



## 2008 Scientific Activities Report of the Laboratory of Applied Ecology (LEA)

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## Foreword

The Laboratory of Applied Ecology (LEA), as a leading research institution on plant and animal genetic resources conservation and management at the University of Abomey-Calavi in Benin, was created by Professor Brice Sinsin in 1994.

The LEA activities deal with capacity building through training, basic research as well as applied research for development. The LEA works closely with a wide partnership of local and foreign training and research institutions, NGOs, local communities and decision makers at local, regional and continental scales.

The major research hypothesis on which the LEA is working currently deal with conservation biology and adaptive management issues and related field concerned are: (i) Conservation and management of forest (plants and animals) genetic resources, (ii) Ethnobotany and new crops development; (iii) Management of traditional agroforestry systems; (iv) Ecological restoration of degraded areas; (v) Ecophysiology of fodder plants; (vi) Management of Non Timber Forests Products; (vii) Management of protected areas (national parks, hunting zones, community conservation areas); (viii) Ethnobiology; (ix) Bio Monitoring of wildlife (e.g. carnivores, primates, bats, snail, snakes, mollusks); (x) Red list of threatened plants and wildlife in Benin; (xi) Rangelands management; (xii) Ecology, medicinal plants, woody bark, woody species regeneration in natural environment; (xiii) Remote sensing and mapping of vegetation.

More than 300 scientific publications in peer-reviewed international journals, books and proceedings of scientific conferences have been yielded from 1988 to 2008.

The LEA has executed and been involved in various projects on sustainable management of natural resources, fodder and food tree species domestication in Africa, organic agriculture research and training, bioenergy development, etc.

Some executed projects in LEA were: (i) Monitoring population dynamic of ungulates in the National Parks of Benin (GTZ – European Union financed); (ii) Domestication of herbaceous fodder plant of Benin (IFS); (iii) Impact of reptiles trade on agriculture sector in Benin (IUCN); (iv) Agroforestry development in Benin (ANAFE/ICRAF since 1993); (v) National Herbarium and Flora of Benin (1997– 2006); etc.

The most important project developed by the LEA in the last five years are the following: (i) Integrated management of medicinal plants in the forest of Monts Kouffé in Central-Benin (VIIR-financed); (ii) Development of baobab and tamarind in West Africa (DADOBAT) (still ongoing EU Financed); (iii) Sustainable Use of Natural Vegetation (SUN) (still ongoing EU Financed); (iv) Ecological Restoration of degraded lands (EU Financed); (v) Biodiversity Monitoring and Transect Analysis (still ongoing BIOTA/ Germany); (vi) Biomonitoring of the Lama Forest reserve (Bale University/Switzerland BIOLAMA); (vii) Conservation of the threatened and endemic primates of Benin (long term ongoing LEA); (viii) Ecological monitoring of grasslands in Benin; (ix) Ecological monitoring of elephants and lions in National parks (The Netherlands).

Some future projects were also identified, which are: (i) Conservation and management of the swampy forest of Lokoli; (ii) Ecological databases establishment of Mont Kouffé Forest reserve; (iii) *Milicia excelsa*, *Khaya senegalensis* and *Azelia africana*, endangered tree species conservation in Benin; (iv) Conservation and domestication of edible forest trees of Benin; (v) Monitoring biodiversity in west African's region; (vi) Conserving and domesticating threatened edible and medicinal plant and forest resources; (vii) Collecting germplasm & starting with grafting programs of some agroforestry trees for the specific purposes; (viii) Developing specific organic agriculture curriculum for poverty reduction in West Africa; etc.

The LEA also belongs to a wide spectrum of collaboration such as: (i) International Scientific Groups such as International Grassland Congress (IGC), International Rangeland Congress (IRC), World Park Congress (WPC), Silicon in Agriculture Conference (SAC), AETFAT, etc.); (ii) Institutional frame involving in nature

conservation and biodiversity management such as World Union for Nature Conservation (IUCN), through its World Commission on Protected Areas (WCPA), Bioversity International (ex-IPGRI), World Agroforestry Centre (ICRAF), etc; (iii) Networks such as the South Saharan African Forest Genetic Program (SSAFOGP), Society for Rangeland Management (SRM-USA), Society of Ecology (SE-India), International Society for Tropical Ecology (India), Association Béninoise de Pastoralisme (Bénin), Society for Ecological Restoration International (SERI-USA), African Forest Research Network (AFORNET-Kenya), Global Facilitation Unit/Underutilized Species, International Association for Ecology (INTECOL), ANAFE, African Expert Group on Plant Conservation, International Silicon in Plants Network (Japan), IUCN/SSC specialist group on crop wild relative, and recently Organic Agriculture research and training (WANOART-EDULINK/UK Cambridge – EU); (iv) NGOs and Universities (Belgium, Burkina-Faso, Cameroon, Canada, Côte d'Ivoire, Denmark, France, Ghana, Germany, Japan, Mali, Morocco, Namibia, Niger, Nigeria, The Netherlands, Senegal, Sierra Leone, South Africa, Switzerland, Tanzania, Togo, United Kingdom, US, etc.).

Some facilities are available to support activities in the LEA, which are: Accommodation availability (medium standing) for foreign students (MSc & PhD) at Cotonou, Lokoli and in other different hinterland sites; Internet (ADSL) facilities for local & foreign students/researchers; Small frizers (n = 2 units) for germplasm storage (seed banks); Literature review facilities/Library; Availability of technicians and researchers for fieldwork and data analyses.

The present report is the second edition after the one of 2007 and points out research activities at the Laboratory of Applied Ecology (LEA) in 2008. It is intended for several audiences of researchers in Benin and abroad, developers, donors and other professionals interested by the fields of applied ecology. The report is organized into eight major sections:

Section 1 relies on the methodology used to gather information included in the report and shows how various indices have been calculated. Section 2 focuses on the types of research (individual, national teams, regional teams and international teams), types of publications (thesis, peer review articles, proceedings, technical reports, and newsletter), trends of publications for the last eleven years (1998 – 2008) and the analysis of language of publications according to the types of publications in the laboratory. Section 3 provides a summary of conferences organised by LEA in 2008 and those attended by researchers in the LEA. Section 4 describes the research projects and research grants obtained in the laboratory in 2008 whereas section 5 shows details about active human resources in LEA as well as visitors who were in the laboratory in the framework of bilateral collaboration. Section 6 discusses the research activities performed in the laboratory in 2008 while section 7 shows the used references. Finally, the appendix is presented in the section 8, showing full details on references of the different types of publications, research projects and grants as well as on conferences and visiting research in the laboratory.

# 1. Methods of data collection

The present report on the scientific activities of LEA in 2008 has been computed based on the research activities performed by researchers and students from the laboratory.

Firstly, information related to the thesis (PhD, MSc, Agronomist degree), scientific articles (published, in press or under review) in peer-review journals and those published through proceedings, books of abstracts and technical reports are described. For each category of publication, we have pointed out the indices of specialization according to different disciplines. Also, for the articles published in peer-review journals, we separated journals with Impact Factor from the ones without Impact Factor (Web of Science of Thomson). Are considered, only the publications for which address of authors and/or co-authors are the one of LEA/FSA. Furthermore, collaborations and co-publications with scientists from developed and African countries have been detailed throughout the report.

The types of research are expressed respectively by the ratio between the number of publications produced individually or in national, regional or international teams and the total number of publications in the laboratory.

Moreover, the trends of publications for the last 11 years (1998 – 2008) are assessed both for proceedings and published articles in peer review journals (with impact factor or not). Also the ratio French/English is computed for various types of publications including the ones in press.

For data processing, the following indices are calculated:

- *Specialization Index of publications* which is the ratio between the number of publications in a given discipline and the total number of publications when considering all disciplines;
- *Impact Factor Index of Publications* which is the ratio between the number of publications having an impact factor and the total number of publications published in peer review journals;
- *Weighted Impact Factor Index of a given field of publication* which is the product of impact factor of the number of publications related to the field of publication and the arithmetic sum of impact factor indices as described in the web of science of Thomson;
- *Index of co-publication at country vs. continental level* which is the ratio between the number of co-publications at country vs. international level and the total number of co-publications in the laboratory.

Finally, information related to the conferences (organized by the laboratory and the ones to which the researchers of the laboratory have participated), research projects, grants, prizes and awards are presented in the report.

## 2. Types of research and publications at LEA

### 2.1 Types of research at LEA

As shown by the Figure 1, most of the articles published by researchers in the LEA are produced together with national teams (54 %) and international ones (42 %). Very few number of research activities (4 %) were published within a regional team. Apart from these, no scientific article is individually published this year in LEA.

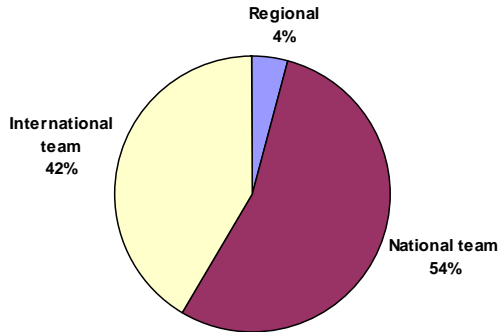


Figure 1. Spatial context of research activities in LEA in 2008

## **2.2 Types of publications at LEA in 2008**

### **2.2.1 Thesis at LEA**

In 2008, 9 MSc theses (DEA), 5 agronomists' thesis and 4 PhD theses (Doctorate) have been defended in the LEA. Moreover, 35 other students in the LEA are still doing their PhD research activities which will be defended in the following years. Details about the research topics and candidates identities are shown in appendices 1, 2, 3 and 4.

From the Figure 2, we can notice that the number of defended agronomist degree, MSc and DESS theses decreased from 2007 to 2008 contrary to the number of defended and ongoing PhD thesis which are higher in 2008 than in 2007. So far it is important to notice that DESS theses are planned to be defended some months ahead after this report comes out.

#### **2.2.1.1 Ongoing PhD thesis**

Various research fields were covered by the ongoing theses in the LEA ranging from agroforestry and ethnobotany (35%) to forest and plant ecology (31%), wildlife and protected areas management (24%), landscape management (7%) and grassland sciences (3%) (Fig. 3). The new students who started with their PhD research in 2008 are most interested by the fields of agroforestry, ethnobotany, wildlife and protected areas management whereas the defended theses in the laboratory in 2008 are related to the field of grassland sciences and landscape management (Fig 4). Most students involved in their PhD programmes are in their first year research activity followed by the students in the third and fourth year research activity, respectively (Figure 5). Few numbers of students have started with their PhD over 5 years ago.

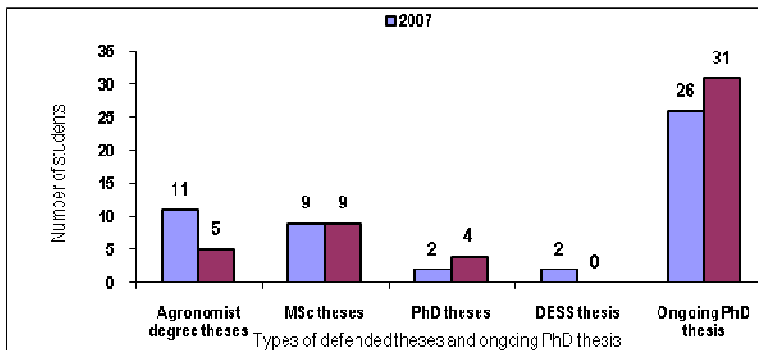


Figure 2. Trends of types of defended and ongoing PhD theses from 2007 to 2008

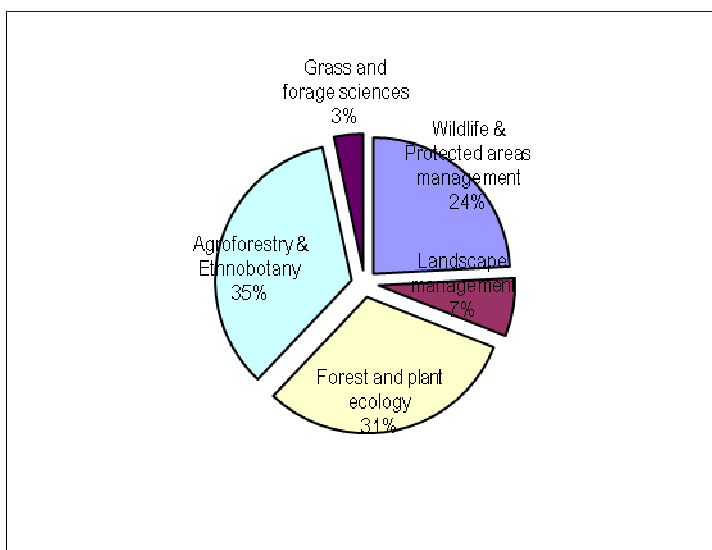


Figure 3. Spectrum of ongoing PhD thesis and Research Fields in 2008



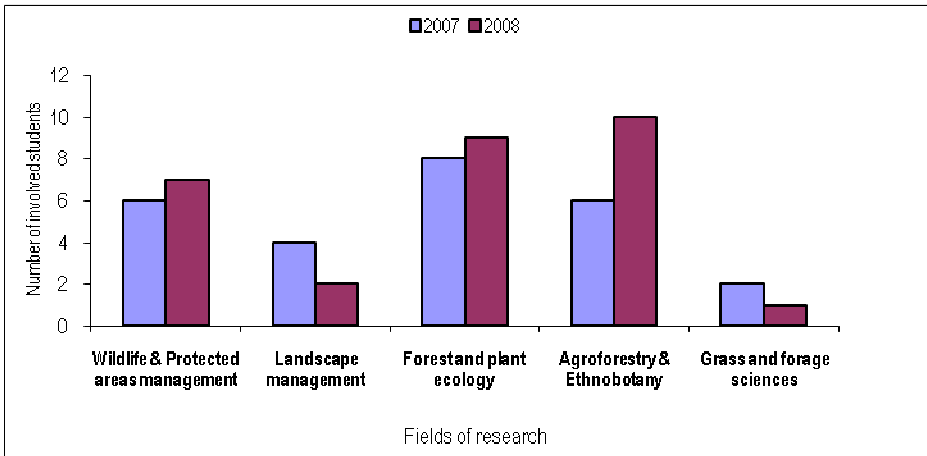


Figure 4. Trends of ongoing PhD thesis according to the fields of research from 2007 to 2008

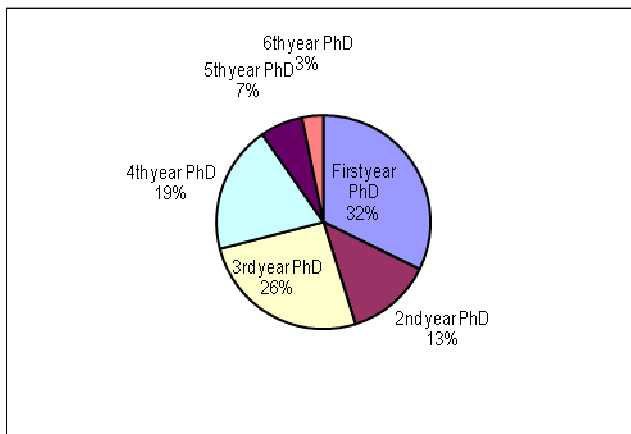


Figure 5. Typology of PhD students in LEA based on the number of year related to their research activities

### 2.2.1.2 MSc thesis

Nine (9) MSc theses were defended in LEA in 2008 and have targeted various fields of research such agroforestry (34 %), forest ecology and management (33 %), wildlife management (22 %) and soil restoration (11 %) (Figure 6).

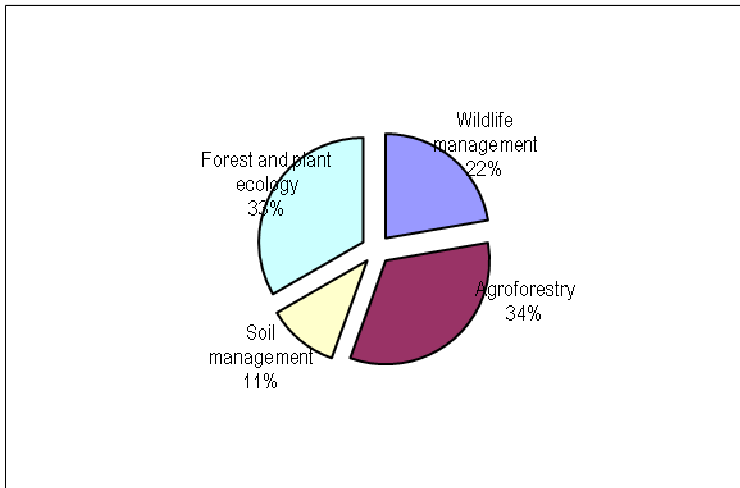


Figure 6. Spectrum of MSc thesis and Research Fields in 2008

### 2.2.1.3 Agronomist degree thesis

Five (5) Agronomist degree thesis in the LEA have been defended in 2008 respectively in the fields of wildlife and management of protected areas (20 %), ethnobotany and agroforestry (40 %) and grassland sciences (40 %) (Figure 7).

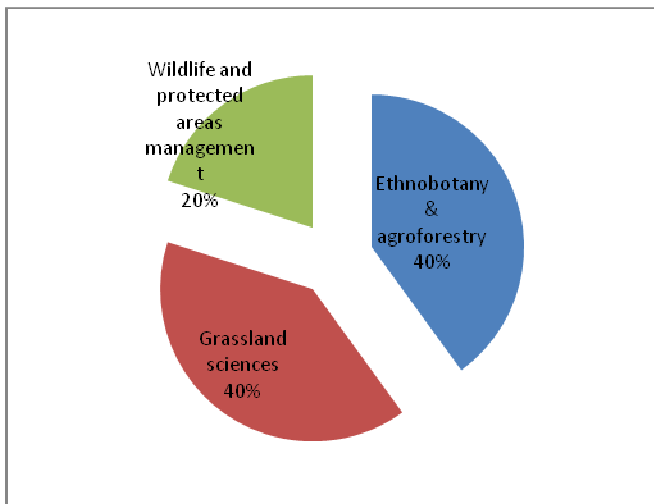


Figure 7. Spectrum of Agronomist degree thesis according to the fields of research in 2008

## 2.2.2 Scientific productions at LEA in 2008

In 2008, scientific research at LEA have yielded in 56 scientific publications in peer-reviewed journals (published: 29; in press: 8; under review: 19), 14 articles in proceedings, 30 abstracts in the books of abstracts and 4 technical reports.

### 2.2.2.1 Publications in peer review journals

#### (i) Number and categories of publications

In 2008, 48 % of the scientific publications were published in peer review journals whereas 16 % and 36 % are still in press or under review, respectively (Fig.8). Full references (authors, journals, etc.) of those publications are shown in appendices 5, 6, 7, 8, 9 and 10.

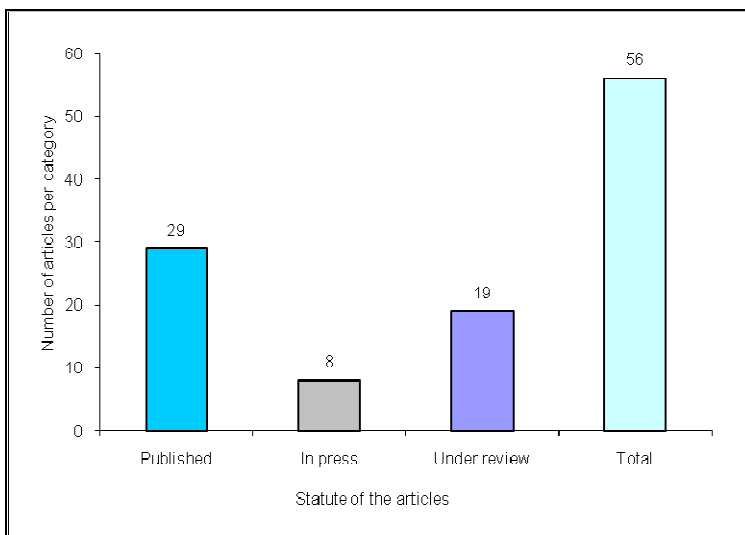


Figure 8. Spectrum of scientific productions of LEA in 2008

#### (ii) Impact Factor Indexes of Publications

Figure 9 highlights the relative lower number (21) of the published/submitted articles in the journals having Impact Factor in 2008 compared to ones without Impact Factor (35). However, a reverse tendency is observed for the articles under review. Therefore, we can conclude that more and more researchers in the LEA improve in publishing their data in the peer review journals having an IF.

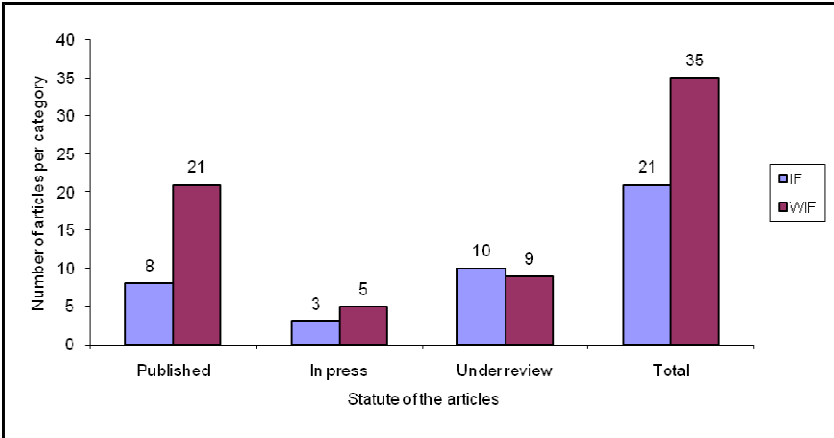


Figure 9. Status and Indexes (%) of scientific publications of LEA in 2008

(iii) Specialization Indexes of publications

a) *Published articles*

As shown on the figure 10, the 29 published articles in 2008 by researchers in the LEA cover various fields such as wildlife and protected areas management (20 %), economic botany (17 %), molecular biology (13 %), biometry (13 %), ethnobiology (13 %), grass and forage science (8 %) and plant and forest ecology (8 %).

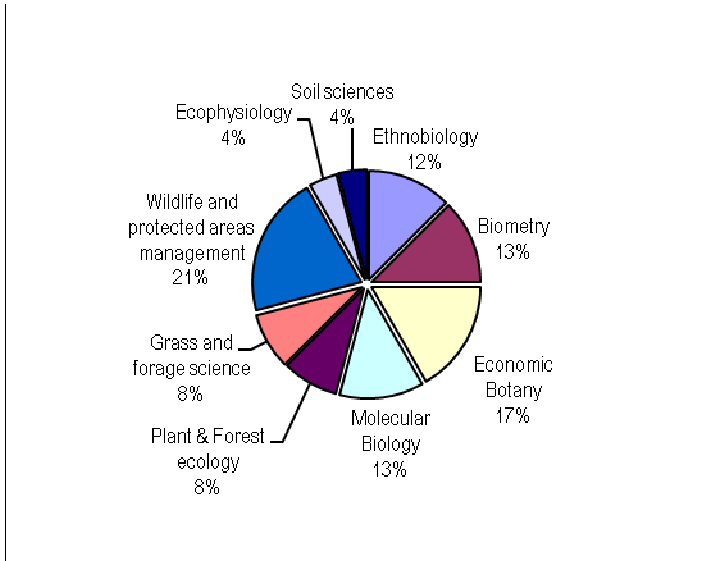


Figure 10. Published articles according to the fields of research in 2008

b) *Articles in press*

Articles *in press* cover various fields such as plant and forest ecology (49 %), molecular biology (13 %), plant ecophysiology (13 %), grass and forage science (13 %) and ethnobiology (12 %) (Figure 11).

c) *Articles under review*

Submitted articles which are still under review also cover various fields of disciplines such as forest and plants ecology (36 %), biometry (17 %), grass and forage science, environmental sciences, agroforestry and economic botany (11 %, respectively), ethnopharmacologia and wildlife and protected areas management (5 %, respectively) (Figure 12).

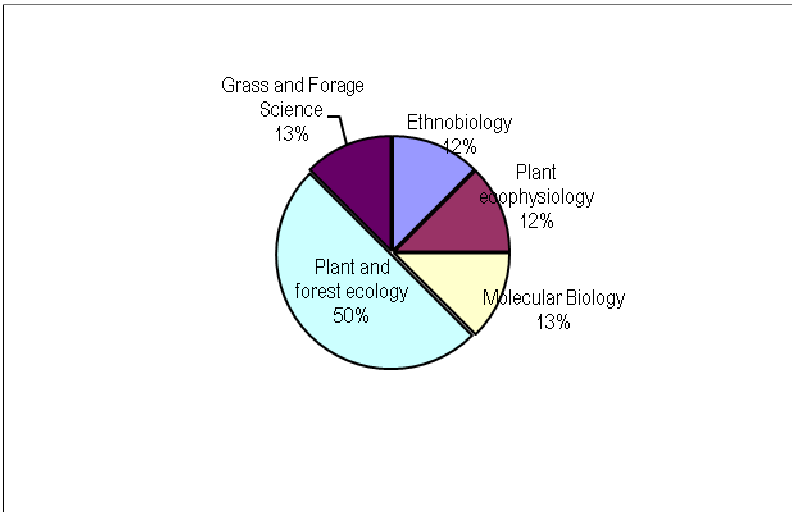


Figure 11. Articles *in press* according to the fields of research in 2008

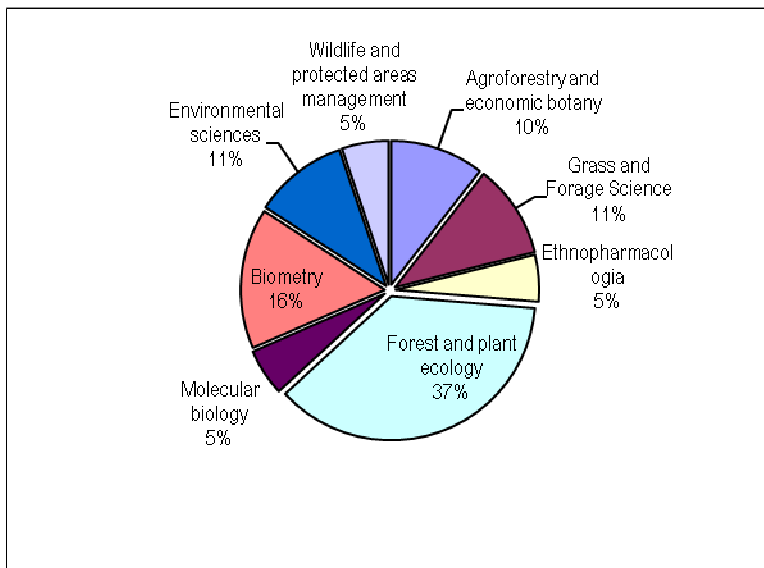


Figure 12. Articles *under review* according to the fields of research in 2008

#### (iv) Weighted Impact Factor Index of publications

The Weighted Impact Factor Indices of publications both for published and for articles *in press* according to every discipline of specialization in LEA is shown in the table 1.

Table 1. Weighted Impact Factor Indices of publications according to the disciplines of specialization

Disciplines	Weighted Impact Factor Indices	
	Published articles	Articles <i>in press</i>
Biometry	0.129 (0.387)	-
Ethnobiology	0.149 (0.449)	0.688
Molecular Biology	0.437 (1.667; 0.394)	2.512 (2.512)
Grass and Forage Science	0.197 (0.394)	-
Plant and forest ecology	0.740 (1.667; 0.444)	0.394 (0.394)
Wildlife ecology	0.068 (0.340)	-

- = no publication under the category

() : The numbers in bracket are the Impact Factor (IF) recorded respectively for each article having an IF in a given field of publication

Table 1 indicates that the most important publications which have highly contributed to the impact factor of the laboratory in 2008 were related to molecular biology as it was the case in 2007. Therefore, molecular biology is the one in which the recorded scientific publications in LEA had the highest impact factor.

## (v) Indices of co-publications in peer review journals

### a. Country level

Since the LEA belongs to a broad scientific collaborative network, its researchers used to publish their research outputs in collaboration with scientists abroad and locally (Fig. 13). At a country level, most of the 2008 publications was written with researchers from Benin (62%), Belgium (16%) and Germany (16%) while the remaining were published together with scientists from Australia and Niger (3% each).

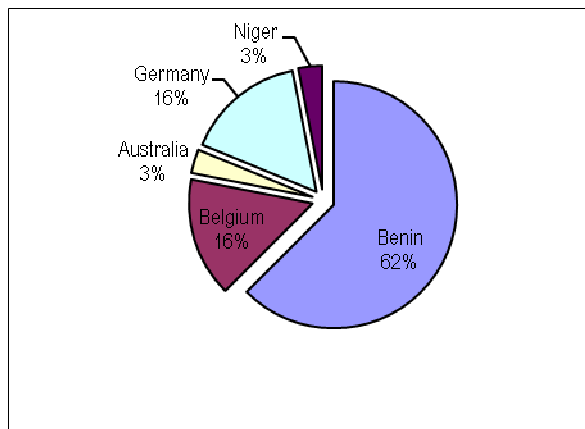


Figure 13. Diversity in indices of the LEA co-publications in peer review journals at countries scale in 2008

### b. Continental level

At continental level, the most important articles have been co-published with African scientists (66%) following by Europeans (31%) and Australians (3%) (Figure 14).

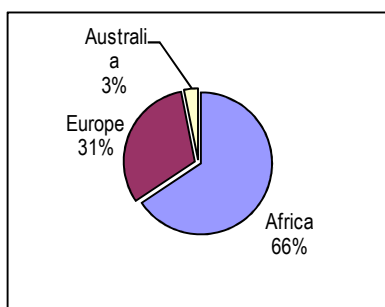


Figure 14. Diversity in indices of co-publications in peer review journals at continental level in 2008

### 2.2.2.2 Proceedings : number of publications and indices of specialization

Fourteen (14) articles were published in the proceedings of scientific conferences in 2008. Most of these publications occurred in the field of wildlife and protected areas management (30 %), climate change and risk assessment (22 %) as shown in the Figure 15. Full references of these publications are shown in Appendix 11.

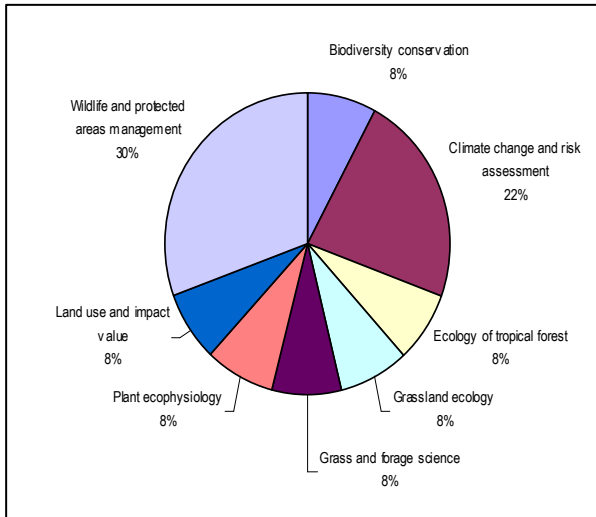


Figure 15. Number of publications and indices (%) of specialization in Proceedings 2008



### 2.2.2.3 Trends of publications in peer review journals and proceedings from 1998 to 2008

During the last 11 years, trends related to the scientific publications in LEA varied according to the type of publications (proceedings and peer review journals). The publications in peer review journals have globally increased from 1998 to 2008 with a peak in 2008 (24 publications in peer reviewed journals) (Fig. 16). For a given year, the publications in peer review journals having an impact factor were generally lower compared to the ones in peer review journals without impact factor (Fig. 16a, b). Specifically, publishing in peer review journals having an impact factor has started in the laboratory in 1994 with 1 to 3 publications per year, the peak being observed in 2008 with 8 papers.

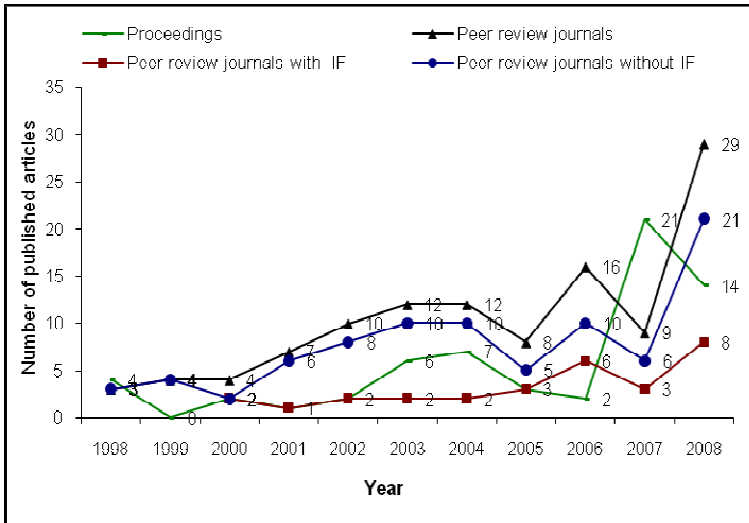


Figure 16a. Trends per types of publications from 1998 to 2008

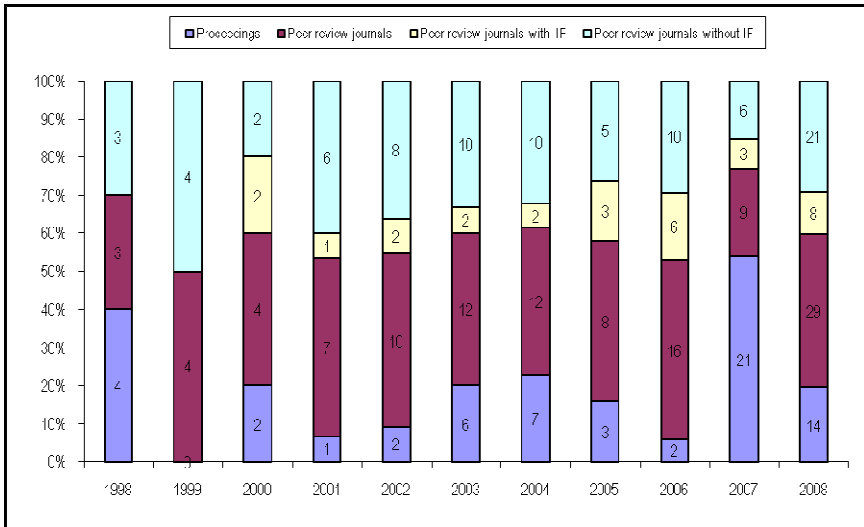


Figure 16b . Spectra of type of publications from 1998 to 2008 : Percentages of reviews.

#### 2.2.2.4 Ratio French/English according to the types of publications

Most of the defended PhD, MSc and agronomist degree thesis in LEA is in French while most of the published articles in peer reviewed journals as well as proceedings were published in English in 2008 (Fig. 17). The increase in number of publications in English in peer review journals with impact factor means that less and less impact factor journals accept papers in French.

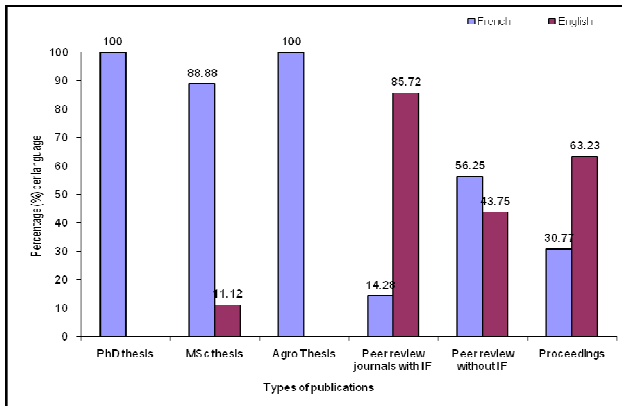


Figure 17. French/English ratio for various types of publications in LEA

### 2.2.2.5 Abstracts: number of publications and indexes of specialization

Twenty nine (29) abstracts were submitted in 2008 and published in the books of abstracts of scientific conferences. These abstracts targeted various disciplines as described on the figure 18. Full references of these publications are shown in appendix 12.

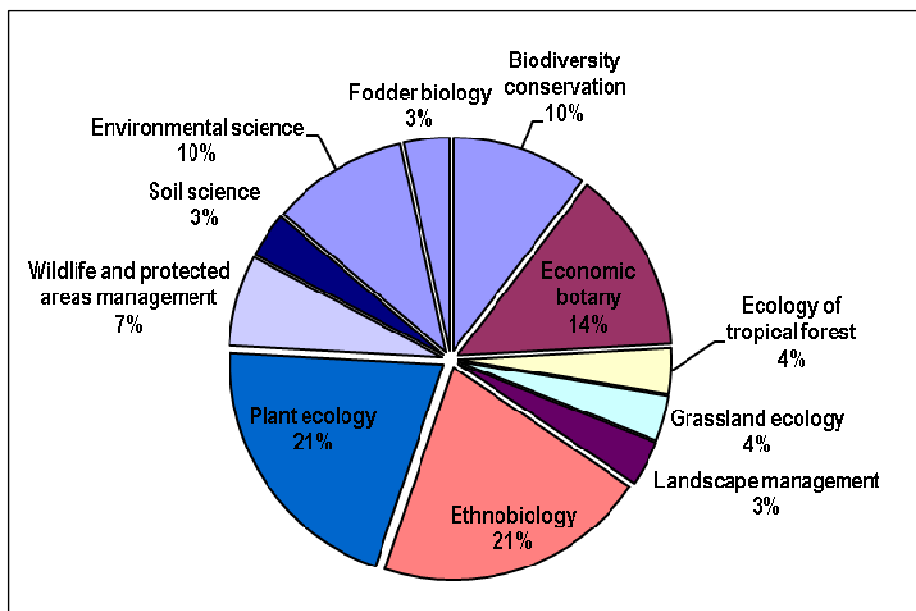


Figure 18. Indices of publications specialization in the books of abstracts 2008

### 2.2.2.6 Technical Reports in 2008

Four (4) technical reports were published by researchers in the LEA in 2008, which concerned about three major fields: Animal biodiversity, Ethnobotany and Economic rangelands. Full references related to these publications are shown in appendix 13.

## 3. Conferences & workshops in 2008

### 3.1 Conferences organised by LEA

Compared to 2007, there is no change in the number and type of conferences which are usually organized by the LEA. These are (i) Benin rangelands conferences and (ii) the Workshop on Protected areas. In addition, progress meetings were standardized to be held every February for PhD researches. Among the scientific meetings, only PhD progress reports were recorded, defended and evaluated by various boards in 2008.

### **3.2 Participation to conferences**

In 2008, researchers of the LEA have participated in 33 conferences. About 56 % of these conferences were held in Africa (Benin, Ghana, Burkina Faso, Nairobi, Tanzania, and South Africa), 44 % in Europe (United Kingdom, Germany, France, and Belgium) (Figure 19). Details related to these conferences/workshops are shown in appendices 11, 12 and 14.

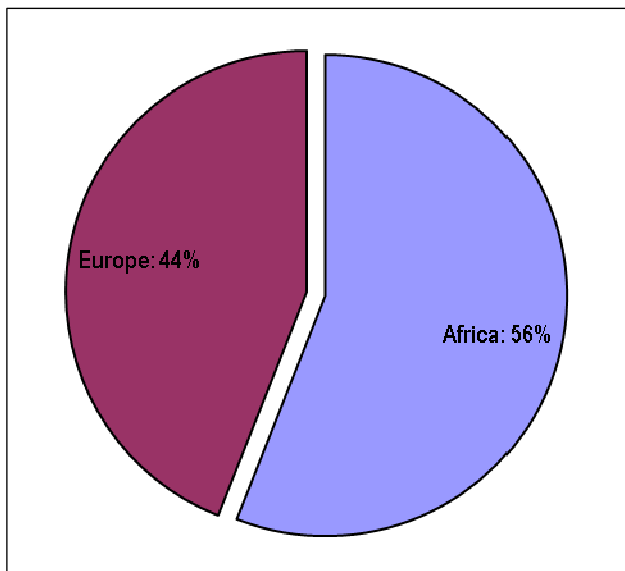


Figure 19. Level of participation of LEA's researchers to international conferences in 2008

### **3.3. Direct Institutional affiliations**

The LEA had raised some well known institutions which were known today as NGO and consulting companies. These are the CERGET based at the Champ de Foire (Cotonou) and the REDERC (north western Benin) working under different mandates.

## **4. Research projects, research grants and prize at the LEA in 2008**

In 2008, research activities in the LEA were mainly financed by European Union (DADOBAT-UE and SUN-UE: 22.2 %), international co-operation projects (BIOTA: 15.28 %) and international foundations and institutions (small research grants: 62.5 %) (Figure 20). Most of the PhD and MSc students as well as senior scientists in the LEA are involved in these projects for their research activities. Details (objectives, beneficiaries, etc.) on these projects and grants are shown in appendixes 15 and 16. Moreover, three international prizes have been awarded to the researchers from the LEA in 2008, which were related to the fields of Ecological measurements, Organic agriculture research and training and Ethnobiology (Appendix 17).

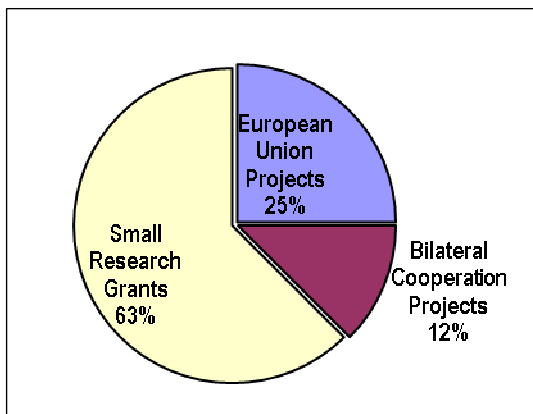


Figure 20. Spectrum of research funding in 2008

## 5. Human resources and visiting research in the LEA in 2008

Human resources in the LEA in 2008 are about 20 main investigators and senior scientists, 31 PhD students, 9 MSc and 11 agronomist degree students actively participating to research activities within the laboratory. Moreover, 5 technicians and 3 drivers are use on permanent basis for the fieldworks. Specifically, the LEA houses in 2008, one Professor (Professeur Titulaire CAMES), 4 associate Professors (Maitre-Assistants/CAMES), 6 assistant professors (Assistants), and several junior researchers (PhD, MSc, MBA, Agricultural Engineer and bachelor students). Details about these human resources are shown on the web site of LEA ([www.jeabenin-fsauac.net](http://www.jeabenin-fsauac.net)).

Furthermore, in 2008, the LEA has welcomed 63 researchers as visitors (Figure 21 & 22) against 51 in 2007, with 67 % of them from Europe: France (39.68 %); Germany (22.22 %), Belgium (3.17 %), U.K (1.59 %). About 33 % are from Africa: Benin (7.94 %), Burkina Faso (6.35 %), Côte d'Ivoire (4.76 %), Mali (3.17 %), Nigeria, South Africa and Niger (1.59 % each). Full details about these visitors are shown in Appendix 18.

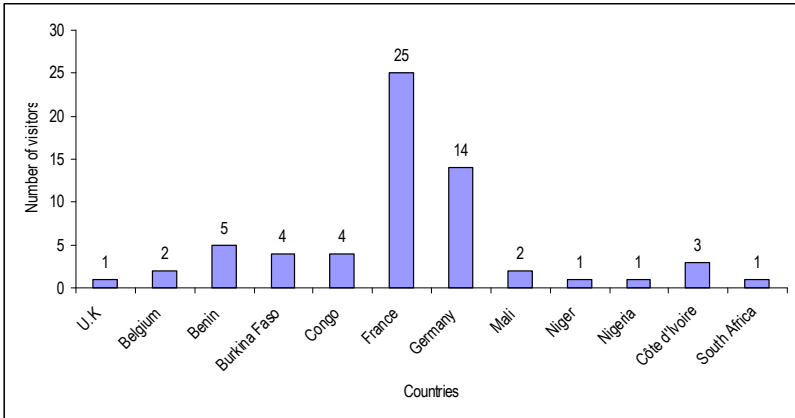


Figure 21. Visiting researchers welcomed in the LEA in 2008 at country level

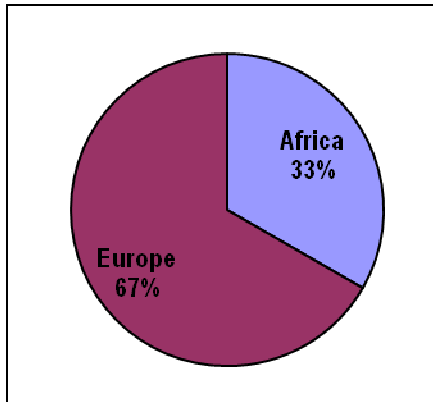


Figure 22. Visiting researchers welcomed in the LEA in 2008 at continental level

## 6. General discussion & conclusion

Various types of publications were produced by researchers in the LEA ranging from thesis to publications in peer review journals, proceedings, technical reports and newsletters.

The increasing rate in ongoing thesis reflects increasing motivation for research activities, and partly some available financial opportunities for research in the LEA.

The prevalence of ethnobiology, agroforestry, protected areas management, and grassland sciences in research and theses is linked to financial sources for research in these fields.

Researchers used to publish in collaboration with scientists abroad. Contrary to 2007, most of the scientific articles were published within national teams (54 % against 44 % in 2007) international teams (42 % against 52 % in 2007) and 4 % at a regional level. At a continental level, the most important publications have been co-published with scientists from Europe (53 %) following by the ones from Africa (mostly Benin) (42 %) and, Australia (1 %).

Efforts in co-publication with Europe increased in 2008 compared to 2007, while it is reduced with Africa, disappeared with USA and started with Australia. This suggests the need of more and sustainable efforts for building cooperative research networks basically using interactive research topics and funds from further international policies.

The increasing interest of the wide dissemination of research in tropical ecology might also be related to the world wide focus on biodiversity loss issues in the tropics. In fact, it is well known that Tropics still hold various thematic of high attention, which is proved by the occurrence of various research projects financed by EU and others research funding institutions. These research deliverables in 2008 globally reflect the spectrum of research fields in which researchers in the LEA and its partners are involved at national and international levels. Differences in magnitudes from Europe to Australia and from Belgium to France, and so on express fields in which research output are delivered together with these partners involved in ongoing training-research activities focus on capacity building to develop capacities for research and for higher education in Africa. Contrary to 2007 where no scientific papers have published with scientists at a regional level, research collaboration with West African research institutions starts and have yielded some papers in peer reviewed journals. However, as stress in the last year report, regional scientific collaborations should be developed for the following years since Benin share with its neighbouring countries similar research problems which need regional solutions and then should be solved regionally through research activities involving laboratories in the region.

Research activities performed in the laboratory in 2008 have mainly targeted disciplines such as Ethnobiology, Biometry, Molecular Biology, Conservation Biology, Forest and plant ecology, Agroforestry, Wildlife management, Grass and Forage science, Economic botany and ecophysiology.

The higher predominance of wildlife and protected areas management as well as economic botany, molecular biology, biometry ethnobiology results from interests of bilateral collaboration, and to other funding institutions policy or priority area. The EU has found research activities in these fields which definitively raised enthusiastic

scientific manpower. Competitive funds from south countries remain questionable as domestic funds are expected to address key endogenous priorities for sustainable development.

Moreover, increasing efforts appeared in the field of Molecular Biology compared to ethnobiology and others. Indeed, as indicated by the Weighted Impact Factor Indexes of publications, most important publications which have highly contributed to the impact factor of publications in the laboratory in 2008 were related to molecular biology as it was the case in 2007. This gap should be avoided for conserving the multidisciplinary characters required for applied researches in the context of the LEA.

The biggest problem is the unavailability of suitable equipments and reagents for molecular analyses. Therefore, for research programs involving the uses of too expensive technology in molecular biology e.g. researchers from the LEA used to collaborate with laboratories abroad in developed countries (Belgium, Germany, and The Netherlands). Since Applied genetics is new and promising fields from the point of view of the needs for southern countries such as Benin, more attention are needed from national government to provide with more adequate and relevant equipments for laboratory works.

In 2008, scientific research at LEA have yielded in 56 scientific publications in peer-reviewed journals (published: 29; in press: 8; under review: 19), 14 articles in proceedings, 30 abstracts in the books of abstract and 4 technical reports. Better, 37.5 % of the published/submitted articles in peer reviewed journals were/will be published in the journals having an Impact Factor. The trends whatever the category of papers (published and *in press*) from 2007 to 2008 is positive meaning that researchers in the LEA are improving in publishing more and more research outputs in peer review journals.

Nevertheless, compared to 2007, forest and plant ecology have received a relative low attention with decreasing number of under reviewed publications (36% vs. 45%), such for grass and forage science. Attention has increased for biometry and other new fields such as economic botany, ethnopharmacology, environmental sciences and agroforestry. This reflects the LEA's dynamic in transdisciplinary research activities.

A comparative analysis of published, in press and under reviews articles' statistics showed that the grass and forage field appeared to be of low production. This low scientific production probably results from decreasing and lower funding opportunities for researches in this field. As far as African countries' economy is still agricultural dependent, this result suggests the need of competitive funds from African countries (Governments, NGO and African donors and sponsors) to support research activities in this field. Note that since the LEA is a well known West African regional institution studying tropical grasslands, about 70 grasslands were studied until 2002 among several in Benin (Owolabi & Sinsin 2002). Further researches are needed for a complete apprehension of Benin rangelands. In addition, Ethnobiology as a new support for increasing impact factor of the LEA required furthermore attention.

Research in the LEA is still mainly supported by international projects and small research grants provided by European Union and international foundations and institutions, respectively. That makes sense as far as research funds provide by developed countries is opened to developing countries like Benin. In such a North-South funding system researchers in South have to expect their government to be at the right side to avoid political crisis with



donor countries with its impacts on research programmes in the South as it had been the case for Togo in the past years. Laboratories in developing countries like Benin should always look for or develop cooperation with those in developed countries to get fund for their research programmes and to be linked to technology and international scientific events. Skill to write good research project and also many of that should be recommended to expect some of those projects to be eligible for funding. The basic issue to overcome lack of human resource to write successful project is to build and develop research capacity by training more and more PhD students as most of the publication in the Laboratory are performed by young researchers during their PhD work.

Based on our experience, the policy of the LEA is to strengthen existing partnerships and look for other opportunities in Africa, Europe, America, Asia and in Oceania in order to :

- (1) continue monitoring biodiversity at regional level ;
- (2) develop the conservation and domestication strategies for some edible and medicinal forest and savannahs resources;
- (3) develop germplasm collection of some agroforestry trees (multipurpose trees) for various purposes based on the genetic and agromorphological traits variations found in these species;
- (4) facilitate actors in seed/seedling systems to provide agroforestry trees' germplasm with high utility to farmers;
- (5) develop rural areas for plant material geared to specific production in order to improve human diet and;
- (6) start with grafting programs of some agroforestry trees for the specific purposes,
- (7) monitor protected areas (both state and community conservation area) and their components with regard to climate change and key biodiversity areas;
- (8) develop guidelines for fieldwork in applied ecology for para ecologists ;
- (9) monitor threatened and endangered plants and animals species at regional level ;
- (10) build capacity in research;
- (11) develop curricula in the fields of applied ecology and organic agriculture for regional training purposes.

## 7. References

- <http://scientific.thomson.com/products/wos/>
- [www.leabenin-fsauac.net](http://www.leabenin-fsauac.net)
- [www.notesdecologie.bj.refer.org](http://www.notesdecologie.bj.refer.org)
- [www.fsa.bj.refer.org](http://www.fsa.bj.refer.org)
- Theses in LEA in 2008 (cf. annexes: PhD, agronomist degree, DESS and MSc thesis)
- Publications in LEA in 2007-2008 (cf. appendices)
- Proceedings in LEA in 2007-2008 (cf. appendices)
- Guidelines for UAC scientific report (Prof Sinsin Brice/ Vice Chancellor for Research, UAC). 1p.
- Assogbadjo A.E; Kindomihou V., Gbohayida S & Sinsin B. (2007). 2007 scientific report of Laboratory of Applied Ecology. 41 pages. ISBN 987-99919-98-12-4- Sinsin B., Owolabi L., 2001: Monographie de la diversité biologique. Rapport de synthèse. MEHU/PNUD, Cotonou, Benin. 41p.

## *8. APPENDIXES*

*Appendix 1. Ongoing PhD thesis (since or before 2007)*

N°	Student full name	Level	Research topics	Fields of Research
1	AZIZOU EL-HADJ Issa	4 <sup>th</sup> year	Facteurs déterminants de cogestion pour la conservation des ressources naturelles de la réserve de biosphère transfrontalière du W/Bénin.	<b>Wildlife /protected areas management</b>
2	NOBIME Georges	4 <sup>th</sup> year	Les facteurs écologiques et éthologiques déterminants pour la conservation du cercopithèque à ventre rouge <i>Cercopithecus e. erythrogaster</i> au Bénin.	
3	MOROU Boubé	4 <sup>th</sup> year	Impacts de l'occupation des sols dans la Réserve sur l'habitat de la girafe et enjeux pour la sauvegarde du dernier troupeau de girafe de l'Afrique de l'Ouest.	
4	NAGO Sédjro Gilles Armel	3 <sup>rd</sup> year	Savannah amphibians along a disturbance gradient.	
5	VODOUHÉ Fitanou	3 <sup>rd</sup> year	Vegetable Non-Timber Forest Products used and biodiversity conservation around Pendjari National Park.	
6	SOGOHOSSOU Etotépé A.	2 <sup>nd</sup> year	Ecology, ethology, morphology and phylogenetics of lions ( <i>Panthera leo</i> Linnaeus 1758) in Pendjari National Park, Northern Benin.	
7	TOUDONOU A. S. Christian	1 <sup>st</sup> year	Utilisation and conservation of snakes: case study from ball python ( <i>Python regius</i> ) in Benin.	
8	KPERA Nathalie	1 <sup>st</sup> year	Interaction between crocodiles sustainable utilization and their conservation in Benin.	
9	TEKA Oscar	3 <sup>rd</sup> year	Coastal area management in Benin.	<b>Landscape management</b>
10	MAMA Djaouga	3 <sup>rd</sup> year	Mutations spatio-fonctionnelles des systèmes agropastoraux dans les communes de Kalalé-Nikki, Gogounou-Kandi au Nord-Est du Bénin: essai de cartographie et de modélisation.	
11	HOUESSOU Laurent	2 <sup>nd</sup> year	Indicators of sustainability at landscape, habitat and species scale for providing a decision support tool for politician and management workers.	
12	DELVAUX Claire	6 <sup>th</sup> year	Eco-physiology of the recovery of 12 medicinal tree species after bark harvesting in the Monts Kouffé woodland of Benin.	<b>Ethnobotany &amp; Agroforestry</b>
13	AGBANI Onodjè Pierre	4 <sup>th</sup> year	Etat de conservation et viabilité des populations de quelques espèces ligneuses soudanaises menacées du Bénin.	
14	YABI Fidèle Ibouaïma	4 <sup>th</sup> year	Analyse de l'agroforesterie à base de l'anacardier et des contraintes climatiques sur son développement dans le Centre du Bénin.	
15	MALIKI Rafiou	2 <sup>nd</sup> year	Evaluation de la durabilité écologique et socio-économique des systèmes de cultures sédentarisés à base d'igname : Développement des modèles bio-économiques.	
16	FANDOHAN A. Belarmain	1 <sup>st</sup> year	Ecology, genetic diversity and ethnobotany of tamarind ( <i>Tamarindus indica</i> L.) in Benin	
17	EDON A.T. Solange	1 <sup>st</sup> year	Phénologie et Productivité du Baobab au Bénin.	
18	BONOU Alice	1 <sup>st</sup> year	Economic assessment of Non Timber Forest Products (NTFP) in Sampéto, a surrounding village of the W National Park in Banikoara district.	

N°	Student full name	Level	Research topics	Fields of Research
19	EKUE Marius R.M.	3 <sup>rd</sup> year	Ethnobotanical knowledge, morphological variation and genetic diversity assessment of the endogenous agroforestry species ackee ( <i>Blighia sapida</i> ) in Benin..	Landuse management and Restorations actions
20	DELEKE KOKO Kafui Inès Edna	2 <sup>nd</sup> year	Ethnobotany and chemical study of galactogenic plants uses in traditional medicine in Pendjari Biosphere Reserve.	
21	AVAKOUBJO Julien	1 <sup>st</sup> year	Assessment of soil degradation: Process and resilience as mastered by aridity factors and land use practices inside and around the W National Park (Benin).	
22	DJOGBÉNOU Paul	5 <sup>th</sup> year	Analyse des processus d'élaboration et de mise en oeuvre des plans d'aménagement participatif des forêts classées au Bénin: développement d'un modèle réussi et durable.	Forest, plant ecology and management
23	DJODJOUWIN Laurent	5 <sup>th</sup> year	Dynamique de croissance des espèces introduites en plantations d'enrichissement dans le sud et le centre Bénin.	
24	AGONYISSA Didier	4 <sup>th</sup> year	Species diversity variation in sudanian <i>Isobertinia doka</i> and <i>Isobertinia tomentosa</i> woodland in relation to plot sizes and landuse pressure in Benin.	
25	AVOCEVOU Carole	3 <sup>rd</sup> year	Pour une meilleure conservation de <i>Pentadesma butyracea</i> Sabine au Bénin : étude de la viabilité des populations de l'espèce à travers des données écologiques et socio-économiques.	
26	HESSOU Comlan	3 <sup>rd</sup> year	Ecologie de <i>Caesalpinia Bonduc</i> .	
27	HOTEHANOU Thierry	1 <sup>st</sup> year	Gap analysis : Viability of threatened plant populations ( <i>Azelia africana</i> Smith ex Pers., <i>Pterocarpus erinaceus</i> Poir., <i>Khaya senegalensis</i> Desr. A. Juss; <i>Millicia excelsa</i> Welw. C. C. Berg) and assessment impacts of Loranthaceae parasite on <i>Vitellaria paradoxa</i> in Pendjari Biosphere Reserve and in land use area.	
28	ASSEDE Eméline Sessi P.	1 <sup>st</sup> year	Ecology of plant community in Biosphere Reserve of Pendjari.	
29	KOWIYOU Yessoufou	1 <sup>st</sup> year	Community phylogenetics of south African flora: case study of Kruger National Park, South Africa.	
30	GOUWAKINNOU N. Gérard	1 <sup>st</sup> year	Population structure and ethnobotanical uses of <i>Sclerocarya birrea</i> (A.Rich) Hochst in Karimama district (Benin).	Grass science
31	ZOFFOUN Alex	3 <sup>rd</sup> year	Etude de la diversité des communautés végétales envahissantes des cultures fourragères et de la dynamique de tallage des graminées vivaces des pâturages artificiels au Bénin.	

*Appendix 2. Completed agronomist engineer degree thesis in 2008*

N°	Student full name	Diploma	Research topics	Fields of Research
1	Djoghenou Anyse	Agronomist and Forester degree	Etude comparative du niveau de conservation de quelques espèces galactogènes, cosmétiques et tinctoriales dans les terroirs riverains et la Zone Cynégétique de la Pendjari.	<b>Ethnobotany &amp; Agroforestry</b>
2	Lokonon Bruno	Agronomist and Forester degree	Structure et ethnobotanique de <i>Dialium guineense</i> Willd., <i>Diospyros mespiliformis</i> hochst. Ex a. Rich. et <i>Mimusops andongensis</i> Hiern en populations dans le noyau central de la forêt classée de la Lama (Sud-Bénin).	
3	Houngnon Alfred	Agronomist and Forester degree	Gestion et conservation des ligneux fourragers des terres de parcours en zone soudanienne au Bénin : cas des communes de Banikoara, Kandi, Malanville et Karimama.	<b>Grasslands science</b>
4	Koukoubou Godefroy	Agronomist and Forester degree	Quantification et distribution spatiale de la biomasse herbacée dans le Parc National du W et dans les terroirs villageois au Bénin : cas de la région de Karimama.	
5	Azihou Fortuné	Agronomist and Forester degree	Adaptation de quelques espèces ligneuses et leurs compagnes herbacées au changement de régime pluviométrique : distribution spatiale, phénologie, écologie, phytosociologie, viabilité.	<b>Wildlife and Protected areas</b>

*Appendix 3. Completed MSc (DEA) thesis in 2008*

N°	Student full name	Diploma	Research topics	Fields of Research
1	KPERA Nathalie	DEA	Ethnozoology et écologie des crocodiles au Bénin.	<b>Wildlife management</b>
2	TOUDONOU A. S. Christian	DEA	Utilisation and conservation of snakes : case study from ball python ( <i>Python regius</i> ) in Benin.	
3	BONOU Alice	DEA	Economic assessment of Non Timber Forest Products (NTFP) in Sampéto, a surrounding village of the W National Park in Banikoara district.	<b>Agroforestry</b>
4	EDON A.T. Solange	DEA	Biologie de reproduction et domestication du Baobab au Bénin.	

N°	Student full name	Diploma	Research topics	Fields of Research
5	FANDOHAN A. Belarmain	DEA	Ecology and Ethnobotany of tamarind ( <i>Tamarindus indica</i> L.) in Benin.	
6	AVAKOUBJO Julien	DEA	Soil degradation and restoration of degraded ecosystems in the northern Benin. A case study of W National Park and its Communal land in Karimama (Benin).	<b>Soil management</b>
7	ASSEDE Eméline Sessi P.	DEA	Evaluation de l'effet frontière sur la diversité floristique des limites de la zone cynégétique et des terroirs riverains du Parc National de la Pendjari (Bénin).	<b>Forest and plant ecology</b>
8	GOUWAKINNOU N. Gérard	DEA	Population structure and ethnobotanical uses of <i>Sclerocarya birrea</i> (A.Rich) Hochst in Karimama district (Benin).	
9	HOUHANOU Thierry	DEA	Dynamique de <i>Azelia africana</i> Smith ex Pers. et <i>Anogeissus leiocarpa</i> (DC.) Guill. & Perr. dans la réserve de biosphère de la Pendjari et les utilisations ethno-médicinales.	

*Appendix 4. Completed PhD thesis in 2008*

N°	Student full name	Diploma	Research topics	Institution/Speciality
1	André ABOH	PhD	Phytosociologie, écologie, potentialités et aménagement des pâturages naturels envahis par <i>Chromolaena odorata</i> et <i>Hyptis suaveolens</i> en Zone Soudano-guinéenne (Bénin).	FLASH/Gestion de l'Environnement
2	TOKO Ismaël	PhD	Etude de la variabilité spatiale de la biomasse herbacée, de la phénologie et de la structure de la végétation le long des toposéquences du bassin supérieur du fleuve Ouémé au Bénin.	FLASH/Gestion de l'Environnement
3	HOUNGBO Emile	PhD	Dynamique de pauvreté et pratiques agricoles de conservation de l'environnement en milieu rural africain: le cas du plateau adja au Sud-Bénin.	FLASH/Economie de l'Environnement et du Développement durable
4	GIBIGAYE Mohamed	PhD	Diffusion des innovations agricoles dans le Borgou et l'Alibori : cas des coopératives d'utilisation de matériel agricole.	FLASH/Gestion de l'Environnement

*Appendix 5. Articles published in peer-review journal with IF*

<b>Disciplines</b>	<b>N°</b>	<b>Authors' Name</b>	<b>Title</b>	<b>Journals</b>	<b>Impact Factor</b>
<b>Biometry</b>	1	Glèlè Kakai R., Palm R.	<i>Empirical comparison of error rate estimators in logistic discriminant analysis.</i>	<i>Journal of statistical computation and simulation</i> 79(2): 111-120. (2009)	0.387
<b>Ethnobiology</b>	2	Assogbadjo A.E., Glèlè Kakai R., Chadare F.J., Thomson L., Kyndt T., Sinsin B. & Van Damme P.	<i>Folk classification, perception, and preferences of baobab products in West Africa: Consequences for species conservation and improvement.</i>	<i>Economic Botany</i> , 62(1): 74-84; (2008)	0.449
<b>Grass and forage science</b>	3	Aboh B. A., Houinato M., Oumorou M., Sinsin B.	<i>Capacités envahissantes de deux espèces exotiques, Chromolaena odorata (asteraceae) et Hyptis suaveolens (lamiaceae), en relation avec l'exploitation des terres de la région de Bètécoucou (Bénin).</i>	<i>Belgian Journal of Botany</i> , 141 (2) : 113-128; (2008)	0.394
<b>Molecular Biology</b>	4	Assogbadjo A.E., Kyndt T., Chadare F.J., Sinsin B., Gheysen G., Eyog-Matig O. & Van Damme P.	<i>Genetic fingerprinting using AFLP cannot distinguish traditionally classified baobab morphotypes.</i>	<i>Agroforestry System</i> , 75: 157-165. (2009).	1.667
	5	Ekue M.R.M., Gailing O., Hölischer D., Sinsin B. & Finkeldey R.	<i>Population genetics of the Cycad Encephalartos barteri ssp. barteri (Zamiaceae) in Benin with notes on leaflet morphology and implications for conservation.</i>	<i>Belgian Journal of Botany</i> , 141(1): 78-94; (2008).	0.394
<b>Plant, Forest ecology and</b>	6	Djossa B., Fahr J., Wiegand T., Ayihouenou B.E., Kalko E.K. &	<i>Land use impact on Vitellaria paradoxa C.F. Gaerten. Stand structure and distribution patterns: a comparison of Biosphere</i>	<i>Agroforestry System</i> , 72: 205-220; (2008).	1.667

Disciplines	N°	Authors' Name	Title	Journals	Impact Factor
Management		Sinsin B.	<i>Reserve of Pendjari in Atacora district in Benin.</i>		
	7	Glèlè Kakaï R. & Sinsin B.	<i>Structural description of two Isoberlinia dominated vegetation types in the Wari-Marô forest reserve (Benin).</i>	<i>South African Journal of Botany</i> , 75: 43-51; (2009)	0.444
Wildlife ecology	8	Akpona H.A., Djagoun A.M.S. & Sinsin B.	<i>Ecology and ethnozoology of the tree-cusped pangolin <i>Manis tricuspis</i> (Mammalia, Pholidota) in the Lama forest reserve, Benin.</i>	<i>Mammalia</i> , 72: 198-202; (2008).	0.340

*Appendix 6. Articles published in peer-review journal without IF*

Disciplines	N°	Authors' Name	Title	Journals
Biometry	1	Gbangboche, A. B.; Glèlè Kakaï R.; Salifou S. Albuquerque L. G. Leroy, P. L.	<i>Comparison of four models to describe the growth curve in West African Dwarf sheep. An International.</i>	<i>Journal of Animal Bioscience</i> , 2(7): 1003-1012; (2008)
	2	Glèlè Kakaï R., Sinsin B., Palm R.	<i>Etude dendrométrique de <i>Pterocarpus erinaceus</i> Poir des formations naturelles de la zone soudanienne au Bénin.</i>	<i>Agronomie Africaine</i> , 20(2): 1-11.
Economic Botany	3	Bamba I., Mama A., Neuba D.F.R., Koffi A.J., Traore D., Visser M., Sinsin B., Lejoly J. & Bogaert J.	<i>Influence des actions anthropiques sur la dynamique spatio-temporelle de l'occupation du sol dans la province du Bas-Congo (R.D. Congo).</i>	<i>Sciences et Nature</i> , 5(1): 49-60 ; (2008).
	4	Vodouhè G. F., Coulibaly O., Assogbadjo A. E; and Sinsin B.	<i>Medicinal plant commercialization in Benin: An analysis of profit distribution equity across supply chain actors and its effect on the sustainable use of harvested species.</i>	<i>Journal of Medicinal Plants Research</i> 2(11), pp. 331-340, 2008
	5	Ekue M. R. M., Codjia J. T. C., Fonton B. K. & Assogbadjo A.E.	<i>Diversité et préférences en ressources forestières alimentaires végétales des peuples Otammari de la région de Boukoubé au Nord-Ouest du Bénin.</i>	<i>Bulletin de la Recherche Agronomique du Bénin</i> 60 : 1-12 ; 2008



Disciplines	N°	Authors' Name	Title	Journals
	6	Houngbo N.E., Sinsin B. & Floquet A.	<i>Pauvreté chronique et pauvreté transitoire sur le plateau Adja au Bénin: caractéristiques et influence sur la mise en oeuvre des pratiques agricoles de conservation des terres.</i>	<i>Tropicultura</i> , 26(3): 186-189 ; (2008)
<b>Ecophysiology</b>	7	Adjahossou S.B., Adjahossou F.D., Sinsin B., Boko M. & Vieira Da Silva J.	<i>Ecophysiological responses of peanut (Arachis hypogea) to shading due to maize (Zea mays) in intercropping systems.</i>	<i>Cameroon Journal of Experimental Biology</i> , 4 (1): 29-38; (2008)
	8	Adjahossou S.B., Adjahossou F.D., Adjahossou V.N., Sinsin B. & Boko M.	<i>Optimisation de la productivité d'un système de culture associant le maïs (Zea mays) et l'arachide (Arachis hypogea) au Sud-Bénin.</i>	<i>Cameroon Journal of Experimental Biology</i> , 4 (2): 57-66; (2008)
<b>Ethnobiology</b>	9	Djagoun C.A.M.S. & Sinsin B.	<i>Diversity and ethnozoological study of small mammals in villages surrounding the Pendjari Biosphere Reserve in northern Benin. In Parrotta J.A., Jinlong L &amp; Heek-Choh S.(eds) Sustainable forest management and poverty alleviation: roles of traditional forest-related knowledge.</i>	<i>IUFRO World Series</i> .21: 41-45; (2008).
	10	Djenontin A.J., Houinato M. & Sinsin B.	<i>Nomination des vaches des troupeaux bovins par les éleveurs peuls au nord du Bénin: outils aux visages multiples.</i>	<i>Ethnozootecnie</i> , 81: 80-90; (2007)
<b>Grass and Forage sciences</b>	11	Zoffoun A.G., Houinato M., Houessou L. & Sinsin B.	<i>Impact des cultures fourragères sur la diversité floristique des parcours de la ferme d'élevage de Kpinnou (Bénin).</i>	<i>International Journal of Biological and Chemical Sciences</i> , 2(1): 85-103; (2008)
<b>Molecular Biology</b>	12	Ekué M.R.M., Gailing O, Finkeldey R. and Eyog-Matig O	<i>Indigenous Knowledge, Traditional Management and Genetic Diversity of the Endogenous Agroforestry Species Ackee (Blighia sapida) in Benin.</i>	<i>Acta Horticulturae</i> 806: 655-662; (2008).
<b>Soil sciences</b>	13	Toko I. & Sinsin B.	<i>Les phénomènes d'érosion et d'effondrement naturels des sols(dongas) du Parc National du W et leur impact sur la productivité des pâturages.</i>	<i>Sécheresse</i> 19(3): 193-200; (2008)
<b>Wildlife /protected areas management</b>	14	Morou B., Ambouta J.M.K., Mahamane A., Saadou M. & Sinsin B.	<i>Caractérisation du régime alimentaire de la giraffe du Niger (Giraffa camelopardalis peralta Linnaeus) pendant la saison des pluies.</i>	<i>Annales des Sciences Agronomiques du Bénin</i> , 11(1): 81-100 ; (2008)
	15	Djossa B. A., Fahr J., Kalko E.K.V. & Sinsin B.	<i>Fruit selection and effects of seed handling by flying foxes on germination rates of shea trees, a key resource in northern Benin, West Africa.</i>	<i>Ecotropia</i> , 14: 37-48; (2008).

Disciplines	N°	Authors' Name	Title	Journals
	16	Bruno A. Djossa; Brice A. Sinsin; Elisabeth K.V. Kalko and Jakob Fahr	<i>Inventory of bat species of niaouli forest, Bénin, and its bearing on the significance of the dahomey gap as a zoogeographic barrier.</i>	<i>African Bat Conservation News</i> 15: 4-6; (2008)
	17	G. Nobimè, O.G. Gaoué & B. Sinsin	<i>Distribution des espèces de primates au Bénin et ethnozoologie.</i>	<i>International Journal of Biological and Chemical Sciences</i> , 2(3): 346-354, 2008
	18	TD. Houéhanou, M. Houinato, C. Adandédjan, AB. Gbangboché, MS. Hounzangbé-Adoté, & B. Sinsin	<i>Gestion pastorale des terroirs agricoles dans la périphérie de la Djona (Nord-Est Bénin).</i>	<i>International Journal of Biological and Chemical Sciences</i> , 2(4): 497-507, 2008
Mycology	19	Christian J. & Yorou NS	<i>Ramaria sinsinii</i> sp. Nov und <i>Ramaria beninensis</i> sp. nov. Zwei neue Ramarien aus Benin (Westafrika).	<i>Zeitschr. f. Mykologie</i>
	20	Nourou Soulemame Yorou, Reinhard Agerer & Stefan Raidl	<i>Afzeliaerhiza beninensis</i> (+ <i>Afzelia africana</i> Smith).	<i>In Agerer R, Danielson RM, Egli S, Ingleby K, Luoma D, Treu R (eds) Descriptions of Ectomycorrhizae</i> 11/12: 1-8 (2008)
Ethnopharma-cologie	21	Yemoa A.L., Gbenou J.D., Johnson R.C., Djego J.G., Zinsou C., Moudachirou M., Quetin-Leclercq J., Bigot A., Portaels F.	<i>Identification et étude photochimique de plantes utilisées dans le traitement traditionnel de l'ulcère de Buruli au Bénin.</i>	<i>Ethnopharmacologia</i> décembre 2008, n°42 : 48-55

### Appendix 7. Articles in press in peer-review journal with IF

Disciplines	N°	Authors' Name	Title	Journals	Impact Factor
Ethnobiology	1	De Caluwé, E., De Smedt, S., Assogbadjo, A.E., Samson, B., Sinsin, B. & Van Damme, P.	<i>Ethnic differences in use value and use patterns of baobab (<i>Adansonia digitata</i> L.) in northern Benin.</i>	<i>African Journal of Ecology</i>	0.688
Molecular Biology	2	Kyndt T., Assogbadjo A.E., Hardy O. J., Glèlè Kakaï R., Sinsin B., Van Damme P., Gheysen G.	<i>Spatial and temporal genetic structuring of <i>Adansonia digitata</i> L. (Malvaceae) in the traditional agroforestry systems of West Africa.</i>	<i>American Journal of Botany</i>	2.512

<b>Plant, Forest ecology and Management</b>	3	Avocèvou-Ayisso C., Sinsin B., Adégbidi A. Dossou G., Van Damme P.	<i>Sustainable Use of Non-Timber Forest Products: Impact of Fruit Harvesting on Pentadesma butyracea Regeneration and Financial Analysis of its Products trade in Benin.</i>	<i>Forest Ecology and Management</i>	1,579
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*Appendix 8. Articles in press in peer-review journal without IF*

<b>Disciplines</b>	<b>N°</b>	<b>Authors' Name</b>	<b>Title</b>	<b>Journals</b>
<b>Grass and Forage science</b>	1	Houehanou T., Houinato M., Adandedjan C., Gbangboche A.B., Hounzanghe—Adote M. S. Sinsin B.	<i>Gestion pastorale et structure des terroirs agricoles dans la périphérie de la Djona (Nord-Est Bénin).</i>	<i>International Journal of Biological and Chemical Sciences:</i>
<b>Plant Ecophysiology</b>	2	Kindomihou V. & Sinsin B.	<i>Environmentally induced variation in the germination percentage and energy of <i>Loxodera ledermannii</i> (Pilger) Clayton naked caryopses in subhumid zone of Benin.</i>	<i>Rev. Sc. Envi. Univ. Lomé (Togo)</i>
<b>Plant, Forest ecology and Management</b>	3	Hessou C., Glèlè Kakāi R., Assogbadjo A.E., Odjo T, Sinsin B.	<i>Test de germination des graines de <i>Caesalpinia bonduc</i> (L) Roxb au Bénin.</i>	<i>International Journal of Biological and Chemical Sciences</i>
	4	Akpona T. J.D, Glèlè Kakāi R., Akpona A. H.	<i>Ethnobotanique et structure des peuplements d'espèces de brosse végétale au Sud et du Centre du Bénin.</i>	<i>Bulletin de la recherche agronomique du Bénin</i>
	5	Djogbenou C. P., Arouna O., Glèlè Kakāi R., Sinsin B.	<i>Critères et indicateurs de participation des populations locales à l'aménagement forestier au Bénin.</i>	<i>Bulletin de la recherche agronomique du Bénin</i>

*Appendix 9. Articles under review in peer-review journal with IF*

<b>Disciplines</b>	<b>N°</b>	<b>Authors' Name</b>	<b>Title</b>	<b>Journals</b>	<b>Imapct Factor</b>
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Disciplines	N°	Authors' Name	Title	Journals	Impact Factor
<b>Agroforestry and Economic Botany</b>	1	Avocévous-Ayisso C., Avohou T.H. Oumorou M., Dossou G & Sinsin B.	<i>Ethnobotany of Pentadesma butyracea in Benin: A Quantitative Approach.</i>	<i>Journal of Applied Ecology</i>	0.688
	2	Vodonhè G. Fifanou, Coulibaly Ousmane and Sinsin Brice	<i>Estimating Local Values of Vegetable Non-Timber Forest Products to Pendjari Biosphere Reserve Dwellers in Benin.</i>	<i>Economic Botany</i>	0.449
<b>Grass science</b>	3	Kindomihou V., Téka O., Houinato M., Oumorou M., Mama A., Ogoubiyi V., Oloulotan S., Sinsin B.	<i>Climate changes and in situ conservation of the Loxodera ledermannii (Pilger) natural pastures in Sudanian Benin.</i>	<i>Journal of Experimental Botany</i>	3.917
	4	Babatounde S., Glèlè Kakaï R., Buldgen A.	<i>Intake digestibility and exotic grasses fed ad libitum to Djallonke sheep in South Benin</i>	<i>Grass and Forage Science</i>	1.035
<b>Molecular Biology</b>	5	Ekué M.R.M., Gailing O., Finkeldey R.	<i>Transferability of microsatellite markers developed in Litchi chinensis.</i>	<i>Plant Molecular Biology Reporter</i>	1.098
<b>Plant and Forest Ecology and Management</b>	6	Assogbadjo, A., Glèlè Kakaï R., Sinsin, B., Pelz, D.	<i>Structure of Anogeissus leiocarpa Guill., Perr. Natural stands in relation to anthropogenic pressure within Wari-Marô Forest Reserve in Benin.</i>	<i>African journal of ecology</i>	0.688
	7	Bonou, W. Glèlè Kakaï R., Assogbadjo A. E., Fonton H.N., Sinsin B., Pelz D.	<i>Habitat Characterisation of Afzelia africana Sm. In the Lama forest reserve (Bénin).</i>	<i>Forest ecology and management</i>	1.579
	8	Djogbenou P. C., Glèlè Kakaï R., Sinsin B.	<i>Multicriteria assessment of Participatory management designs of forest reserves of Benin.</i>	<i>Forest Policy and Economics.</i>	0.898
	9	Rodenburg J., Saito K., Glèlè Kakaï R., Touré A. D., Mariko M., Kiepe P.	<i>Weed competitiveness of the lowland rice varieties of NERICA in a Guinea Savanna environment.</i>	<i>Field Crop Research</i>	1.664
<b>Wildlife and protected area management</b>	10	Dossou-Yovo H., Gaoue O.; Kindomihou V. & Sinsin B.	<i>Traditional Beliefs and Biodiversity Conservation: case study of Termitaria in the Biosphere Reserve of Pendjari, Benin.</i>	<i>Biodiversity and Conservation</i>	1.423

*Appendix 10. Articles under review in peer-review journal without IF*

Disciplines	N°	Authors' Name	Title	Journals
<b>Biometry</b>	1	Glèlè Kakaï R., Pelz D. R.	<i>Asymptotic error rate of linear, quadratic and logistic rules in multi-group discriminant analysis.</i>	<i>African journal of sciences and technologies</i>
	2	Glèlè Kakaï R., Pelz D. R., Palm R	<i>On the efficiency of the linear classification rule in multi-group discriminant analysis.</i>	<i>East African journal of statistics</i>
	3	Glèlè Kakaï R., Pelz D. R., Palm R.	<i>Relative efficiency of non parametric error rate estimators in multi-group linear discriminant analysis.</i>	<i>East African Journal of Statistics.</i>
<b>Environmental sciences</b>	4	Teka O. & Vogt J.	<i>Social perception of natural risks by local residents in the coastal area of Benin.</i>	<i>Social Science Journal</i>
	5	Holou R.Y.A, Teka O. & Sinsin B.	<i>Germination et rôle de <i>Mezoneuron benthamianum</i> dans l'aménagement des dispositifs de lutte anti-érosive des retenues d'hydraulique pastorale au Bénin.</i>	<i>Tropicultura</i>
<b>Plant, Forest ecology and Management</b>	6	Glèlè Kakaï R., Assogbadjo A. E., Sinsin B.	<i>Régénération naturelle et caractérisation spatiale des arbres de <i>Pterocarpus erinaceus</i> Poir de la zone soudanienne au Bénin.</i>	<i>Revue des sciences et technologies.</i>
	7	Fandohan B., Glèlè Kakaï R., Sinsin B.	<i>Caractérisation dendrométrique et spatiale de trois essences ligneuses médicinales dans la forêt classe de Wari-Marô au Bénin.</i>	<i>Revue des sciences et technologies.</i>
	8	Sounou M., Glèlè Kakaï R., Avakoudjo J., Sinsin B	<i>Tests de germination et de croissance de <i>Artemisia annua</i> L. sur différents substrats au Bénin.</i>	<i>International Journal of Biological and Chemical Sciences</i>
<b>Ethnopharmacologie</b>	9	Yemoa A.L., Gbenou J.D., Johnson R.C., Djego J.G., Zinsou C., Moudachirou M., Quetin-Leclercq J., Bigot A., Portaels F.	<i>Identification et étude photochimique de plantes utilisées dans le traitement traditionnel de l'ulcère de Buruli au Bénin.</i>	<i>Ethnopharmacologia</i> décembre 2008, n°42 : 48-55

*Appendix 11. Publications in proceedings*

Field of research	N°	Authors' Name	Title	Full References
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Field of research	N°	Authors' Name	Title	Full References
<b>Biodiversity and conservation</b>	1	Assédé E., Kindomihou V., Sinsin B.	Relationships Between Human Pressure Gradient and Floristic Diversity in the Pendjari Biosphere Reserve in Benin (Western Africa).	In Eric Tielkes: "Competition for Resources in a Changing World - New Drive for Rural Development". Tropentag 2008, October 7 - 9, Hohenheim, Germany. ISBN-10: 3867277559; ISBN-13: 9783867277556. 5p. <a href="http://www.tropentag.de/2008/abstracts/full/704.pdf">http://www.tropentag.de/2008/abstracts/full/704.pdf</a>
<b>Climate change and risk assessment</b>	2	Teka O., Edea E. & Vogt J.	Quels apports de l'information spatiale à l'étude des risques climatiques : Cas de Cotonou en zone côtière du Bénin (Afrique de l'Ouest) ?	In Nouvelles approches sur les risques côtiers. Société Hydraulique de France: «Atéas, vulnérabilité, changement climatique, variations du trait de côte». Paris, France, ISBN 2-906831-72-7
	3	Teka O. & Vogt J.	Characterisation and Determination of the Socio-Economic Vulnerability of the Agricultural Farms in the Coastal Zone of Benin: Method and Application.	In: "Competition for Resources in a Changing World New Drive for Rural Development". Deutscher Tropentag October 7 - 9, 2008, Hohenheim, Germany ISBN 978-3-86727-755-6
	4	Teka O. & Vogt J.	Perception and assessment natural risks through local residents – Analyses in the coastal area of Benin – Risk and Africa.	Conceptualizing risk in the context of contemporary Africa. International Symposium by ZENEB & BIGSAS, Bayreuth, Germany (Bayreuth geographical works).
<b>Ecology and Genetic of Tropical Forests</b>	5	Houehanou Thierry, Kindomihou Valentin, Houinato Marcel, Brice Sinsin	Bendrometrical Characterisation of a Common Plant Species ( <i>Anogeissus leiocarpa</i> (DC.) Guill. & Perr.) in Pendjari Biosphere Reserve and its Surrounding Land, Benin.	In Eric Tielkes: "Competition for Resources in a Changing World - New Drive for Rural Development". Tropentag 2008, October 7 - 9, Hohenheim, Germany. ISBN-10: 3867277559; ISBN-13: 9783867277556. 5p. <a href="http://www.tropentag.de/abstracts/full/358.pdf">http://www.tropentag.de/abstracts/full/358.pdf</a> <a href="http://www.tropentag.de/abstracts/posters/358.pdf">http://www.tropentag.de/abstracts/posters/358.pdf</a>
<b>Grassland ecology</b>	6	Sinsin B., Kindomihou V., Bako I., Saïdou A., Houinato M., Essou J-P.	Test of restoration of guineo-sudanian pastures invaded by <i>Chromolaena odorata</i> and <i>Hyptis suaveolens</i> in Benin.	<a href="http://www.igc-irc2008.org/download/Poster_ID_numbers_-_final.xls">www.igc-irc2008.org/download/Poster_ID_numbers_-_final.xls</a>
<b>Grass and forage science</b>	7	Kindomihou V., Ma Jian F., Sinsin B., Meerts P.	Do silicon fertilizers improve the fodder value of tropical grass species?	
<b>Plant Ecophysiology</b>	8	Kindomihou V., Meerts P., Sinsin B.	Patterns in tropical grass silicification: response to substrate fertilization.	
<b>Land use, impact and value</b>	9	Stechert, C.; Kolb, M.; Djossa, B.; Nago, G.A.; Sinsin, B.; Rödel, M.-O.; Fahr, J.; Kalko, E.; Reichmann, S.; Korb, J.:	Pesticide residues in non-target organisms - a consequence of land use change in West Africa? (Poster).	BIOTA AFRICA Congress 2008 South Africa

Field of research	N°	Authors' Name	Title	Full References
		Bahadir, M.		
<b>Wildlife /protected areas management</b>	10	Kpera G. N.	Rapport national sur la préservation et gestion des crocodiles.	<i>In Proceeding of 1<sup>st</sup> Workshop of the West African Countries on "Crocodilian farming and conservation"</i> 13-15 November 2007, La Tapoa Regional Parc W, Niger. 13-18.
	11	Kpera G. N., Mensah G. A. & B. Sinsin	Utilisation des produits et sous-produits de crocodile en médecine traditionnelle au nord du Bénin.	<i>In Proceeding of 1<sup>st</sup> Workshop of the West African Countries on "Crocodilian farming and conservation"</i> 13-15 November 2007, La Tapoa Regional Parc W, Niger. 21-33.
	12	Kpera G. N., Sabi Lolo Hou I B., Mensah G. A. & El Hadj Issa A.	Projet dans la Zone Cynégétique de la Djona : Elevage Pilote de (EpiCroco) à Tchoka, village riverain au parc W : phase préliminaire de mise en œuvre.	<i>In Proceeding of 1<sup>st</sup> Workshop of the West African Countries on "Crocodilian farming and conservation"</i> 13-15 November 2007, La Tapoa Regional Parc W, Niger. 34-39.
	13	Kpera G. N., Mensah G. A. & Sinsin B.	Endogenous Conservation of Wildlife Faced to the Trade of Crocodile Organs in Traditional Medicine Purposes (Bénin).	<i>In Proceeding of 1<sup>st</sup> Workshop of the West African Countries on "Crocodilian farming and conservation"</i> 13-15 November 2007, La Tapoa Regional Parc W, Niger. 40-53.
<b>Biodiversity and conservation</b>	14	A. Yemoa, D. Afolabi, J. Gbenou, R., C. Johnson, J. Djego, M. Moudachiron, A. Bigot, S. Anagonou, F. Portaels, J. Quetin-Leclercq, A. Martin	Antimycobacterial screening of plants from Benin on <i>Mycobacterium ulcerans</i> , the causal agent of Buruli ulcer.	<i>In Ethnopharmacologia</i>

### *Appendix 12. Abstracts in books of abstracts*

Field of research	N°	Authors' Name	Title	Full References
<b>Biodiversity and Conser-vation</b>	1	Assédé Eméline Sessi P., Kindomihou Valentin, Sinsin Brice	Relationships Between Human Pressure Gradient and Floristic Diversity in the Pendjari Biosphere Reserve in Benin (Western Africa).	<i>In Eric Tielkes : "Competition for Resources in a Changing World - New Drive for Rural Development"</i> , Tropentag 2008, October 7 - 9, Hohenheim, Germany. ISBN-10: 3867277559; ISBN-13: 9783867277556. p. 600.
	2	Hubert O. Bossou-Yovo,	Traditional Beliefs and Biodiversity Conservation: case	Actes de la III semaine nationale des Aires protégées: résumés.

Field of research	N°	Authors' Name	Title	Full References
		V. Kindomihou, Brice Sinsin	study of Termitaria in the Biosphere Reserve of Pendjari, North-Western Benin.	
	3	Kouton M. D., Kindomihou V., Sinsin B.	Lecture écologique et socio-foncère comme outils de conservation durable des aires protégées : cas de la Lama et de Niaouli.	Actes de la III semaine nationale des Aires protégées; résumés.
<b>Ecology of Tropical Forests</b>	4	Houehanou Thierry, Kindomihou Valentin, Hoininato Marcel, Brice Sinsin	Dendrometrical Characterisation of a Common Plant Species ( <i>Anogeissus leiocarpa</i> (DC.) Guill. & Perr.) in Pendjari Biosphere Reserve and its Surrounding Land, Benin.	In Eric Tielkes: "Competition for Resources in a Changing World - New Drive for Rural Development", Tropentag 2008, October 7 - 9, Hohenheim, Germany. ISBN-10: 3867277559; ISBN-13: 9783867277556. p.544. <a href="http://www.tropentag.de/abstracts/full/358.pdf">http://www.tropentag.de/abstracts/full/358.pdf</a> <a href="http://www.tropentag.de/abstracts/posters/358.pdf">http://www.tropentag.de/abstracts/posters/358.pdf</a>
<b>Economic Botany</b>	5	Vodouhé G. F., Sinsin B.	Rural – urban linkages in the supply of an indigenous vegetable ( <i>Vitex doniana</i> ) in Benin.	<i>The Promotion of Indigenous Vegetables in African Urban and Peri-urban Spaces: Production, Consumption, Poverty Alleviation and Policy seminar</i> ; Rhodes University, Grahamstown, South Africa; 23 - 26 January 2008
	6	Vodouhé G. F., Sinsin B.	Exploitation des Produits Forestiers Non Ligneux et Conservation de la Biodiversité végétale de la Pendjari.	Projet MAB/GEF, Atelier de clôture
	7	Houngbo, N. E., Sinsin, B. & Floquet, A.	"Poverty and agroforestry adoption: the cases of <i>Mucuna pruriens</i> and <i>Acacia auriculiformis</i> in Godohou village (Southern Benin)".	Submitted to the 2 <sup>nd</sup> World Congress Agroforestry, 23-28 August 2009, Nairobi (KENYA).
	8	Houngbo, N. E.	OMD: Réduction de la pauvreté et amélioration des pratiques agricoles de conservation en milieu rural au Bénin".	XIII <sup>ème</sup> Journées Scientifiques Internationales de Lomé, 20-24 octobre 2008. Book of Abstracts. P. 185.
<b>Environmental sciences</b>	9	Teka O., Edea E. & Vogt J.	Quels apports de l'information spatiale à l'étude des risques climatiques ? Cas de Cotonou en zone côtière du Bénin (Afrique de l'Ouest).	In "Nouvelles approches sur les risques côtiers" Société Hydraulique de France: «Aléas, vulnérabilité, changement climatique, variations du trait de côte». Paris, France. ISBN 2-906831-72-7
	10	Teka O. & Vogt J.	Characterisation and Determination of the Socio-Economic	"Competition for Resources in a Changing World New Drive



Field of research	N°	Authors' Name	Title	Full References
			Vulnerability of the Agricultural Farms in the Coastal Zone of Benin: Method and Application.	<i>for Rural Development</i> ". Deutscher Tropentag October 7 - 9, 2008, Hohenheim, Germany. ISBN 978-3-86727-755-6
	11	Teka O. & Vogt J.	Perception and assessment natural risks through local residents – Analyses in the coastal area of Benin – Risk and Africa – Conceptualizing risk in the context of contemporary Africa.	International Symposium by ZENEB & BIGSAS, Bayreuth, Germany, Bayreuth geographical works
<b>Ethnobiology</b>	12	Ekué M.R.M., Gailing O, Eyog-Matig O and Finkeldey R.	Indigenous Knowledge, Traditional Management and Genetic Diversity of the Endogenous Agroforestry Species <i>Aceke (Blighia sapida)</i> in Benin	Jaenicke H., 2008. "International Symposium Underutilized plants for food, nutrition, income and sustainable development" co-convened by the International Centre for Underutilised Crops, the Global Facilitation Unit for Underutilized Species and The World Vegetable Center, Arusha, Tanzania pp 103.
	13	Gérard N. Gouwakinnou, Valentin Kindomihou & Brice A. Sinsin	Indigenous Knowledge and Uses of <i>Sclerocarya birrea</i> (Anacardiaceae) by Rural Population around W. National Park in Karimama (Benin).	International Conference on Traditional Forest Knowledge and Sustainable Forest Management in Africa: Accra, Ghana; 15-17 October 2008 <a href="http://www.infro.org/download/file/2983/4315/AS2-Gouwakinnou_Benin.doc">www.infro.org/download/file/2983/4315/AS2-Gouwakinnou_Benin.doc</a>
	14	Sylvestre Chabi Adéyèmi Marc Djagoun, B. Sinsin & V. Kindomihou	Diversity and Ethnozoological Study of Small Mammals in Villages Surrounding the Pendjari Biosphere Reserve in Northern Benin	International Conference on Traditional Forest Knowledge and Sustainable Forest Management in Africa: Accra, Ghana; 15-17 October 2008 <a href="http://www.infro.org/download/file/3016/4315/AS6-Djagoun_Benin.doc">www.infro.org/download/file/3016/4315/AS6-Djagoun_Benin.doc</a>
	15	Méryas Dègbémabou Kouton, Brice Sinsin and Valentin Kindomihou	Importance of Medicinal Plants Use in Rural Agro-ecosystems: Case Lama Reserve in Benin.	SEB 49 <sup>th</sup> annual meeting 2008, medical Ethnobotany, 2 <sup>nd</sup> - 4 <sup>th</sup> June, 2008, USA. <a href="http://www.econbot.org/_organization_/07_annual_meetings/meetings_by_year/2008/SEB2008_Scientific_Program.pdf">www.econbot.org/_organization_/07_annual_meetings/meetings_by_year/2008/SEB2008_Scientific_Program.pdf</a>
	16	Djagoun C. A. M. S., Kindomihou V., Sinsin B.	Diversité et étude ethnozoologique des petits mammifères des terroirs riverains de la Réserve Biosphère de la Pendjari.	Actes de la III semaine nationale des Aires protégées; résumés.
	17	Gouwakinnou G. N.,	Utilisation and local knowledge on <i>Sclerocarya birrea</i>	Actes de la III semaine nationale des Aires protégées; résumés.

Field of research	N°	Authors' Name	Title	Full References
		Kindomihou V., Sinsin B. A.	(Anacardiaceae) by rural population around W National Park in Karimama (Benin).	
<b>Grassland Ecology</b>	<b>18</b>	Kindomihou Valentin, Téka Oscar, Hoinato Marcel, Oumorou Madjidou, Mama Adil, Ogoubiyi Victor, Oloulolan Sikirou, Sinsin Brice	Climate changes and <i>in situ</i> conservation of the <i>Loxodera Ledermannii</i> (Pilger) natural pastures in Sudanian Benin.	Effects of Climate Change on Plants: Implications for Agriculture at Rothamsted Research, Harpenden, United Kingdom, 12 <sup>th</sup> – 13 <sup>th</sup> November 2008 <a href="http://qs.aqvs.co.uk/raah/images/P&amp;BF_Climate_Change.pdf">http://qs.aqvs.co.uk/raah/images/P&amp;BF_Climate_Change.pdf</a>
<b>Fodder Biology</b>	<b>19</b>	Kindomihou V. & Sinsin B.	Environmentally induced variation in the germination percentage and energy of <i>Loxodera ledermannii</i> (Pilger) Clayton naked caryopses in subhumid zone of Benin.	XIII <sup>ème</sup> Journées Scientifiques Internationales de Lomé, 20-24 octobre 2008. Book of Abstracts. 118-119.
<b>Landscape management</b>	<b>20</b>	Bruno A. Djossa, Jakob Fahr, Elisabeth K. V. Kalko & Brice A. Sinsin	Influence des pratiques agroforestières sur quelques essences spontanées et impacts sur la disponibilité des ressources alimentaires pour les petits mammifères dans la région de la Pendjari (Bénin), cas des roussettes.	Annual scientific day of Benin Association of Pastoralism (AbePa 2008).
<b>Plant Ecology</b>	<b>21</b>	Houehanou T., Kindomihou V., Hoinato M., Sinsin B.	Caractérisation dendrométrique d'une espèce ligneuse menacée ( <i>Azelia africana</i> ) dans la Réserve de Biosphère de la Pendjari et ses terroirs riverains.	Actes de la III semaine nationale des Aires protégées; résumés.
	<b>22</b>	Assédé E. S. P., Kindomihou V. , Sinsin B.	Evaluation de l'effet frontière sur la diversité floristique des limites de la zone cynégétique et des terroirs riverains du Parc National de la Pendjari au Bénin.	Actes de la III semaine nationale des Aires protégées; résumés.
	<b>23</b>	Kindomihou MV, Ma JF, Mitani M, Kazunori T, Sinsin B, Matsumae N and Meerts P.	Effects of silica gel supply on leaf silica concentration, other traits and covariations within six tropical fodder grass species grown in humid conditions.	IV Silicon in Agriculture Conference, Wild Coast Sun, KwaZulu-Natal, South Africa, 26 - 31 October 2008. Book of abstracts, p.51. <a href="http://www.siliconconference.org.za/photos/IVSiliconinAgricultureBookofAbstracts.pdf">http://www.siliconconference.org.za/photos/IVSiliconinAgricultureBookofAbstracts.pdf</a>
	<b>24</b>	Kindomihou Valentin, Longeval Bernard, Herbauts Jacques, Gruber	Tropical Grass Silicification Pattern: Genetic Diversity and Relationships with the Soil Soluble Silicon in Benin (Western Africa).	In Eric Tielkes:" <i>Competition for Resources in a Changing World - New Drive for Rural Development</i> ", Tropentag 2008, October 7 - 9, Hohenheim, Germany. ISBN-10: 3867277599;

Field of research	N°	Authors' Name	Title	Full References
		Wolf, Sinsin Brice, Meerts Pierre		ISBN-13: 9783867277556. p180.
	25	Yessoufou, K.	Community phylogenetics of southern African flora: case study in Kruger National Park, South Africa, University of Johannesburg (UJ), South Africa (SA).	Proposal of PhD project presented at 2008 Postgraduate Symposium of Department of Botany, UJ, SA.
	26	Yessoufou, K.	Threatened plant species and sites for high conservation priorities in Benin.	TreeBoL workshop, Johannesburg, South Africa 9-10 <sup>th</sup> October 2008.
Soil Science	27	Avakoudjo J., Oumorou M. & Sinsin B	Soil degradation and rehabilitation of degraded ecosystems in Northern Benin : a case study of W National Park and its land use area in Karimama township (Benin).	Vol. 4, No 1 (2008) of Laboratory of Applied Ecology Notes <a href="http://www.notesdecologie.bj.refer.org/document.php?id=612">http://www.notesdecologie.bj.refer.org/document.php?id=612</a> . ISSN 1840-5312.
Wildlife /protected areas management	28	Bruno A. Djossa, Jakob F., Elisabeth K. V. Kalko & Sinsin B.	Fruit selection and effects of seed handling by flying foxes on germination rates of Shea trees, a key resource in northern Benin, West Africa.	Actes de la III semaine nationale des Aires protégées: résumés.
	29	Nobimè G, Sinsin B., Lermould J-M	Spatial distribution and ecological factors determining the occurrence of the red-bellied guenon <i>Cercopithecus e. erythrogaster</i> in Benin and Togo	<a href="http://www.ips2008.co.uk">www.ips2008.co.uk</a>

### Appendix 13. Technical Reports in 2008

Field of research	N°	Authors' Name	Title	References
Wildlife /protected areas management	1	Pius Anadu & Bruno A. Djossa	Report of Small Mammal Survey in Loma Mountains.	Rapid Biodiversity assessment in Loma Mountains forest in Sierra Leone. Commended by Hydroelectric Power Project
Agroforestry	2	Sinsin B., Assogbadjo A.E. & Adi M.	Monographie et ethnobotanique de <i>Jatropha curcas</i> (Euphorbiaceae) au Bénin.	Rapport technique, LEA/FSA/UAC, 30p. ; 2008
	3	Djaouga M., Houndagba C.J.B., Sinsin B.	Activités agropastorales, gestion des ressources et lutte contre la désertification dans la commune de Kalalé au Bénin (Afrique).	CTA, Ouagadougou (Burkina-Faso) 12 p. ; 2008
	4	Djaouga M., Houndagba C.J.B., Sinsin B.	Pratiques pastorales et utilisation du sol à Gah Maro au Bénin en Afrique.	CIRDES, Niamey (Niger) 12 p. ; 2008.

*Appendix 14. Workshops/Conferences in 2008*

N°	Title and period	Contexts	Representative LEA researchers
1	Formation en Télédétection et SIG à Abomey-Calavi au Bénin du 26 mars au 02 avril 2008. Participation à la formation sur l'harmonisation des méthodes d'étude de la flore et de la végétation à l'Université Abdou Moumouni de Niamey (Niger du 04 au 10 Août 2008.	SUN-EU	Gouwakinnou G., Bonou A., Houessou L. Avakoudjo J.
2	Séminaire d'évaluation à mi-parcours de SUN (Sustainable Use of Natural Vegetation in West Africa) à Banfora, Burkina Faso du 10-14 novembre 2008.	SUN-EU	
3	Training in biology of cheetah conservation, offered by the Cheetah Conservation Fund (CCF) in partnership with the Howard G. Buffett Foundation. From the 20th of October to the 15th of November 2008, at CCF's field research centre in Otjiwarongo, Namibia.	Cheetah Conservation Fund (CCF) & Howard G. Buffett Foundation	Djagoun Sylvestre
4	<i>Diversity and ethnozoology study of small mammal in the villages surrounding the Pendjari Biosphere Reserve in northern Benin.</i> IUFRO-SPDC/FORNESSA Conference Training Workshop on Science-Policy Interfacing: Enhancing Contributions of Forest Science and Traditional Forest-related Knowledge (TFRK) to the Conservation and Sustainable Use of Forest Resources in Africa". Accra, Ghana, 13 to 17 October 2008.	IUFRO-SPDC/FORNESSA	
N°	Title and period	Contexts	Representative LEA researchers
5	<i>Diversité et étude ethnozoologique des espèces de petits mammifères dans les terroirs de la Réserve de Biosphère de la Pendjari et la chaîne de l'Atacora.</i> Troisième Séminaire Nationale des aires protégées au Bénin. 14-22 juin 2008, Champ de Foire, ISBA.	IUCN-WCPA-EU-FSA-LEA-UAC- GTZ-CENAGREF	Djagoun Sylvestre
6	<i>International Congress of BIOTA on Biodiversity of Africa-Observation and sustainable management for our future.</i> Spier, 29 <sup>th</sup> September-3 <sup>rd</sup> October South Africa.	German Federal Ministry of Education and Research within the frame of the BIOLOG programme (BIOTA-West Africa)	Déteké-Koko Inès Assédé Eméline Houehanou Thierry
7	<i>Semaine Nationale des Aires Protégées du Bénin, sur la Conservation des aires protégées au bénéfice des populations locales</i>	IUCN-WCPA-EU-FSA-LEA-UAC- GTZ-CENAGREF	Chercheurs du LEA
8	<i>14<sup>e</sup> Journées de l'Association Béninoise pour le Pastoralisme</i>	LEA-FSA-UAC-Other Universities	

*Appendix 15. Research projects in LEA in 2008*

N°	Title of the project	Sources of Funding	Objectives	Status
1.	<b>Domestication And Development Of Baobab And Tamarind</b>  (DADOBAT)	European Union	<ol style="list-style-type: none"> <li>1. Evaluation and characterisation of germplasm collected in different ecological zones in Benin, Mali and Senegal;</li> <li>2. Eco-physiological characterisation of field and greenhouse-grown material;</li> <li>3. Domestication of superior germplasm material;</li> <li>4. Development of adapted cropping techniques; development of adapted plant material for introduction into (traditional and improved) agroforestry systems;</li> <li>5. Evaluation of nutritional/medicinal composition of different plant parts;</li> <li>6. Improvement of processing/transformation of the species' products;</li> <li>7. Development of (inter-)national marketing strategy.</li> </ol>	<b>Ongoing</b>
2.	<b>Sustainable Use of Natural resources and Vegetation in West-Africa</b>  (SUN)	European Union	<ol style="list-style-type: none"> <li>1. to improve the understanding of vegetation dynamics and their causal factors at local scale</li> <li>2. to extrapolate these results from local to regional (West African) scale by use of a database of scientifically gathered vegetation data and remote sensing</li> <li>3. Local knowledge and socio-economic studies will identify economic instruments to improve policies and redress impediments to sustainable use</li> <li>4. Development of new decision support tools in order to organise and target already available scientific data and make them freely available via the internet. This includes a vegetation database.</li> <li>5. Development of new decision support tools in order to organise and target already available scientific data and make them freely available via the internet. This includes an overview of indicators of sustainable use;</li> <li>6. Development of new decision support tools in order to organise and target already available scientific data and make them freely available via the internet. This includes a GIS tool.</li> <li>7. Establishment of practical management and restoration actions in selected areas – planned in close collaboration between scientists and local people and carried out by local people with support from scientists.</li> <li>8. Dissemination</li> </ol>	<b>Ongoing</b>
3.	<b>BIOdiversity Monitoring Transect Analysis in Africa</b>	German Federal Ministry of Education and Research within	<ol style="list-style-type: none"> <li>1. Comparison of primary and secondary grassland and rain forests with small isolated fragments.</li> <li>2. Establishment of biodiversity observatories for long term monitoring, the main focus being the effects of man-made changes on biodiversity.</li> <li>3. Critical selection of significant interfaces of the trophic network of the tropical rain forest and</li> </ol>	<b>Ongoing</b>

N°	Title of the project	Sources of Funding	Objectives	Status
	(BIOTA)	the frame of the BIOL06 programme	<p>savanna plus their replacement communities: plant-pollinator systems, forest fragmentation and seed dispersal, exchange of atmospheric compounds, regeneration of tree species, the decline in anurans, and the diversity of insects and other major arthropods.</p> <p>4. Investigation of the potential for sustainable use of forest and savanna ecosystems.</p> <p>5. to attend a better understanding of the complex consequences of degradation and fragmentation, especially at the level of critical trophic and reproductive interfaces.</p> <p>6. to provide useful tools and methods for <i>rapid assessment</i> procedures for selected systems.</p> <p>7. to develop the necessary capacity, data management and support infrastructure.</p> <p>8. to monitor and assess taxonomic input to create new and user-friendly field identification tools for use by both specialists and parataxonomists.</p>	

### Appendix 16. Research Grants in 2008

N°	Title of Grant	Beneficiaries	Status
1	<b>Rufford Small Grant (England)</b> Understanding ecology, threats assessment and conservation of <i>Azelia africana</i> in Benin	Glèlè Kakāï R.	Ongoing
2	<b>Wild Idea Foundation (USA).</b> Analysis of the viability of the endangered multipurpose trees species <i>Azelia Africana</i> Sm in the Wari-Marò Forest Reserve	Glèlè Kakāï R.	Ongoing
3	<b>Alexander Von Humboldt Equipment grant and Book donation</b> Error rate estimation in Multi-Group Discriminant Analysis	Glèlè Kakāï R.	Ongoing
4	<b>Projet APRA/INRAB</b> Relance à la filière aulacode au Bénin	Mensah G.A., Pomalegni C. B, Mensah E.R., Kpera G.N.	Ongoing
5	<b>Projet APRA/INRAB</b> Utilisation des plantes médicinales dans les élevages au Sud-Bénin pour le traitement des pathologies	Houngzangbe-Adote S., Azando, E. V., Lounlade, P. A., Kpera G.N.	Ongoing

### Appendix 17. Prizes and nomination in 2008

N°	Title of prize / nomination	Nominee
1	Prize « Heinz and Johanes». Best research paper on ecological measurements in Africa; 2008 Edition. The Support Africa International Foundation, Koblenz, Germany, 2008.	Assogbadjo Achille E.
2	Representative of UAC in the Consortium of the West African Network for Organic Agriculture Research and Training (Edulink-UE/Cambridge-WANOART)	Kindomihou Valentin M.
3	Ebi Kimanani Memorial Fellowship Award for the best research paper on ethnobiology in developing countries; 2008 Edition. The International Society of Ethnobiology, ICE-2008, Cusco, Peru.	Assogbadjo Achille E.

### Appendix 18. Visitors in 2008

N°	Full name of visitors	Provenance of the visitors	Responsible persons in LEA	Topics/Objects
1	RIEMANN Jana	Germany	SINSIN & NAGO	Mosquito larvae interaction with tadpoles
2	NOPPER Joachim	Germany	SINSIN & NAGO	Mosquito larvae interaction with tadpoles
3	RÖDEL Mark-Oliver (Prof)	Germany	SINSIN & NAGO	Amphibian ecology
4	MONHEKE Meike	Germany	SINSIN & NAGO	Mosquito larvae interaction with tadpoles
5	TAPSOBA Hermann	Burkina Faso	SINSIN & NAGO	Chimie de l'environnement
6	OUEDRAOGO Jean Claude	Burkina Faso	SINSIN & NAGO	Chimie de l'environnement
7	AtSIEN Dr Martins	Nigeria	SINSIN & NAGO	Amphibian's parasites
8	SAIDOU Gnanado	Benin	Prof SINSIN Brice	Conception des statuts et règlements du REDERC
9	VERWAERDE Héléne	France	NOBIME Georges	Singe à ventre rouge & Planète urgence
10	LAURAIN Céline	France	NOBIME Georges	Singe à ventre rouge & Planète urgence
11	LANOE Cecilia	France	GNONLONFON Eugène	Aide humanitaire à Togbata
12	GOUNOU Kora	Benin	AKOUEHOU Gaston	Bois d'Œuvre et de service
13	SAIDOU Gnanado	Benin	SINSIN Brice	Compte rendu AG de REDERC & courses pour voyages sur Allemagne
14	BUCHMANN Christine	Germany	SINSIN & ASSOGBADJO	Ethnobotany of Baobab & Tamarind in Benin, Mali and Senegal

N°	Full name of visitors	Provenance of the visitors	Responsible persons in LEA	Topics/Objects
15	KONRAD Tillmann	Germany	SINSIN Brice	BIOTA & Gestion des aires protégées
16	BROMARD Françoise	France	NOBIME Georges	Etude du singe à ventre rouge
17	FLAMENT Lola	France	NOBIME Georges	<i>Cercopithecus erythrogaster</i>
18	PALMANTIER Alice	Germany	SINSIN Brice	Etude socio-économique sur la production du coton
19	CHANTREAV Cathrine	France	NOBIME Georges	Etude de singe Zinkaka
20	LIAY Géraldine	France	NOBIME Georges	Faune (singe à ventre rouge)
21	JURICH Katrin	Germany	SINSIN Brice	Diversity and population dynamics of woody plant species
22	LOMBAR Olivier	France	NOBIME Georges	Togbota/ vallée de l'Ouemé
23	FEDDERSEN Marrietta	Germany	SINSIN Brice	Analyse du Droit foncier "LPA'S" à Pehunco
24	ADAMOU Finagnon	Benin	KASSA Barthélemy	Participation à un séminaire
25	SYLVAIN Yuur	France	NOBIME Georges	WORD / EXCEL
26	HUMEAU Sébastien	France	NOBIME Georges	WORD / EXCEL
27	GENET Cathrine	France	NOBIME Georges	Singe à ventre rouge (ZINKAKA)
28	PAUL Funstin	South Africa	SOGOHOSSOU Etolépé	Lion research
29	TRAORE Salifou	Burkina Faso	SINSIN Brice	Communication sur les aires protégées du Burkina
30	OUEDRAOGO Oumarou	Burkina Faso	SINSIN Brice	Communication sur les aires protégées du Burkina
31	RIEMANN Java	Germany	SINSIN Brice	Trophic position and ecological role of tadpoles in temporary savannah ponds
32	NOPPER Joachim	Germany	SINSIN Brice	Moegnilo larvae tadgele interactions in ephaneral ponds
33	MEER Paule	France	NOBIME Georges	Zinkaka et son habitat
34	CUNI SANCHEZ Aida	UK	ASSOGBADJO Achille	Baobab and climate change (DADOBAT project)
35	LORKA Maurice	RCI	GANDONOU Esaïe	Consommation alimentaire humaine au Bénin
36	NERO Jean-Michel	France	NOBIME Georges	Etude et suivie des populations de Zinkaka dans la forêt de la Lama
37	RODEL Mark Olivier	Germany	SINSIN Brice	Projet Amphibiens/Reptiles (BIOTA)
38	BOVELLE Camille	France	SINSIN Brice	Communautés et environnements en zones humides du Bénin



N°	Full name of visitors	Provenance of the visitors	Responsible persons in LEA	Topics/Objects
39	PRIN-COJAN Annabelle	France	NOBIME Georges	Etude du Singe à ventre rouge et de <i>Pentadesma butyracea</i>
40	BALLI Julien	France	NOBIME Georges	Singe à ventre rouge & Planète urgence
41	DEPAGNE Annik	France	NOBIME Georges	Singe à ventre rouge & Planète urgence
42	BASTIN Jean François	Belgium	SINSIN Brice	Etude de teckeraies privées de la commune de Zè
43	AHOUA Arnaud	RCI	KINDOMIHOU Valentin	Loisirs au Bénin
44	GNAORE Jessy	RCI	KINDOMIHOU Valentin	Tourisme au Bénin
45	BAULI Julien	France	NOBIME Georges	Zinkaka et <i>Pentadesma butyracea</i>
46	PRIN COJAN Annabelle	France	NOBIME Georges	Zinkaka et <i>Pentadesma butyracea</i>
47	MOROU Boubé	Niger	SINSIN & KINDOMIHOU	Impact de l'occupation des sols sur l'habitat de la girafe et enjeux pour la sauvegarde des derniers troupeaux de girafe de l'Afrique de l'Ouest
48	RIEMANN Jana	Germany	SINSIN Brice	Trophic position and ecological role of tadpoles in temporary savannah ponds
49	NOPPER Joachim	Germany	SINSIN Brice	Interactions between tadpoles and mosquito larvae in pond ecosystems
50	SERCKX Adeline	Belgium	TOYI Mireille	Diversité touristique au Bénin
51	GAUTIER Claudie	France	KINDOMIHOU Valentin	Diversité des sites touristiques du Bénin
52	SEIDOU Gnanando	Benin	NOBIME Georges	REDEG-LEA-FSA-UAC
53	GUNDO Brema	Mali	FSA-Décanat	Ressource phylogénétiques, protection des cultures systèmes de culture
54	KOMBO G. R. Aimée	Congo	FSA-Décanat	Ressource phylogénétiques, protection des cultures et systèmes de culture: option Modélisation des cultures
55	NZOBADILA K. B.H Wickler	Congo	FSA-Décanat	Ressource phylogénétiques, protection des cultures systèmes de culture
56	YEBAS Lydie M.F.	Congo	FSA-Décanat	Ressource phylogénétiques, protection des cultures, systèmes de culture
57	ARIEL Elodie	France	NOBIME Georges	Suivi des singes zinkaka et préservation de la forêt de la LAMA
58	DUBOIS Chantal	France	NOBIME Georges	Planète Urgence
59	PEIGNE Ghislaine	France	NOBIME Georges	Faune de la forêt de LAMA
60	PIC PARIS Christine	France	NOBIME Georges	Planète urgence

N°	Full name of visitors	Provenance of the visitors	Responsible persons in LEA	Topics/Objects
61	MAIGA Abba Sékou	Mali	FSA-Décanat	Cours Modulaires DEA/RPPV/FSA/UAC
62	MSEFER Mohamed	France	NOBIME Georges	Observation et photographie des primates
63	YEBAS Lydie MF	Congo	FSA-Décanat	Ressource phylogénétiques, protection des cultures systèmes de culture: option sciences du sol