, end foreseen 31 May 2012	Eau de Web, Romania

## *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 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 one new bookshelf, one laptop and a scanner. Also the persons responsible for the center received in-country training on how to organise the reference collection, digitalise the books and indexing them in an electronic classification system.

The results of the long-term reinforcement activities are more difficult to measure. However one can note the distribution of number 10 of the scientific journal of the INECN as well as the addition of at least 40 pages on the CHM web site with many still needing the formal approval from the national focal point. The CHM website attracted 2255 visitors over the reporting phase, with 12 037 pages consulted. This is a 10 % increase of the number of visitors and page views compared to the 2011 reporting phase.

## *Niger*

The project had the following expected results:

- To make of the CHM a Public Awareness tool, and an instrument to assist decision making in the field of Biodiversity.
- Improve the communication on CHM activities
- To put in place a network of active national contributors from research institutions, academics and policy makers.
- Improve the visibility of the site
- To provide teachers, scientists, student and the general public, with information on available online documentation.





*Figure 24: Erosion on former iron mines within the National Park W, Niger*

The project consisted of a series of information meetings with different stakeholders about the CHM. The result was an increase in visitors to the site, 13 396 visitors that visited 40 293 pages for 2012. This was an increase of 2000 visitors compared to the same period in 2011. Another result of the meetings was the better choice of persons to participate in the training workshop, mentioned under 3.1, as the directors were better aware about the demands that would be asked from the trainee.

### *Bénin*

The project had as objectives :

- follow-up sessions on the national training from 2011
- Improve content of certain sections of the CHM
- Create awareness among different stakeholders on the importance of the CHM and the role in the follow-up of the NBSAP.

In total 3 follow-up sessions were organised with each time 10-14 participants. With the participants agreements were reached to update certain sections of the national CHM with for each section a manager. The result was that most of the agreements have been completed and only 20 % still needs to be finalised.

For the second objective a total of 98 documents on the biodiversity of Benin have been collected from different resources in Benin. Not all have been scanned and posted yet on the site as some

authors still have to give their approval. A special section on Access and Benefit Sharing (ABS) has also been developed under this project.

The last objective has seen the organisation of 2 workshops: A workshop for the different NGO's that work in fields related to biodiversity with 35 participants; A second workshop for journalists with 24 participants. During the workshops the participants followed different presentation on the importance on biodiversity as well as hands-on training on how to add information in the News and Event section of the website.

### *Madagascar*

The project has for objectives to use the CHM for the follow-up of the indicators of the Aichi objectives. It is a novelty for the CHM and could be a good example to be also used in other countries. We opted to fund the project over two years:

- the first year (budget year 2011), there is an exploration phase on the indicators and their possible use in Madagascar, with an awareness raising and training part of the stakeholders on the use of the indicators and the PTK,
- in the second year (budget year 2012), there was a phase on adding the results of baselines studies on the CHM by the stakeholders.



*Figure 25: Rice fields in Madagascar*

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

*Eau de Web - Development of a database for the follow-up of the implementation of National Biodiversity Strategies and Action Plans (NBSAP) and the reporting on the Aichi objectives.*

As a follow up on the 10<sup>th</sup> Conference of the Parties to the Convention and the acceptance of the Strategic Plan for Biodiversity 2011-2020 as well as the Aichi Targets, each country needs to update its NBSAP before 2014. Countries also have to report on the implementation of these NBSAPs and how they help to progress towards the Aichi Targets. In collaboration with the European Environment Agency (responsible for the European CHM), a project has been started to develop a database system, integrated within the CHM, to enable the monitoring of the contribution of NBSAPs towards the Aichi Targets. The database has been tested with the information coming from the NBSAP 2006-2016 for Belgium. The revision of the Belgian NBSAP has not been finished yet at the moment of writing this report. The first version of the database has been demonstrated on numerous occasions to the partner countries, interested European countries and the secretariat of the CBD. As a result of the project can be mentioned that the EU CHM will continue to pay for the development of the tool as they see a real important use of the database. A working group has been established and will continue the development of the database. The partner countries that participated in the partner meeting in Morocco have incorporated their revised NBSAP in the tool . One of the recommendations of the partner meeting was to continue the development of the tool.

#### *Web statistics*

Like each year, web statistics are provided for a number of our CHM partner countries (see Table 6, next page). 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 seen a significant increase in visits early 2013. The website has recently started to be updated again, we could expect increased activity by the next reporting period as there will be an additional person trained in web management.
- the website of Morocco has seen a significant decrease early 2013. This reflects the fact that the national focal point has less time to work on the site due to additional tasks.

We also had a look at the trends in page views over complete years of the programme .

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

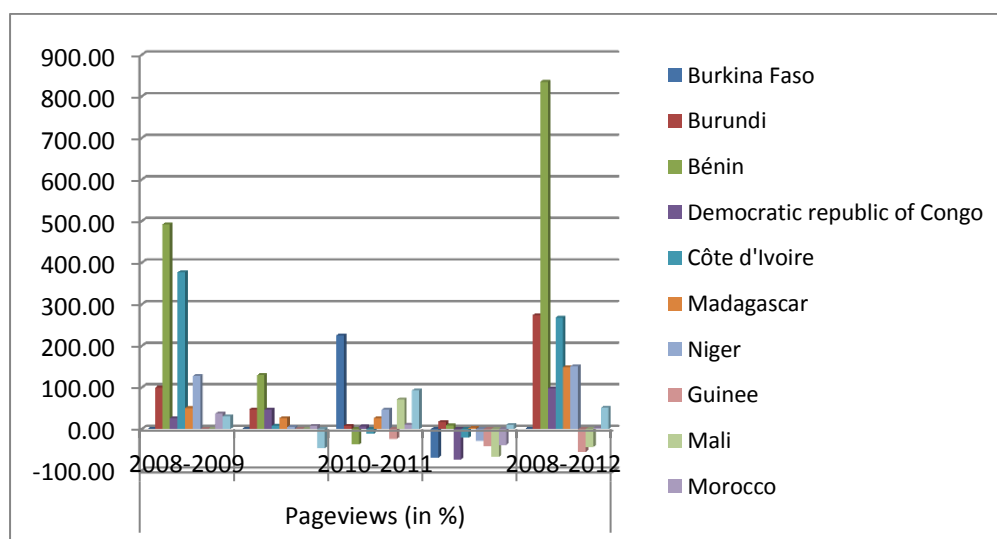


Figure 26: Web statistics on the changes in page views during the programme phase 2008-2012

### 3.4. 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.

### 3.5. 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: workshop for the partner countries in the interim year 2013 and for the preparation of the programme 2014-2019. European networking as well as global networking activities have been undertaken in the preparations for the CBD's 4<sup>th</sup> Working Group for the Review of Implementation (WGRI-4), the Conference of the Parties 11 (COP11), as well as the usual involvement in the CHM Informal Advisory Committee and the EU CHM advisory group.

*Workshop for partner countries in the interim year 2013 and for the preparation of the programme 2014-2019*

Based on the results of the workshop for brainstorming on the CHM partnership for the period 2013-2020, that took place in 2012, Cotonou, Benin, the CHM and Public awareness parts of the "Programme 2013-2019" had been prepared. In the beginning of 2013 there were discussions that the programme would be divided in 2 periods of 3 years with a possibility to have projects running over several years. We decided that we needed to better prepare our partner countries for this new 6-year programme through a workshop. During the 5-day workshop in Morocco (March 2013) the partners learned how to use standard project proposal tools, learned to write proposals with sound financial tables, exercised in reporting on the project results and the financial report as well as many other things.

One day was reserved for training in new features of the PTK CHM 3.0 as well as an introduction to the reporting tool for NBSAPs. The last day was used for additional training for the new web managers from Burkina Faso and Côte d'Ivoire and in-depth training for the others. The report of the workshop can be found on [http://www.biodiv.be/cooperation/chm\\_coop/chm-partnering/workshops/atelier-marrakech-2013/rapport-atelier-marrakech-2013-final.pdf](http://www.biodiv.be/cooperation/chm_coop/chm-partnering/workshops/atelier-marrakech-2013/rapport-atelier-marrakech-2013-final.pdf).



#### *WGRI-4 and COP11*

During WGRI4 and COP11 H. de Koeijer used the occasions to meet as many partner countries as possible to discuss the partnership and the future programme 2013-2019. On COP11 he showed new features PTK CHM3.0 to several partners as it had just been released by the EU CHM. During a CHM side event he also promoted a proto type for the reporting tool on the NBSAP, see 3.3 for more information, which was well received by partner countries as well as inter-governmental agencies like UNEP-WCMC.

On behalf of Belgium H. de Koeijer was also co-pilot for the EU during WGRI4 and COP11 on agenda points:

3. Implementation of the Strategic Plan 2011-2020 and progress towards the Aichi Biodiversity Targets
- 5.4. Engagement of stakeholders, major groups and local authorities.
7. Article 8(j) and related provisions
12. Biodiversity and Development



### 3.6. T3-CHM-06. Public awareness through the CHM



Figure 27: Tourist lodge in the National Park W, Niger

*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 2011 for implementation years 2011 and 2012 specifically focused on projects to focus on indicators for public awareness. 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». However, suitable indicators are still lacking to measure progress towards the target. Our call for proposals called for studies to identify, test and validate suitable indicators for the first Aichi Target 1. It was decided that the projects would run over two years (2011-2012) in order to give sufficient time for our partners to execute the study. The first year had served to identify potentially suitable indicators at the national level, whereas the second year would be devoted to select a few of these indicators and to start establish baseline data.

This is quite an innovative approach, as there are no indicators identified yet on a global level for this target. In 2011 the projects of Cameroon and Benin were accepted and in 2012 they worked on baseline indicators for Public Awareness.

Both projects finalized the first phase at the time of reporting and have started the second phase. The reports of the projects can be found on the respective national CHM websites:

- Cameroon: <http://www.biodiv.be/cameroun/news/le-rapport-d-etude-de-reference-des-indicateurs-de-sensibilisation-de>
- Benin: <http://bj.chm-cbd.net/cooperation/coop/cooperation-bilaterale/parteneriat-benin-belgique/cooperation-dgfrn-irscnb>

The results of the projects will be communicated to the Secretariat of the Convention, at their request, as it might use this experience for identifying suitable global indicators.

It should be noted that the 2011 reinforcement project of Madagascar (see 3.3) also meets the objectives of this call for proposals. It has received further support to be able to carry out an implementation phase (baseline study) in 2012.

### 3.7. 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.*

During the EU CHM network meeting, Copenhagen, November 2012, H. de Koeijer presented the proto type for the reporting tool on the NBSAP, see 3.3 for more information. During the meeting it was decided that the EU would continue with the development of the tool and would establish a working group to guide further developments. A first meeting of this working group was planned for May 2013.

H. de Koeijer also presided the CHM informal advisory committee meeting that was held in the margins of COP11, Hyderabad, India. He assisted the Secretariat to develop the report to COP11 as well as the working programme for the CHM.



*Figure 28: Participant in the CHM training in. Since 2011, participants have to prepare a presentation of their institution and of the biodiversity information it holds. This enables all participants in the workshop to be aware of the existence of this information. The objective is to facilitate the publication of the information on the CHM website.*

## 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 an 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.

#### 4.1. 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.*

Examples of services may include:

- advice on the implementation of activities and projects in partner countries,
- advice on proposed, submitted or running projects financed by DGD or Belspo
- advice on the cross-cutting issue of environment in the preparation of bilateral cooperation agreements (e.g. preparation of ‘commissions mixtes’),
- support to DGD for the follow-up of multilateral agreements,
- support to the decision-making process of the federal ministerial offices,
- contribution and support to outreach activities of DGD,
- identification of people, institutions and organisations working for biodiversity worldwide,
- work with the Secretariat of the Convention on Biological Diversity or UNEP on issues such as the Global Taxonomy Initiative or the Clearing-House Mechanism.

*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).*

For 2012, our contributions are enumerated in Tables 8 (national) and 9 (international consultations).

Table 7. National-level expertise and consultations provided in 2012.

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
	Biodiversity integration in PICs	Presentation during the attaché days 2012	H. de Koeijer
	Harmonisation of scholarships for students in Belgium	Participation in the process, advice on documents	A. Franklin, H. de Koeijer
	Reform of the DGD: consultation process for indirect actors	Attendance in meetings, advice on documents... (since Feb. 2012)	H.de Koeijer
Belgian Science Policy Office (Belspo)	BEES project (Belgium Ecosystem Services) and setting up of Belgian Community of Practice on Ecosystem Services	Participation in meetings as interested user of information and provision of advice from a stakeholder point of view 2012	A. Franklin
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
	Informal platform international Conventions	Participation in meetings and sharing of experiences	H.de Koeijer
	Development of framework convention FPS-Environment - RBINS	Sharing of expertise from - RBINS -DGD convention and input in the development	H. de Koeijer
Overall Belgian Policy	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 and more	H. de Koeijer, M.-L. Susini

End 2010, the CBD adopted numerous decisions during its 10<sup>th</sup> 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. A. Franklin and H. de Koeijer attended the SBSTTA-16 and WGRI-4 meetings respectively. H. de Koeijer also attended as member of the Belgian delegation COP11, Hyderabad, India, presided the CHM-IAC meeting and presented during a side event the tool that Belgium, in cooperation with the EU-CHM, is developing for the follow-up of the implementations of NBSAPs.

Table 8. International-level expertise and consultations provided in 2012.

REQUESTING BODY	SUBJECT	TYPE OF WORK	PERSONS INVOLVED
Secretariat of the Convention on Biological Diversity	Belgian position on CBD Notifications 2011-070, 2011- 071, 2011-072 + other documents on resource mobilisation	Contribution with comments and suggestions to the various Belgian positions (from November 2011 onwards till July 2012)	A. Franklin
	Belgian position on UNEP/CBD/SBSTTA/16/3: 4th Global Biodiversity Outlook	Preparation of the Belgian position,	M. Schlessner, A. Franklin
	Belgian position on UNEP/CBD/SBSTTA/16/11: Global Strategy for Plant Conservation	Preparation of the Belgian position,	A. Franklin
	Belgian position on UNEP/CBD/SBSTTA/16/12: Revised Draft Capacity-Building Strategy for the GTI	Preparation of the Belgian position,	A. Franklin, Y. Samyn
	Belgian position on UNEP/CBD/WG-RI/4/2 + 4/3 + 4/3 ADD1 on the Strategic Plan for Biodiversity 2011-2020	Preparation of the Belgian position,	H. de Koeijer
	Belgian position on UNEP/CBD/WG-RI/4/5 on biodiversity for poverty eradication and development	Preparation of the Belgian position,	H. de Koeijer, A. Franklin
	Belgian position on UNEP/CBD/WG-RI/4/8 on South-South Cooperation	Preparation of the Belgian position,	H. de Koeijer



REQUESTING BODY	SUBJECT	TYPE OF WORK	PERSONS INVOLVED
	Development of UNEP/CBD/COP/11/13/ADD2 on the CHM	Contributor and editor of this background document to COP11 as chairperson of the CHM-IAC	H. de Koeijer
	Development of UNEP/CBD/COP/11/31 on the CHM	Contributor and editor of this background document to COP11 as chairperson of the CHM-IAC	H. de Koeijer
	Belgian and EU position on agenda items of COP11: CHM, NBSAPs, Biodiversity and development, Technology transfer, South-South Cooperation, Biodiversity and poverty eradication and 8J (traditional knowledge).	Preparation of the Belgian and EU positions on these agenda points during WPIEI meetings and EU meetings during COP11	H. de Koeijer
European Environmental Agency	Development of NBSAP reporting tool	Advise on the further development of the NBSAP reporting tool	H. de Koeijer
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
Ghana	Clearing-House Mechanism	Training on Implementation of the CHM in Ghana	M.-L. Susini

#### **4.2. 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. This year 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.

## 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).*

### 5.1. 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 DGDC-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).

In September 2012 A. Franklin announced that she would renounce her job as project coordinator to start a new job at the Brussels Statistical office in November 2012. From October 2012 till the end of the reporting period H. de Koeijer has taken over as interim-coordinator till the new coordinator, L. Janssens de Bisthoven, would take over in May 2013. During this Interim-period the representation and networking role of the project coordinator has been diminished seen the workload of combining two roles in the project. It is foreseen that L. Janssens de Bisthoven will revamp this role in the 2013 interim year.

### 5.2. 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.

## **Presentations**

- Olbers J. 2012. "Lost in the Museum: a neglected collection of shallow-water South African echinoderms" given at the 14th International Echinoderm Conference, Brussels, 20-24.08.2012, 22 slides.
- Susini, M.-L. 2012. "Building capacities for biodiversity" given at the meeting "Accès aux données scientifiques d'histoire naturelle et co-développement - Projet CollectAccess " organised by the French Academy of Sciences, in Paris, 19-20.10.2012, 29 slides.
- Baetens K. and P. Luyten, 2012. The typhoon season of 1971 in the coastal area of the Red River delta in North Vietnam. Joint Numerical Sea Modelling Group (JONSMOD) conference, 21-23 May 2012, Brest, France.
- França C., P. Luyten and E. Campos, 2012. Towards an operational model of the southeastern Brazilian shelf. Joint Numerical Sea Modelling Group (JONSMOD) conference, 21-23 May 2012, Brest, France.

## **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>.

## **Course modules**

- Habiyaemye Muhashy Fr. 2012. Reconnaissance et suivi de l'évolution des habitats dans les aires protégées en République du Burundi. Cours théorique (Power Point) de base pour le travail sur le terrain. 185 diapositives + 1 Syllabus de 80 p.
- Kempenaer S., Franklin A., Ballez A. (Factory X) , Ausloos. G. (JBN), Rebella D. et Wallens S. (SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement). 2012. "Biodiversité et services écosystémiques" – Module rail. Le module est disponible en ligne uniquement pour les participants sur le site suivant : <http://training.biodiv.be/training>.
- Kempenaer S., Franklin A., Ballez A. (Factory X) , Ausloos. G. (JBN), Rebella D. et Wallens S. (SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement). 2012. "Biodiversiteit en ecosysteemdiensten" – Zee en waterwegen module. Le module est disponible en ligne uniquement pour les participants sur le site suivant : <http://training.biodiv.be/training>.
- Kempenaer S., Franklin A., Ballez A. (Factory X) , Ausloos. G. (JBN), Rebella D. et Wallens S. (SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement). 2012. "Biodiversité et services écosystémiques" – Module EMAS. Le module est disponible en ligne uniquement pour les participants sur le site suivant : <http://training.biodiv.be/training>.

- Kempenaer S., Franklin A., Ballez A. (Factory X) , Ausloos. G. (JBN), Rebella D. et Wallens S. (SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement). 2012. “Biodiversité et services écosystémiques” – Module économie. Le module est disponible en ligne uniquement pour les participants sur le site suivant : <http://training.biodiv.be/training>.
- Kempenaer S., Franklin A., Schlessers M., Ballez A. (Factory X) , Ausloos. G. (JBN), Rebella D. et Wallens S. (SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement). 2012. “Biodiversité

### Scientific papers and reports

- Franca C., Luyten P., Campos E. J. D. 2012. Towards an operational numerical modelling of the Southeastern Brazilian Shelf circulation. In press.
- Barreto M., Burbano M.E., Proctor H.C., Mironov S.V. & Wauthy G. 2012. Feather mites (Acariformes: Psoroptidia) from Colombia: Preliminary list with new records. Zootaxa 3516: 1–68.
- Bouyer T. 2012. Barcodes et nouveaux Saturniidae africains du genre *Lobobunaea* Packard, 1901 (Lepidoptera). *Lambillionea* 112 (2): 181-194.
- Cabarroi Hernández M., Maldonado González S., Recio Herrera G. 2012. Catálogo de Hongos y Myxomycetes del Jardín Botánico Nacional de Cuba, La Habana, Editorial Universitaria, 71 pages.
- Drumont A. & Komiya Z. 2012. Note on the genus *Stenandra* Lemeere, 1902 in Vietnam. Les Cahiers Magellanes NS n°9, 47-49.
- Higuti J. & Martens K. 2012. On a new cypridopsine genus (Crustacea, Ostracoda, Cyprididae) from the Upper Paraná River Floodplain (Brazil), Zootaxa 3391: 23–38.
- Olayemi A., Nicolas V., Hulselmans J., Missoup A.D., Fichet-Calvet E., Amundala D., Dudu A., Dierckx T., Wendelen W., Leirs H. & Verheyen E. 2012. Taxonomy of the African giant pouched rats (Nesomyidae: Cricetomys): molecular and craniometric evidence support an unexpected high species diversity, Zoological Journal of the Linnean Society, 165, 700–719.
- Pham H. T. & Yang J-T. 2012. First record of the cicada genus *Karenia* Distant, 1888 (Hemiptera: Cicadidae) from Vietnam, with description of a new species. Zootaxa 3153: 32–38.
- Pham H. T., Hayashi M., Yang J-T. 2012. First record of the cicada genus *Semia* Matsumura (Hemiptera, Cicadidae) from Vietnam, with the description of one new species and a key to species. ZooKeys 174: 31–40.
- Valdés P. 2012. Notes about morphological features of the Western Hemisphere subtribe Ardistomina, and revision of genus *Semiardistomis* Kult (Coleoptera, Carabidae, Scaritinae, Clivinini). ZooKeys 210: 19–67.
- Masumbuko Ndabaga C., Herpigny B., Barbier N., Habiyaemye Muhashy F., Lejoly J. & Meerts P. 2012 - Life strategy traits of the liana *Sericostachys scandens* spreading in the montane forests in the Kahuzi-Biega National Park (DR Congo). J. Mt. Sci. 9(5):665-675.DOI 10.1007/s11629-012-2382-x.

- Masumbuko Ndabaga, C. Habiyaremye Muhashy, F & Lejoly, J. 2012. Woody climbing plants influence the structure of the mountain forest in the Kahuzi-Biega National Park, DR Congo. Reg Environ Change DOI 10.1007/s 10113-012-0309-2. Springer – Verlag 9 pp.
- Samyn Y. & Declercq. 2012. No Name, No Game. European Journal of Taxonomy 10 : 1-3.
- Olbers J. & Samyn Y. (in press). The Ophiocoma species (Ophiurida: Ophiocomidae) of South Africa Western Indian Ocean Journal of Marine Science

## Posters & abstracts

- Higuti J., Schön I., Audenaert L. and Martens K. 2012. Three new species of *Strandesia* (Ostracoda, Cypridae) from the Alluvial Valley of the Upper Paraná River (Brazil), 14th International German Ostracodologist's Meeting in Köln, Germany, 11-14.10.2012.
- Njouonkou L. A. 2012. Calendrier des champignons en Pays Bamoun au Cameroun (co-funded by the Belgian GTI and a Rufford small grant).
- de Koeijer, H. 2012. Biodiversity in development cooperation programmes. Presentatie gegeven tijdens de attachédagen 2012, Belgische ontwillelingssamenwerking, Brussel. 12.04.
- de Koeijer, H. 2012. Development of an internet tool for the follow-up of NBSAPs, Presentatie gegeven tijdens het side-event on CHM developments during the Conference of the Parties to the Convention on Biological Diversity, Hyderabad, India.
- de Koeijer, H. 2012. Development of an internet tool for the follow-up of NBSAPs, Presentatie gegeven tijdens de EC CHM meeting, Copenhagen, Denmark, 07.11.
- 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 Madagascar, Benin, Burundi, Niger.
- Habiyaremye Muhashy Fr., Nzigidahera B., Vrancken K. 2012. Eléments de suivi de la dynamique des habitats dans le Parc National de la Kibira (Burundi). Poster présenté à la Journée Nationale de l'Environnement au Burundi 26 oct 2012).  
"[http://www.biodiv.be/cooperation/chm\\_coop/chm-partnering/documents-our-partners/poster-burundi/biodiversityburundi\\_mostfinal.pdf](http://www.biodiv.be/cooperation/chm_coop/chm-partnering/documents-our-partners/poster-burundi/biodiversityburundi_mostfinal.pdf)".
- Habiyaremye Muhashy Fr. 2012. Reconnaissance et suivi de l'évolution des habitats dans les aires protégées en République du Burundi. Cours théorique de base pour le travail sur le terrain. 185 diapositives.
- Susini ML 2012 "Building capacities for biodiversity". Oral presentation given at the meeting entitled "Accès aux données scientifiques d'histoire naturelle et co-développement- Projet CollectAccess " held in Paris, 19-20.10.2012.
- Vijith V., S.D. Shetye and P. Luyten, 2012. Annual cycle of salinity in a monsoonal estuary in observations and in a three-dimensional numerical model. Presented as a poster at the 50th ECSA conference, Venice, Italy, 3-7 June 2012.



## 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.

## Press, media, public

- Susini ML. 15.05.2012 Interview radio enregistrée pour le Journal de la Terre de Radio Nostalgie à l'occasion de la Journée Internationale de la Biodiversité consacrée à la biodiversité marine, pour présenter les gestes pour la biodiversité marine.
- Susini ML. 18.05.2012 Interview radio, en direct à la Première dans l'émission Nuwa de Corinne Boulanger, à l'occasion de la Journée Internationale de la Biodiversité consacrée à la biodiversité marine, pour présenter les gestes pour la biodiversité marine.
- Van Goethem, J. diverse voordrachten over biodiversiteit van Noorwegen, Chili en Argentinië op cruiseschepen aug. en nov. 2012.
- Van Goethem, J. Voordracht: Biodiversiteit is onze ultieme rijkdom m/v Athena. 03 en 28.08.2012.
- Van Goethem, J. Voordracht: La biodiversité est notre ultime richesse m/v Athena. 03 en 28.08.2012.
- Van Goethem, J. Voordracht: La biodiversité est notre ultime richesse m/v Veendam. 18.11.2012
- Habiyaemye Muhashy. 11.10. Participation in the preparation of a CSB project in the frame of the call launched by the SCI Foundation First For wildlife - (Large Grant Application Form).
- Habiyaemye Muhashy. 12.10. Participation in the preparation of a CSB project in the frame of the call launched by the European Commission -Thematic Programme for environment and sustainable management of natural resources, including energy
- Susini ML.: Evaluation de 5 projets soumis à l'appel à propositions interne du GTI pour l'année 2012 (volet GTI-01).

## Reports

- de Koeijer H., Susini, M-L (eds). 2012. Rapport de l'atelier pour les pays partenaires du CHM Belge, Cotonou, Bénin du 25 au 27 avril 2012.

- de Koeijer H., Kempenaer S. (eds.) Program 2013, Building capacities for biodiversity and development, KBIN, Annual programme of activities of the specific convention between the RBINS and the Belgian Development Cooperation. 6 December 2012. 46 p. Document prepared by de Koeijer H., Kempenaer S, with the contributions Fr. Muhashy Habiyaemye, P. Luyten, Y. Samyn, M.-L. Susini and E. Verheyen.
- de Koeijer H., 6 mission reports for the travels abroad see 3.2.2. for information about the missions.
- Franklin A., (ed). 2012. Report 2011. Building capacities for biodiversity and development. Annual report of activities of the specific convention between the RBINS and the Belgian Development Cooperation. June 2012. 70 p. Document prepared by A. Franklin and S. Kempenaer, with the contributions of H. de Koeijer, Fr. Muhashy Habiyaemye, P. Luyten, Y. Samyn, M.-L. Susini and E. Verheyen.
- Franklin A. 2012. Draft programme 2014-2019. Building capacities for biodiversity and development for sustainable development and poverty reduction. Multiannual programme of activities of the specific convention between the RBINS and the Belgian Development Cooperation. October 2012. 42 p. Document prepared with the contributions of Katrijn Baetens (RBINS-MUMM), Han de Koeijer, François Muhashy Habiyaemye, Patrick Hollebosch (DGD), Patrick Luyten (RBINS-MUMM), Camille Pisani, Marie Lucie Susini, Renata Vandeputte (DGD), Erik Verheyen, Barbara Vincke (DGD).
- Habiyaemye Muhashy Fr. 2012. Mission d'évaluation des activités du partenariat entre l'IRSNB et l'ICCN (2008 – 2011) et de planification du suivi de la dynamique des habitats dans les aires protégées en R. D. Congo (14-22.03.2012).
- Habiyaemye Muhashy, Fr. 2012. Rapport de la mission d'animation du 1er atelier sur le suivi de la dynamique des habitats dans les aires protégées en République du Burundi (05 au 20/12/2012). 11 p.
- Kempenaer S. 2012. Formation « biodiversité et services écosystémiques ». Rapport final. Décembre 2012. 21 p. Document préparé avec les contributions Rebella D. et Wallens S. (SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement).
- Peeters, M., 2012. Stuurgroep Biodiversiteitsverdrag. Verslag van de 66ste vergadering gehouden op 21 september 2012 in het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussel, 2 p.
- Samyn, Y. 2012. EDIT Year 5 Event and Visit to the Ophiuroid collections of the Paris Natural History Museum. RBINS Scientific report, 3 pp.
- Samyn Y. 2012. Visit to SANBI, Pretoria, 13-17 May, 7 pp.
- Susini ML, de Koeijer H. 2012. Analyse du questionnaire en ligne à destination des partenaires du CHM belge durant l'accord-cadre 2008-2012 avec la Coopération Belge au Développement, 21 pp.
- de Koeijer H and Kempenaer S.. 2012. Strategic vision 2014-2023. Building capacities for biodiversity and development for sustainable development and poverty reduction. Multiannual vision for the specific convention between the RBINS and the Belgian Development Cooperation. March 2013. 42 p. Document prepared with the contributions of Katrijn Baetens (RBINS-MUMM), Anne Franklin, François Muhashy Habiyaemye, Patrick Hollebosch (DGD), Patrick

Luyten (RBINS-MUMM), Camille Pisani, Marie-Lucie Susini, Renata Vandeputte (DGD), Erik Verheyen, Barbara Vincke (DGD).

### **Submitted manuscripts, accepted for publication**

- Nkono, C.; Dupin, L.; Burlet, C.; Habiyaemye Muhashy, F. & Vanbraband, 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. Accepted (2013), ID: 2630031.
- Mangambu Mokoso, J. ; Habiyaemye Muhashy, F. ; Janssens, R. ; Van 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. (2013), ID: 778007, DOI:10.1080/00207233.2013.778007)
- Purcell, S. & Samyn, Y. (in press). Commercially important sea cucumbers of the World. FAO.

### **Varia**

#### Review of PhD thesis

- Habiyaemye Muhashy, Fr. 15.06.2012. ULg. Membre du jury, Thèse de Mme Nzabandora Kabonyi Chantal : Analyse palynologique de divers sondages du secteur haute altitude du Parc National de Kahuzi-Biega. Paléoenvironnements et paléoclimats au Pléistocène supérieur et à l'Holocène.

#### Member of Boards

- J. Van Goethem : Member of the Editorial Board of the 'Journal of Biodiversity', India.
- Susini ML. : Membre du comité scientifique du Bulletin Scientifique de l'Institut National pour l'Environnement et la Conservation de la Nature (INECN), Burundi.

### **5.3. COORD-03. Coordination**

#### *Steering committee meeting*

The steering committee for the specific convention met twice at the Institute in 2012. On 20.09.2012 (20<sup>th</sup> meeting), the main point on the agenda was the presentation of the report for 2011 and on a discussion of the activities of 2012. On 06.12.2012, (21<sup>th</sup> meeting), the committee approved the

programme of work for the interim year 2013 as well as the strategy for 2014-2019, later prolonged to 2023.

### *Self assessment 2008-2011*

In order to prepare for the future work under the DGD-RBINS partnership, a self-assessment after four years of activities (2008 to 2011) was compiled by the staff involved in the project.

A report of 78 pages was produced (58 pages for the main report, 20 pages specifically on the GTI, see Annex 8 and 9). The self-assessment was carried out for each of the sub-programmes and for the transversal issue of 'distance learning'. It provides the following:

- a synthesised presentation of results per sub-programme and (using indicators when possible);
- an assessment of the main achievements in relation to the following criteria: relevance, effectiveness, efficiency, impact, sustainability;
- a short overview of the strengths and weaknesses of the sub-programme, some lessons learned and suggestions for future work.

The self-assessment was then used to guide the discussions for the renewal and extension of the DGD-RBINS partnership (at the horizon 2014-2020, with a transition year in 2013). The first brainstorming meeting between DGD and the RBINS took place on 1 March 2012 (the other meetings occurred during the 2012 reporting period). During this first meeting, participants highlighted lessons-learned and expressed expectations for the future.

At the following meetings, there were specific sessions on what the 2 partners expected from the programme and from each other to be able to find a common viewpoint for the future programme. During the last session a first draft for the 2014-2019 programme was presented and discussed;

Regular meetings were held for coordination of activities within RBINS. External coordination took place with scientific institutes such as the RMCA and the NBGB, as well as with various universities, organisations and administrations, both at the Belgian and international level.



Figure 29: Streets of Accra, Ghana.

## The team

### *Employed on the programme in 2012*

Ten staff members were employed fully or partially on the programme for a total of 80.9 person-months and 377.214,67 € (down from 82.9 person month and 390 859 € in 2011).

- 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).
- Anne Franklin, Belgian CBD Focal Point and programme coordinator (100% on the programme during 6,5 months) until 15 November 2012.
- Salima Kempnaer, 'policy support' special programme officer and coordination assistant (4 months full time on the programme).
- Patrick Luyten, COHERENS activities (1 months full time on the programme).
- François Muhashy Habiaremye, 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 1.2013). Various design activities (*Abc Taxa* website, GTI website, CHM websites (also of partner countries), posters, graphics for IYB activities etc.).

### *Personnel contributing significantly to the programme in 2012, 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.
- Jean-Luc Boevé, Entomology department, GTI project in Ethiopia.
- 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).

#### *Other support in 2012*

- Involvement of scientific collaborators:
  - Jérôme Degreef, National Botanic Garden of Belgium, co-editor of *Abc Taxa*.
  - Alain Pauly, for all activities involving pollinators and for the GTI project in Ethiopia, as well as training of GTI students in Belgium
  - Didier VandenSpiegel, Royal Museum for Central Africa, co-editor *Abc Taxa*.
  - Jackie Van Goethem, former Head of Department and responsible of the specific convention till 31 May 2008 (date of retirement), training and awareness raising.
- 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.



*Students participating in the project (students following the workshops are not included here)*

- PhD students:
  - Jennifer Margaret Olbers (University of Capetown, S. Africa): Taxonomy and biodiversity of the Ophiuroidea (brittle-stars) of South Africa. Follow-up by Y. Samyn.
  - Jean de Dieu Mangambu Mokoso (Université officielle de Bukavu & Université d'Anvers) : Ecologie et Taxonomie des ptéridophytes de l'Ecosystème forestier de Moyenne et Haute altitude du Parc National de Kahuzi-Biega. Follow-up by F. Muhashy Habiyaemye.
  - Sylvestre Gambalemoke Mbalitini (University of Kisangani, DR Congo) : Phylozoogeography of Shrews in the Congo basin River (Region of Kisangani, DR Congo). Follow-up by E. Verheyen
  - Célestin Danadu Mizani (University of Kisangani, DR Congo) : Diversity and Ecology of Synodontis Cuvier, 1817 (Mochokidae) in Kisangani and adjacent areas (DR Congo). Follow-up by E. Verheyen.
- MSc or BSc:
  - Innocent Habumugisha Hitimana (ISDL Grands Lacs, Goma): Connaissances des plantes mellifères par la population du groupement de Rugari: atout pour la sensibilisation à la conservation du secteur sud du Parc National des Virunga. Mémoire de Licence, 2009-2010. Follow-up by F. Muhashy Habiyaemye.
- 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.

## List of missions

DATE	PROGRAMME	OBJECT OF MISSION	PERSONS INVOLVED	FINANCING
24.01.12	POL-01	Colloque "La biodiversité, une culture commune", Assemblée Nationale, <b>Paris, France.</b>	M.-L. Susini	DGD
01.02, 29.02, 4-5.09, 27-28.09.12		Deelname aan WPIEI vergaderingen ter voorbereiding van SBSTTA-15, WGRI-4 en COP11 georganiseerd door de <b>EU.</b>	H. de Koeijer  Franklin A., Schlesser M.,	DGD
03-02		Réunion de préparation Formation « Biodiversité et services écosystémiques ». Module Rail. SPF Mobilité et Transports. <b>Bruxelles.</b>	Franklin, A.	
17-21.12-		Dienstreis naar Niamey, Niger voor het geven van nationale training CHM voor <b>Niger</b>	de Koeijer H, Susini M.-L.	DGD
09.02 and 18.04		Deelname aan vergadering over veranderingen in project subsidies voor NGO's door DGD, Brussel.	Franklin, A.	DGD
14-22.03.2012	IMAB-02	Mission d'évaluation des activités du partenariat entre l'IRSNB et l'ICCN (2008 – 2011) et de planification du suivi de la dynamique des habitats dans les aires protégées en <b>R. D. Congo</b> (2012).	Fr. Muhashy	DGD
13-17 05	GTI	Actieve participatie aan de lancering van het elfde deel van Abc Taxa en bezoeken van verschillende taxonomische instellingen in <b>Pretoria, SANBI (Zuid-Afrika).</b>	Y. Samyn	DGD
30.06, 21.09, 19.12.12	POL-02	Réunions du Groupe directeur « Convention biodiversité », IRSNB ou SPF Santé Publique Sécurité de la Chaîne alimentaire et Environnement. <b>Bruxelles</b>	H. de Koeijer  Franklin A., ,	DGD
16-20.04.12	GTI-03	Oligochètes dulçaquicoles du <b>Maghreb</b>	P. Martin	DGD + RBINS

DATE	PROGRAMME	OBJECT OF MISSION	PERSONS INVOLVED	FINANCING
19.04 and 26.04	POL-02	Formation « Biodiversité et services écosystémiques ». Module rail. SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement. <b>Bruxelles.</b>	A. Franklin	
21-29.04.12		Dienstreis <b>naar Cotonou, Benin</b> voor het organiseren van een partnerschap workshop met de partnerlanden	H. de Koeijer M.-L. Susini	DGD
23-25.04.12	CHM-05	Regional workshop for brainstorming on the CHM partnership for 2013-2020, <b>Marrakesh, Morocco</b>	H. de Koeijer, M.-L. Susini	DGD
24.04.2012	IMAB-02	<b>Palais des Académies (Place Ducale Bruxelles)</b> , Réunion de l'Ac. Roy. Sc. O-Mer, classe des sciences naturelles et médicales	Fr. Muhashy	DGD
23-28.04.12	IMAB-03	COHERENS training course, <b>Lima, Peru</b>	P. Luyten	DGD
28.04-05.05.12	POL-01	SBSTTA-16, Montreal, <b>Canada</b>	A. Franklin	DGD
03.05.12		Presentatie op de attachédagen van het DGD, <b>Brussel</b>	H. de Koeijer	DGD
05-13.05.12	POL-01	WGRI-4, Montreal, <b>Canada</b>	H. de Koeijer	DGD
14.05 and 15.05.12	POL-02	Formation « Biodiversité et services écosystémiques ». Module Marin. SPF Mobilité et Transports. <b>Bruxelles</b>	A. Franklin	DGD + SPF
21-22.05.12	CHM-01	Follow-up of national training session for CHM webmasters  Atelier de remise à niveau des partenaires du Centre d'Echange d'informations du Bénin, <b>Cotonou, Bénin</b>	M.-L. Susini	DGD
23-25.05.12	CHM-01	7ème conférence internationale "e-learning Africa", <b>Cotonou, Bénin</b>	M.-L. Susini	DGD
29.05.12	IMAB-02	<b>European Parliament</b> , "Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) - Reconnecting science to policy: Why? What? How?"	Fr. Muhashy	DGD

DATE	PROGRAMME	OBJECT OF MISSION	PERSONS INVOLVED	FINANCING
29.05.12		Workshop sur la mise en œuvre en Belgique du Protocole de Nagoya sur l'Accès aux Ressources Génétiques et le Partage des Avantages en découlant, SPF Environnement, <b>Bruxelles</b> .	M.-L. Susini	DGD
31.05 and 21.09.12		Deelname aan "Informal Platform for negotiators at International Conventions, LNE, <b>Brussel</b>	H. de Koeijer	DGD
05.06.12	POL-01	Conference 'Green economy : Solution for a Living Planet?' WWF Belgium, <b>Brussels</b>	M.-L. Susini	DGD
15.06.2012	IMAB-02	<b>Palais des Académies (Place Ducale Bruxelles)</b> , Réunion de l'Ac. Roy. Sc. O-Mer, classe des sciences naturelles et médicales	Fr. Muhashy	DGD
19.07.2012	IMAB-02	<b>MRAC Tervuren</b> , Préparation de l'atelier pour l'INECN	Fr. Muhashy	DGD
13.09.12		Deelname aan vergadering van de expertengroep Landbouw en voedselzekerheid, DGD, <b>Brussel</b>	de Koeijer H.,	DGD
20.09.12		Deelname aan voorbereidende vergaderingen van de Belgische delegatie aan WGRI-4 en COP11 van het Verdrag inzake Biologische Diversiteit, <b>Brussel</b>	de Koeijer H., Franklin A.,	
05-22.10.12		<b>Hyderabad, India</b> om deel te nemen aan COP 11 van het Verdrag inzake Biologische Diversiteit.	de Koeijer H.,	DGD
08.10 and 16.10.12	POL-02	Formation « Biodiversité et services écosystémiques ». Module économie. SPF Santé Publique, Sécurité de la Chaîne alimentaire et Environnement. <b>Bruxelles</b> .	A. Franklin	
19-20.10.12		Rencontre internationale « Accès aux données scientifiques d'histoire naturelle et co-développement- Projet CollectAccess », <b>Paris, France</b> .	M.-L. Susini	DGD
23.10.12		European Commission technical workshop on Access and Benefit Sharing, <b>Brussels</b> .	M.-L. Susini	DGD
06-07.11.12		EC CHM Meeting, <b>Kopenhagen, Denemarken</b>	de Koeijer H.,	DGD

DATE	PROGRAMME	OBJECT OF MISSION	PERSONS INVOLVED	FINANCING
16.11.2012	IMAB-02	Ugent , “Effects of Macrotermes termites on the mineralogical and electro-chemical properties of Ferralsol materials in the Upper Katanga ( <b>DR Congo</b> )”. Thèse de doctorat défendue par Mujinya (Université de Lubumbashi)	Fr. Muhashy	DGD
19.11.12		Deelname aan vergadering over veranderingen in project subsidies voor NGO's door DGD, <b>Brussel</b> .	de Koeijer H.,	DGD
27.11.2012	IMAB-02	<b>Palais des Académies (Place Ducale Bruxelles)</b> , Réunion de l’Ac. Roy. Sc. O-Mer, classe des sciences naturelles et médicales	Fr. Muhashy	DGD
30.11.2012	IMAB-02	BELSP0 <b>Bruxelles</b> , Agora: xylaredd symposium	Fr. Muhashy	DGD
05-20.12.2012	IMAB-02	<b>Burundi</b> . Animation du 1er atelier sur la dynamique des habitats dans les aires protégées.	Fr. Muhashy	DGD
04-12		Deelname aan debriefing van Belgische delegatie COP11, SPF Milieu, <b>Brussel</b>	de Koeijer H.,	
31.01.2013	IMAB-02	Auditorium KBC Avenue du Port 2 1080 <b>Bruxelles</b> . Participation à la conférence organisée par le WWF, sur le Parc National de « Virunga. Une histoire de beauté, de conflits, de courage et d’espoir».	Fr. Muhashy	DGD
18.02-02.03.2013		<b>R. D. Congo</b> . Suivi de la constitution des données sur la dynamique des habitats dans les aires protégées et lancement de la promotion des services écosystémiques, avec la d’une collaboration de l’ERAIFT et l’UNILU.	Habiyaremye Muhashy Fr.	
February		provided training in Kisangani on the use of new labelling equipment	Frank Adriaenssen (UA)	DGD
04.02	POL	CG Resource Mobilisation	H.de Koeijer	
19.02	POL	WPIEI ABS	H.de Koeijer	
20.02	POL	Platform landbouw & Voedselzekerheid (DGD)	H.de Koeijer	

DATE	PROGRAMME	OBJECT OF MISSION	PERSONS INVOLVED	FINANCING
22.02	POL	Workshop on the implementation of the Nagoya Protocol in Belgium	H. de Koeijer	
25.02 – 01. 03	CHM-03	CHM training by Marie Lucie Susini (RBINS) to 13 participants in <b>Ghana</b>	M.-L. Susini	GEF
11-15.03	CHM-05	Organisation and participation of the Partner meeting of the CHM focal points to prepare programme 2014-2019, <b>Morocco</b>	H.de Koeijer, M.-L. Susini	DGD
8-12.04I	CHM-03	CHM training to 10 participants in <b>Burundi</b>	H. de Koeijer	DGD
12.04	CHM-03	One-day training to CHM national focal point <b>Rwanda</b>	H. de Koeijer	DGD

## List of annexes

Annexes can be downloaded from the Belgian CHM website at  
[http://www.biodiv.be/cooperation/chm\\_coop/dgdc-rbins-specific-convention](http://www.biodiv.be/cooperation/chm_coop/dgdc-rbins-specific-convention)

Annex 1 - GTI-01-2012-Ethiopia\_Boeve&Pauly

Annex 2 - GTI-01-2012-DR Congo\_Nagy

Annex 3 - GTI-01-2012-DR Congo\_Wetsi

Annex 4 - GTI-03-2012-Ecuador\_Delsinne&Dekoninck

Annex 5 - GTI-04-2012-Vietnam\_Constant

Annex 6 - GTI-04-2012-SA\_Eardley

Annex 7- IMAB-03-Abstract of a conference contribution of V.Vijith about the numerical model of the Mandovi Estuary (AbstractVijith2012.doc)

Annex 8- IMAB-03-Report of V.Vijith about his work performed at RBINS-MUMM (AbstractVijith2012.doc)

Annex 9- IMAB-03-Presentation of the nested model in the Cabo Frio upwelling zone by L. Calado and R. Soutelino (Brazil\_2012.pdf)

Annex 10- IMAB-03-Report of S. Rizal about his work performed at RBINS-MUMM (Rizal\_2012.doc)

Annex 11- IMAB-03-Report of F. Hanifah about her work performed at RBINS-MUMM (Farrah\_2012.doc)



## 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 Hydrodynamical Ecological Model for Regional Shelf Seas
COMIFAC	Commission des Forêts d'Afrique Centrale
COORD	Program 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
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 Nationale 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 Program
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	Flemish Interuniversity Council, Belgium