INTERNATIONAL TROPICAL TIMBER ORGANIZATION

I T T O

PROJECT PROPOSAL

PROJEC TITLE:	ESTABLISHMENT OF A NATIONAL FOREST STATISTICS INFORMATION MANAGEMENT SYSTEM IN BENIN
SERIAL NUMBER:	PD 678/12 **Rev.1** (M)
TECHNICAL COMMITTEE:	ECONOMIC INFORMATION AND MARKET INTELLIGENCE
SUBMITTED BY:	GOVERNMENT OF BENIN
ORIGINAL LANGUAGE:	FRENCH

SUMMARY

Statistics play an important part in the process of sustainable forest resources management. In Benin, there is no effective national system for collecting and managing information. The public and private structures responsible for the collection and management of forestry statistics so far have been operating in disarray. They have devoted considerable effort in producing information about the sector. Existing information is mostly unreliable, dispersed, or incomplete. They reflect temporary solutions to internal problems in each of the structures and do not fit into any long term vision. One of the urgent challenges facing the forestry administration and other stakeholders is to establish a national system capable of producing reliable statistical information in a timely fashion. It is within this framework that this project was developed. It aims to establish a national information and statistics management system for the sustainable management of forest resources. It will be implemented in a participatory way around the three main focuses: (i) establishing a mechanism for consultation and coordination of the different structures for the collection and management of forestry statistics, (ii) developing and implementing reliable methods for collecting data (iii) establishing a modern and functional forest statistics management system. In the implementation of the project, particular emphasis will be placed on awareness-raising and capacity building for all stakeholders.

EXECUTING AGENCY:	GENERAL DIRECTORY FOR FOREST AND NATURAL RESOURCES (DGFRN)
DURATION:	24 MONTHS

PROPOSED BUDGET AND FUNDING SOURCES:

SOURCE	CONTRIBUTION EN US$
ITTO	**398,704**
BENIN	**119,129**
TOTAL	**517,833**

Project Brief :

1. Context and problems to address

The process of sustainable management of forest resources in Benin is confronted with a lack of reliable information to achieve management effectiveness. Indeed most of the existing data are insufficient, scattered in several structures, poorly collected or unworkable. Several public and private actors are involved in collecting and managing information. But these actors with no effective coordination, each using its method for gathering and processing data. As a result data are likewise dispersed and unusable. The General Directorate of Forestry and Natural Resources which has a leadership role in the management of national forest resources should make decisions for sustainable management based on reliable information.

2. Objectives and achievement indicators

This project initiated by the DGFRN in collaboration with stakeholders aims to contribute to the development of sustainable management of the forest resources of Benin by generating reliable information on these resources. Indicators relating to the achievement of this objective are (i) reliable information on the forestry sector available by project completion: Information on forest resources (production, logging, processing and marketing) are available, (ii) at least one management decision on forest resources is made based on reliable information.

Specifically, this project aims to establish a national information system for the sustainable management of forest resources. Specific objectives Indicators are: (i) By project completion, 80% of key stakeholders use the new information system in place (ii) By project completion, the needs of 80% of external users of Statistics information are met.

3. Beneficiaries, expected outcomes and outputs :

The main beneficiaries of this project are: the General Directorate of Forestry and Natural Resources, the National Institute of Statistics and Economic Analysis, the Ministry of Finance and Economy, timber users (farmers, foresters, traders, industrialists), students and academics, technical and financial partners such as the World Bank, FAO, UNDP, ITTO, ECOWAS, Interpol etc..

The following results are expected at the end of the project:

1. A coordination mechanism for the forest statistics data collection and management structures established and operational;
2. Reliable methods for collecting information are developed and implemented;
3. A forest statistics information and management system has been established and is operational.

Decisions on the management of forest resources are made based on reliable information.

4. Implementation strategy

This project will be implemented in three successive phases:

- First, it will mobilize all stakeholders through the establishment of a structures (or stakeholders) coordination and consultation mechanism for forest statistics management.
- Second, it will compile the information needs of all stakeholders, to identify reliable and harmonized methods for collecting and processing forestry related information and for training the stakeholders.
- Third, we will look at setting up a computerized system to centralize, process and disseminate the targeted information.

5. To make project achievements sustainable

Establishing a mechanism for coordination and consultation on forest sector information collection and management is an approach developed to mobilize all stakeholders and address the concerns of everyone in order to ensure success.

The involvement of stakeholders at all project implementation stages, taking into account their information needs and training and monitoring of the stakeholders are strong elements to ensure sustainability of project actions. By project completion, the DGFRN will convene and support the stakeholders mutual consultation meeting and will take over the maintenance work on the equipment purchased.

6. Assumptions and risks

The administrative instability of DGFRN, which is the Project implementing agency, could affect the pace of project implementation and sustainability of its actions. Indeed at the General Directorate of Forestry and Natural Resources staff assignments are held every year. These assignments may lead to the relocation and/or transfer of key forest workers involved in the implementation of the project. But the likelihood of this risk is reduced by the proposed solution which is to set up the Project Steering Committee and establish the staff of the Management Unit by means of an interdepartmental order. For field staff under the Forestry Administration, the proposed solution is provide consistent training to all forestry officers to new methods and procedures for collecting information in order to make all relevant staff members operational.

The identified risk associated with the project's objective is that the actors or structures involved in the project are not playing their role. This risk will be reduced by awareness campaigns that will lead all stakeholders to become fully committed to the project's success. For private stakeholders, in addition to outreach work targeting them, they will be recalled the merits of the actions in accordance with Articles 48 and 58 of Decree No. 96-271 of 02 July 1996 providing the Law Enforcement Procedures and Act No. 93-009 of 02 July providing the Forest Regime of the Republic of Benin, making it mandatory for forest product traders and industrialists to keep a log book or ledger where the nature, quantities of input and output of forest products traded by their business are to be recorded.

Regarding Output 1, there is a likely risk that other involved structures or stakeholders do not accept to be part of a coordination and mutual consultation mechanism. The probability of this risk is reduced by awareness campaigns which will demonstrate the merit of such actions.

Regarding Output 2, a risk is anticipated that stakeholders do not support the new data collection methods and procedures. This risk will be reduced in part by the participatory approach followed by the project that will involve all stakeholder groups and by the intermediation of the coordination committee involving the different forest statistics management structures.

The notable risk identified in connection with Output 3 is that stakeholders would not be motivated enough to use the new technologies. This risk will be reduced through the system straightforwardness and ease of use. Relevant structures lacking the computer equipment required will be provided with it.

7. Budget inputs

Source	Contribution in $ US
ITTO	**392,224**
DGFRN	**116,889**
Total	**509,113**

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ACRONYMS

AaGR	:	*Activités alternatives Génératrices de Revenus* (Alternative Income-Generating Activities
ABE	:	*Agence Béninoise pour l'Environnement* (Benin Environmental Agency)
AGR / IGA	:	*Activities Génératrices de Revenus* (Income-generating activities)
ITTA	:	International Tropical Timber Agreement
AVIGREF	:	*Association Villageoise de Gestion des Réserves de Faune* (Community-based Wildlife Reserve Management Association)
AfDB	:	African Development Bank
BADEA	:	Arabian Bank for Economic Development in Africa
WB	:	World Bank
CBD		Convention on Biological Diversity
ECOWAS	:	Economic Community of West African States
CENAGREF	:	National Wildlife Reserve Management Centre
CENATEL	:	National Centre for Environmental Monitoring and Cartography
CERF	:	Center for Forestry Studies, Research and Training
CeRPA	:	Regional Centre for the Promotion of Agriculture
CHM		Clearing House Mechanism (*Centre d'échange pour la Biodiversité*)
CITES	:	Convention on International Trade in Endangered Species
CPEF	:	Head of Environmental and Forest Post
CTAF	:	Technical Forest Management Units
DCPRN	:	Directorate of Conservation and the Promotion of Natural Resources
DDEPN	:	Departmental Directorate for Environment Management and Nature Conservation
DGFRN	:	General Directorate of Forestry and Natural Resources
DNMP	:	General Director of Procurement
DPCEF	:	Directorate of Policies, Control and Monitoring of Forest Logging and Uses
DSI	:	Directorate of Administrative services
EMG	:	General Headquarters
AfDF	:	African Development Fund
FAO	:	United Nations Food and Agriculture Organization
FC	:	Forest Reserve / Gazetted Forest
GEF	:	Global Environnement Facility
SNRM	:	Sustainable Natural Resource Management
GIZ	:	German Technical Coooperation
IF / FI	:	Forest Inspectorate
INSAE		National Institute of Statistics and Economic Analysis
MEHU	:	Ministry of Environment, Housing and Urban Development
ITTO	:	International Tropical Timber Organization
OIEFC	:	Engineering Officer for Water, Forests, Hunting
OITEFC	:	Engineering Officer for Water Management, Forestry work and Hunting
ONAB	:	*Office National du Bois* (National Timber Board)
NGO	:	Non-Governmental Organization
EAP	:	Environmental Action Plan

PAGEFCOM	:	Community Forests Development and Management Project
PAMF	:	Programme to Manage the Agoua, Monts Kouffés and Wari Maro Forests
PAP	:	Priority Action Programme
PBFII	:	*Projet Bois de Feu phase II* (Fire Wood Project, Phase II)
PF	:	Poste Forestier (Forest Post)
PF/SIS	:	Focal Points for the Statistical Information Systems
NFP	:	National Forest Programme
NTFP	:	Non-timber forest product
PGFTR	:	Management Programme for Forests and Surrounding Community Lands
GDP		Gross Domestic Product
PNGDRN	:	National Sustainable Natural Resource Management Programme
ProCGRN	:	Natural Resources Conservation and Management Programme
PSRRT	:	Special Reforestation and Land Rehabilitation Programme
AWP	:	Annual Work Plan
RSCEPN	:	Manager of the Community Section for Environment and Conservation
SAFPN	:	Forest Management and Nature Conservation Service
SAFRH	:	Administration, Training and Human Resources Service
SAGPR	:	Reforestation Areas Development and Management Service
SAIEC	:	Agreements, Information, Education and Advocacy Service
SCRP /GSPR	:	Poverty Reduction and Growth Strategy (*Stratégie de Croissance pour la Réduction de la Pauvreté*)
SF	:	Logistics and Equipment Service
GIS	:	Geographic Information Service
SLM	:	Logistics and Equipment Service
SOCAEF	:	Deputy-inspector for Water and Forests (N.C.O.)
SOCEF	:	Water and Forest Inspector (N.C.O.)
SOGF	:	Forest Ranger (N.C.O.)
SPAGR	:	Service for the Promotion of Income-Generating Activities and Energies
SPM	:	Procurement Contract Service
SPSES	:	Planning, Monitoring and Evaluation and Statistics Service
SRCC	:	Regulation, Control and Litigation Service
ToR	:	Terms of Reference
UNFCCC	:	United Nations Framework Conference on Climate Change

Part One : PROJECT CONTEXT

1.1. Origin

Sustainable management of forests and natural resources requires that an adequate system of collection and management of statistical information should be put in place to effectively support the various reforms initiated and meet the needs of decision-making. Indeed, the importance of statistics in the sustainable management of forests and natural resources has been amply demonstrated. They are used to present or highlight real conditions or facts, to understand, explain or persuade. They are used to make decisions, justify or develop policies and strategies, and to define prospects in forward-looking programme development exercises.

In Benin, no national system for information collection and effective management exist. Existing information is mostly outdated or incomplete. The structures of the public and private forestry sector involved in the management of forest resources devoted disparate efforts in producing sector information. Although these efforts have been notable, they do not reflect any coordinated policy for generating statistics. Actual information on the contribution of the forestry sector to national economies are not known in detail. Since 2005, there has been an ongoing institutional reorganization of the forestry sector. The Forestry Administration, which was a Technical Directorate under the Ministry of Agriculture, Livestock and Fisheries (MAEP) was transferred under the Ministry of Environment, Housing and Urban Development (MEHU) and became one General Directorate. But national information on the contribution are merged with that of the agricultural sector and mixed with fishing and it is thus identified to stand at 2.8% GDP. However the results of the study on the forest sector's contribution to the national economy in 2009 performed by the Programme of Conservation and Natural Resources Management reports a 6.4% contribution rate for a few key forest products considered. This study identified the deficiency in the collection and management of sector statistics.
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Therefore sustainable forest resource management cannot be compromised by the lack of an information system that could supply on a periodical basis relevant, up-to-date, available data on national forestry activities that would be accessible to all and everywhere.

This project, which aims to strengthen the national forest statistics information management system will help provide our country Benin with updated information on the use of its forest resources, to help achieve the objectives of sustainable forest and natural resources management.

1.2. Relevance

1.2.1. Conformity with ITTO objectives and priorities

The project is consistent with paragrahs h, l et o of ITTO objectives set out in Article One of ITTA, 2006, i.e.:

Objective h : “Improving market intelligence and encouraging information sharing on the international timber market with a view to ensuring greater transparency and better information on markets and market trends, including the gathering, compilation and dissemination of trade related data, including data related to species being traded”.

Through this project, Benin – a tropical timber producer and exporter country -- will generate, process and disseminate reliable information in a timely fashion on the production and marketing of forest species at the national level. The use of such information will help feed information-sharing systems on the international tropical timber market.

Objective l : “Strengthening the capacity of members for the collection, processing and dissemination of statistics on their trade in timber and information on the sustainable management of their tropical forests “.

As a member of ITTO, Benin has an obligation under the principles of the ITTA to produce and disseminate reliable and timely information on the trade and management of its forest resources. The implementation of this project will build the capacities of Benin to collect, process and disseminate national statistics on trade in timber and information on sustainable forest management. This capacity building will be through the establishment of a national forest sector statistical information and the training of stakeholders. This project will also create a network for collecting, processing and disseminating data on the national forest sector. It will develop reporting forms consistent with ITTO and other relevant international bodies such as FAOStat Countrystat, as well as a manual for implementation of the network and specific training courses for different

stakeholders. The data processing means and dissemination will be developed to minimize response time for data requests made by ITTO and other relevant agencies.

Objective o : “Encouraging information sharing for a better understanding of voluntary mechanisms such as, inter alia, certification, to promote sustainable management of tropical forests, and assisting members with their efforts in this area”. Through the rehabilitation of the Documentation Centre of the Directorate General of Forestry and Natural Resources the implementation of this project will facilitate the availability of documentation accompanying the new mechanisms for sustainable forest management and ownership of ITTO Thematic programme objectives on Forest Law Enforcement, Governance and Trade (TFLET).

Moreover, this project is also part of Actions A, C, D, E, G and H of the Expected Outcome 3: Improved data and knowledge, projections and competiveness on trade in timber and timber products in international markets derived from ITTO Action Plan 2008 - 2011. Indeed, member countries are requested under this Action Plan to implement the following possible actions:

a. Provide relevant data in a timely and complete manner to ITTO;
c. Develop and improve national data gathering, reporting and disseminating mechanisms ;
d. Identify skills gaps and capacity-building needs for meeting the reporting requirements of the ITTA ;
e. Identify skills gaps and undertake appropriate skills enhancement to ensure accurate and timely reporting
f. Provide inputs for ITTO market outlook studies and report on progress in SFM ;
g. Supply accurate data and information
h. Compile and make available market information on lesser-used species and non-timber forest products

1.2.2. Relevance with the policies of Bénin

This project, aimed at creating a national forestry statistics information management system, will provide our country with up-to-date information on the operation and management of its forest resources, which will help to achieve the sustainable management objectives. It is therefore consistent with the National Program for Sustainable Management of Natural Resources being implemented in Benin. It is also consistent with policy documents and instruments governing the management of forest resources that focus on the urgency of improving knowledge on the resource base and its management. These include:

- Act 93-009 of 2 July 1993 laying down the Forest Regime in the Republic of Bénin,
- Act N° 2002-16 of 18 Octobre 2004 laying down the Wildlife Regime in the Republic of Bénin.
- Benin Forest Policy Paper of 1994, and its program of priority actions
- The Environmental Action Plan (PAE),
- The Strategy and National Action Plan for Biodiversity Conservation as required by the Convention on Biological Diversity (CBD) (CBD).

In addition, the Priority Action Programme (PAP) of the Growth Strategy for Poverty Reduction (SCRP) in Benin, Programme 5.4 of the Area 5: National Sustainable Natural Resource Management Programme is to ensure sustainable management of forest resources. More specifically, Forestry Administration will have their institutional, technical and financial capacities further developed to enhance the performance of the sector in its pursuit of sustainable natural resources management.

Finally, this project complies with the new vision of the forest sector which aims to:
- Improve the management of forestry;
- enhance non-timber forest resources
- implement the value-added development of timber resources through further timber processing
- rehabilitate the forest estate through reforestation activities, and
- clean up the forest sector and timber trade [of illegality / forest crime].

This will enable a better understanding of the contribution of the forest sector in the national economy, particularly the forestry sector's contribution to Gross Domestic Product (GDP).

Moreover, Benin is a signatory to a number of conventions and international agreements including the Convention on International Trade in Endangered Species, the Ramsar Convention on Wetlands, the Convention on Biological Diversity (CBD) and United Nations Framework Convention on Climate Change (UNFCCC), the International Tropical Timber Agreement (ITTA, 2006). Under these international commitments, it is mandatory for the country to submit specific reports and to communicate information and statistics on forest resources management. The implementation of this project will help generate reliable information on a regular basis. This project will provide a new impetus to the Centre d’Echanges

d'Informations sur la Diversité Biologique (Biodiversity Information Sharing Centre). This project provides a special opportunity for Benin – the latest country to become a member of ITTO -- to join other African timber producing countries and to submit to ITTO statistics and reports required under the terms of the ITTA, 2006.

1.3. Target area

1.3.1. Geographical location

D'une superficie de 114.763 km^2, le Bénin est un pays situé dans la zone tropicale en Afrique de l'ouest, entre les parallèles 6°30' et 12°30' de latitude Nord et les méridiens 1° et 3°40' de longitude Est (FAO, 1998).

Il est limité au nord par deux pays sahéliens que sont : le Niger et le Burkina Faso, au Sud par l'océan Atlantique, à l'Ouest par le Togo et à l'Est par le Nigeria.

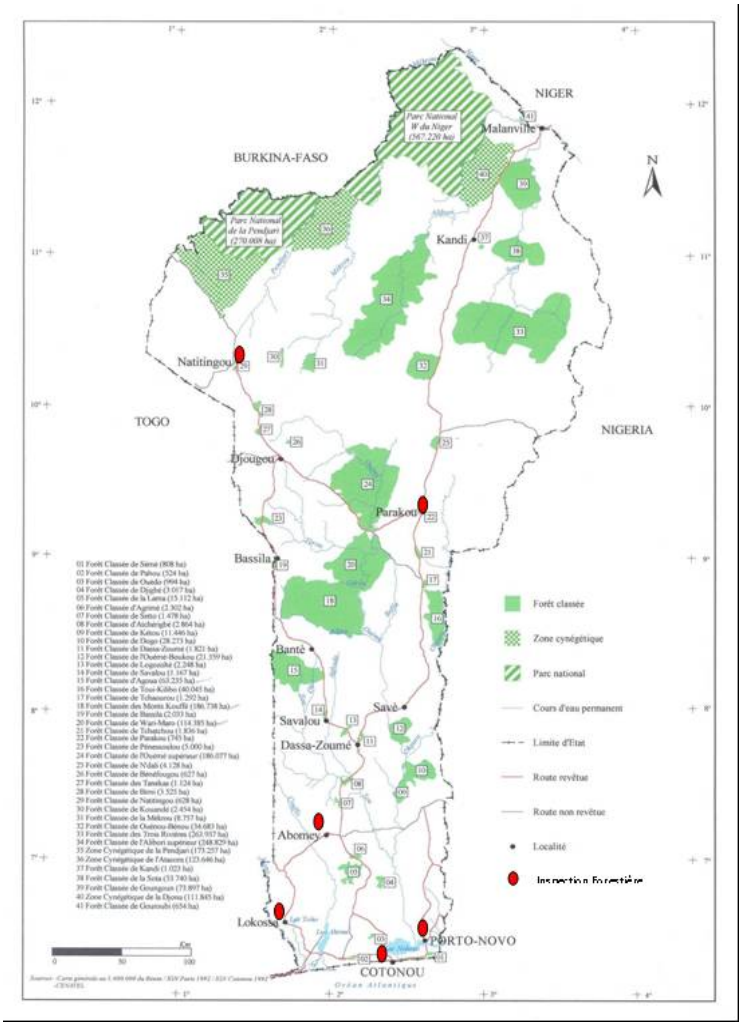


Figure 1. Map of forest resources distribution in Bénin

Covering an area of 114,763 sq. km, Benin is a country located in the tropical zone in West Africa, between parallels 30 ° 6 'and 12 ° 30' North latitude and meridians 1 ° and 3 ° 40 ' East longitude (FAO, 1998).

It is bounded to the north by two Sahel countries: Niger and Burkina Faso, to the south by the Atlantic Ocean, to the west by Togo and to the east by Nigeria.

Benin's climate is characterized by three climatic zones spread from south to north: the Guinea-Congolian region, the Sudano-Guinean and the Sudanian zone.
The forest resources of Benin include:

- Two national parks (843,000 ha),

- three hunting reserves (420,000 ha) and
- 58 forest reserves and reforestation areas (1,436,500 ha).

Currently, 24 forest areas are covered by participatory forest management plans, they include eight state plantations, two national parks and 14 natural forests (see Figure 1).

On the whole, forest resources degradation is increasing. This degradation is due to the combined effects of several factors including population growth, poverty, inappropriate agricultural practices, uncontrolled and unplanned timber harvesting, wildfire occurrence and late transhumance.

Benin's forest resources are managed by the General Directorate of Forestry and Natural Resources (DGFRN) supported by dedicated administrative structures and one commodity board: The National Wildlife Reserve Management Centre (CENAGREF), the Forestry Studies and Training Centre, National Remote Sensing Centre, the National Centre for Environmental Monitoring and Cartography (CENATEL) and the *Office National du Bois* (National Timber Board) (ONAB).

The area of intervention of this project covers the entire territory, including the decentralized services: six Forest Inspectorates (IF), eight forestry quarters and outposts, Technical Forest Management Units (CTAF), are included in the project footprint. The information on production and use of forest resources will be collected at grassroots level (village and/or forest management unit (FMU) levels) and further consolidated at the municipal and *departement* (county) levels. The data compilation at county level will generate national statistics.

1.3.2. Social, cultural, economic and environmental aspects

Social, cultural and economic aspects
Benin's current population is estimated at 9 million with an annual per capita income of U.S. $ 570 (World Bank). The average population density is about 82 people per sq. km and the rate of natural population increase is estimated at 2.28 % per year.

Agriculture is the primary source of wealth of Benin, contributing more than 27% of GDP and employing more than 55% of the workforce.

Forest resources cover 65% of the national territory with about 73,450 sq.km. They occupy an important place in the national economy and the lives of people who exploit them for various uses. The study on the forest sector's contribution to the national economy has revealed that the sector contributes 6.64% to national GDP (ProCGRN, 2009). Common areas of forest resource use are:

- direct households consumption (the primary source of household fuel, food, medicinal plants, game products and other non-timber forest products.),
- improving soil fertility for crop production,
- sources of income and employment (farmers, traders, freight-forwarders, ecotourism, forest product processing, private planters, etc..),
- valued socio-cultural sites and places of traditional worship (sacred groves and forests),
- ecological services (climate change mitigation, preservation of land and aquatic ecosystems, surface water conservation, etc..),
- other goods and services

Thus, forest resources contribute to improving the lives of people locally, regionally and globally. However, they have undergone several decades of severe degradation under the combined effect of climatic factors and human activities.

Indeed, the FAO estimated the rate of depletion and recession of the plant cover in Benin to be around 1% per year between 1980 and 1991 (FAO, 1997) while for the same period, the World Resources Institute (1998) noted an annual decline rate of 1.4%. For the period from 1990 to 1995, the two sources give a decrease rate of 1.2% per year. Almost all of the area classified in the north as woodland has been affected by this trend. It has virtually disappeared and, at the same time, the area characterized as savannah parkland decreased approximately by 80% (Sinsin and Heymans, 1988).

Environmental aspects

In general terms, environmental degradation costs **undermines the national economy. According to a study undertaken by MEHU in 2002, environmental degradation costs on average 3 to 5% of GDP and its main causes are as follows:**

- Soil erosion 42%,
- forest clearing for arable land 17%,
- pollution 14%,
- declining soil fertility 12%,
- flooding 10%,
- loss of fishery resources 3%.

A review of these data shows that around 50% of these costs are caused by forest resources and plant cover degradation.

1.4. Expected outcomes at project completion

The following outcomes are expected at project completion:

- A mutual consultation mechanism among stakeholders involved in the production and management of information on the forestry sector will be established. These stakeholders will get to know each other better in order to ensure consistency and synergy in their actions. A Coordination Committee of the consultation mechanism will be established to ensure the sustainability of actions after project completion.

- Stakeholders will also have grown aware of the importance of statistics for the development of the sector and the process of sustainable forest resources management.

- The capacities of these stakeholders will be further developed and improved through training on appropriate methods of collecting information and setting up a database including applications on:

    - The management of forests featuring a management plan;
    - The commercial use of forest resources;
    - Timber product processing within forest industries;
    - The marketing of forest products;
    - The management of forest users and others stakeholders involved in forestry activities.

- Therefore in the short term, the DGFRN will have a national database on the management of forest resources available and regularly updated. This database will provide reliable, timely information to stakeholders and partners. This information will also serve as a basis for planning, using and monitoring national forest resources to ensure the sustainable management of these resources. In the medium and longer term, legislative, political and strategic decisions concerning the management of forest resources will be based on reliable information.

Part Two: PROJECT RATIONALE

2.1. Rationale

2.1.1. Institutional set-up and organizational issues

In Benin, the management of national forest resources is the responsibility of the Directorate General of Forestry and Natural Resources. It is responsible for:

- Developing government policies, strategies and national programs on sustainable forest, wildlife and natural resources management and the conservation of environmentally sensitive areas and the rehabilitation of degraded sites;
- Monitoring the implementation of policies, strategies, plans, programmes and regulations;
- Developing forest management instruments
- Promoting research for the sustainable management of natural resources
- Management and monitoring of international conventions on protection of forest ecosystems and forest and wildlife resources;
- Facilitating the national focal points in the management of natural resources;
- Initiating and participating in the development of legislation and regulations in the field of natural resources conservation and management
- Participating in the preparation of draft legislation and regulations in the field of Environment and all other areas of the Ministry's remit.
- Establishing and following up the management of the Government-owned forest estate
- Seeking funding pledges for forestry
- Supporting the Departmental Directorates for Environment and Nature Protection in the application of their skills relating to the protection and sustainable management of forests and natural resources.

At field level, Forest Inspectorates are the decentralised services of the Forestry Administration. In that capacity their remit is as follows:

- **To implement the forestry programme at the *Departement* (administrative district) level,**
- **To be involved in the forest and wildlife resources inventory,**
- **To undertake the monitoring of forest use and hunting and to ensure that the ecological balances are conserved,**
- **To enforce forest and wildlife-related regulations,**
- **To contribute to the development and dissemination of technological packages for natural resource management,**
- **To manage and facilitate reforestation campaigns,**
- **To ensure information and training opportunities for producers, private and public stakeholders and local communities regarding laws and regulations relating to forest and natural resources,**
- **To issue licences for forest product use and trade,**
- **To contribute to monitoring and evaluation and to prepare progress reports on forest resource management.**

In addition, DGFRN is supported by dedicated administrative structures and one commodity board: The National Wildlife Reserve Management Centre (CENAGREF), the Forestry Studies and Training Centre, National Remote Sensing Centre, the National Centre for Environmental Monitoring and Cartography (CENATEL) and the *Office National du Bois* (National Timber Board) (ONAB)

In Benin, no national system for information collection and effective management exists. Existing information is mostly outdated or incomplete **or scattered in different structures**. The structures of the public and private forestry sector involved in the management of forest resources devoted disparate efforts in producing sector information. Although these efforts have been notable, they do not reflect any coordinated policy for generating statistics. Actual information on the contribution of the forestry sector to national economies are outdated and do not reflect any existing conditions. Indeed, national statistics of different sectors in Benin are officially published by the National Institute of Statistics and Economic Analysis (INSAE). But there never was any dialogue between INSAE and the DGFRNs before the publication of these statistics, to such an extent that there is no consistency in the information published by the different structures.

INSAE also collects and manages information on certain imported and/or exported forest products (arts and craft, finished products, imported furniture and other wood products etc.) which de facto lie beyond the statistic net of the Forestry Administration.

Since 2005, there has been an ongoing institutional reorganization of the forestry sector. The Forestry Administration, which was a Technical Directorate under the Ministry of Agriculture, Livestock and Fisheries (MAEP) was transferred under the Ministry of Environment, Housing and Urban Development (MEHU) and became one General Directorate. But national information on the contribution are merged with that of the agricultural sector and mixed with fishing and it is thus identified to stand at 2.8% GDP. However the results of the study on the forest sector's contribution to the national economy in 2009 performed by the Programme of Conservation and Natural Resources Management reports a 6.4% contribution rate for a few key forest products considered. This study identified the deficiency in the collection and management of sector statistics.

The forest staff is not sufficiently trained to adapt to current requirements for information collection and management in the context of sustainable development and the importance of the forest sector in the national economy. **To implement this project and achieve expected results, DGFRN will seek the services of consultants with a proven experience as trainers in forest data collection and management to provide training to its personnel. As it is, the training of DGFRN personnel in information data collection and management is one major need to be addressed by the project. In addition, training activities will be supported by monitoring and evaluation activities. Therefore when the personnel will be adequately trained and equipped, information data collection will be expected as a reliable and sustainable process.**

As part of the implementation of this project, an order shall be made by the Minister in charge of forests to include all structures that generate, manage and/or use forest data. This order will establish a Steering Committee to bring together policy makers, a technical committee comprising representatives of decision makers, users both within the Ministry and as partners.

The **other** structures to provide their collaboration to the implementing agency will be clearly identified, and so will the nature of their involvement in the project. This provision should enable the project to continue regardless of the changes that may occur in the organization of the Ministry

2.1.2. Stakeholders analysis

Based on the recommendations of the study on forest sector contribution to GDP and following the workshop to validate the DGFRN annual report for 2010, a working group met to discuss the strategy implemented to improve the forest resources information management system in Benin. This working group**, whose membership includes DGFRN executives (Division Managers, Department Managers, Inspectorate Managers and Technical Directors), the representatives of projects and programmes reporting to the Centers and the Timber Office Board** has identified and characterized the main stakeholders involved in the management of information on forest resources in Benin. Regarding the types of stakeholders, we discriminate information generators and information users. Information generators include the structures of Government departments in charge of forest management and timber users (loggers, traders, industrialists). As for information users they include sectoral ministries involved, NGOs or partners associations, intergovernmental organizations (ECOWAS), the technical and financial partners (FAO, UNDP, ITTO, etc..).

Under the project, three groups of actors have been identified. They are:

1. Primary stakeholders:
    a. The General Directorate of Forestry and Natural Resources (DGFRN) and its decentralized (forest inspectorates, Forestry Quarters, CTAFs, and RSCEPNs and CPF)
    b. The National Wildlife Reserve Management Centre (CENAGREF)
    c. The *Office National du Bois* (ONAB)
    d. National Institute of Statistics and Economic Analysis (INSAE)
    e. Users of forest products (planters, logging companies, timber traders and industrialists).
2. Secondary stakeholders include: the Department of Prospective and Programming (DPP) of the Ministry in charge of forests, Research centres and facilities such as the National Centre for Remote Sensing and Environmental Cartography (CENATEL) Center for Forestry Studies, Research and

Training (CERF), the Universities, the National Institute for Agricultural Research of Benin (INRAB), CSOs (NGOs and other partners Associations), and the local authorities.

3. Tertiary stakeholders include line ministries of the various sectors and sub-sectors involved: the Ministry of Agriculture, Livestock and Fisheries (MAEP), the Ministry of Economy and Finance and the Ministry of Development, Economic Analysis and Planning, the National Integrated System of Agricultural Statistics (NACRS), the Ministry in charge of Decentralisation.

The following table provides an analysis of the various key stakeholder groups characteristics.

Stakeholders analysis table				
Stakeholder Groups	**Characteristics**	**Problems, needs, interests**	**Potentials**	**Involvement in the project**
Primary stakeholders (PS)				
PS1 DGFRN	Mandated to define the national forest policy in line with government policy directions	Has limited material and technical resources to effectively manage information in the forestry sector.	Staff available; Strong desire to improve statistical information of the sector	Primary project beneficiaries, responsible for the implementation of the project
PS2 National Wildlife Reserve Management Centre (CENAGREF)	In charge of sustainable wildlife resources management in the National Parks.	Does not have adequate and sufficient material and technical resources to collect, manage wildlife related information and statistics	Personnel available and willing to support the DGFRN;	primary project beneficiaries, responsible for the implementation of the project within national parks
PS3 Office National du Bois (ONAB) / National Timber Board	Government-owned corporation whose main business object is to: 1. Produce teak logs, Gmelina logs, etc.. 2.Process rough-sawn lumber, 3. market processed timber products	Material and technical difficulties to collect all information and data along the entire chain of custody. Collections methodologies obsolete	Fully available for the information and statistical data collection and management Aptitude to uptake technological innovations	Primary project beneficiaries, responsible for mobilizing data on the production lines of government-owned plantations
AP4 : Timber users : **1. Timber producers,** **2. Forest users/ /logging companies,** **3. Timber traders,** 4. **Timber industrialists**	**1. Poorly organized into timber producer associations / tree nursery operators, owners of private plantations** **2. Economic agents, comprising sawyers and artisanal timber processors, more or less organized ; holders of business licences renewable on an annual basis; use forest resources** **3. Buy and sell forest products ; holders of forest product user's licences, and/or export permits; obliged to collaborate with Governmental administration in its collection of information on their business** **Buy, use, process and market timber**	**1. Inadequate knowledge of technical procedures** **Inadequate capacity to supply the information data required and to assess their potential;** **A tendency to use fraud and to manipulate data ;** **Low motivation to submit data ;** **Variance in contents and format of data submitted ;** **Inadequate monitoring of activities ;** **Not always adequately informed of sustainable management rules**	**Strong professional experience in the areas of competence and adequate motivation.** **Inadequate capacities to mobilize and organize ;** **Organized as trade associations and federations of trade associations;** **Support technological changes and innovations.**	**They are direct project beneficiaries; the project will support and facilitate their compilation and reporting of information on their businesses, in pursuance of the Forest Law. Their involvement is essential to project success, as they are bound to feed the information system with data updates.**

	products	**and information data to be submitted.**		
PS5 : National Institute of Statistics and Economic Analysis (INSAE)	A national Institute responsible for: Validating national statistics, Validating the sector's contribution to GDP Managing some information on forest products import and export which are outside the Forestry Administration	Lack of collaboration and communication with the Forestry Administration. Needs reliable information to determine and update the forestry sector's contribution to GDP.	Strong administrative authority Strong professional experience in its area of competence Holds some very useful information on the forestry sector	An important stakeholder in the project who will support DGFRN in assessing the contribution of forestry to the national economy

Stakeholders analysis table

Stakeholder Groups	Characteristics	Problems, needs, interests	Potentials	Involvement in the project
Secondary stakeholders / SS				
SS1 : Technical and Financial Partners (World Bank, FAO, PNUD, OIBT, CEDEAO, Interpol etc.)	Provide a technical and financial support to Benin in sustainable forest management.	Needs reliable and timely information on the forestry sector.	Strong desire and ability to provide technical and financial assistance	Provider of technical and financial assistance to the project
SS2 NGOs and partner associations	They are responsible for: Monitoring and Supervising the activities of users, supporting DGFRN in its missions	Low level of collaboration and communication between the various structures. Do not have adequate levels of resources	Strong ability to conduct outreach and extension work towards users; Strong knowledge of the intricacies of the sector.	Partners in advocacy, mobilization and organization of users.
SS3 Research Institutes and Centres (CERF, CENATEL, Universités, INRAB)	Involved in the sustainable management of forest resources in support of DGFRN in its missions	Does not have sufficient resources to collect the information required	Strong experience in forest product evaluation methods and measurements	They generate certain additional information
Tertiary Stakeholders / TS				
TS1 Ministry of Development, Economic Analysis and Planning	Strong political authority and power of definition and decision on policy and strategy development at national level	Needs reliable information to define national development policies and strategies	To support the project in mobilizing the national counterpart budget	Interested In the project results to improve and update the national statistical data
TS2 National Integrated System for Agricultural Statistics (SNISA)	Structure responsible for collecting and managing Agricultural Statistics	Needs certain information data on the forestry sector	Strong experience in the management of agricultural statistics	To collaborate with the Project and to produce some additional information

2.1.3. Problem Analysis

A discussion session was organized to conduct the analysis of the problem by the Department of Planning Monitoring-Evaluation, Synthesis and Documentation of DGFRN. Following this meeting the main cause of the problems that undermine the statistical work was identified as the lack of coordination and synergy

between the activities of the different stakeholders and generators of information and the low capacity of stakeholders to mobilize and manage reliable information on the forest sector. The main problem identified is: the national statistical information management system not adequate to the requirements of sustainable forest resource management policies.

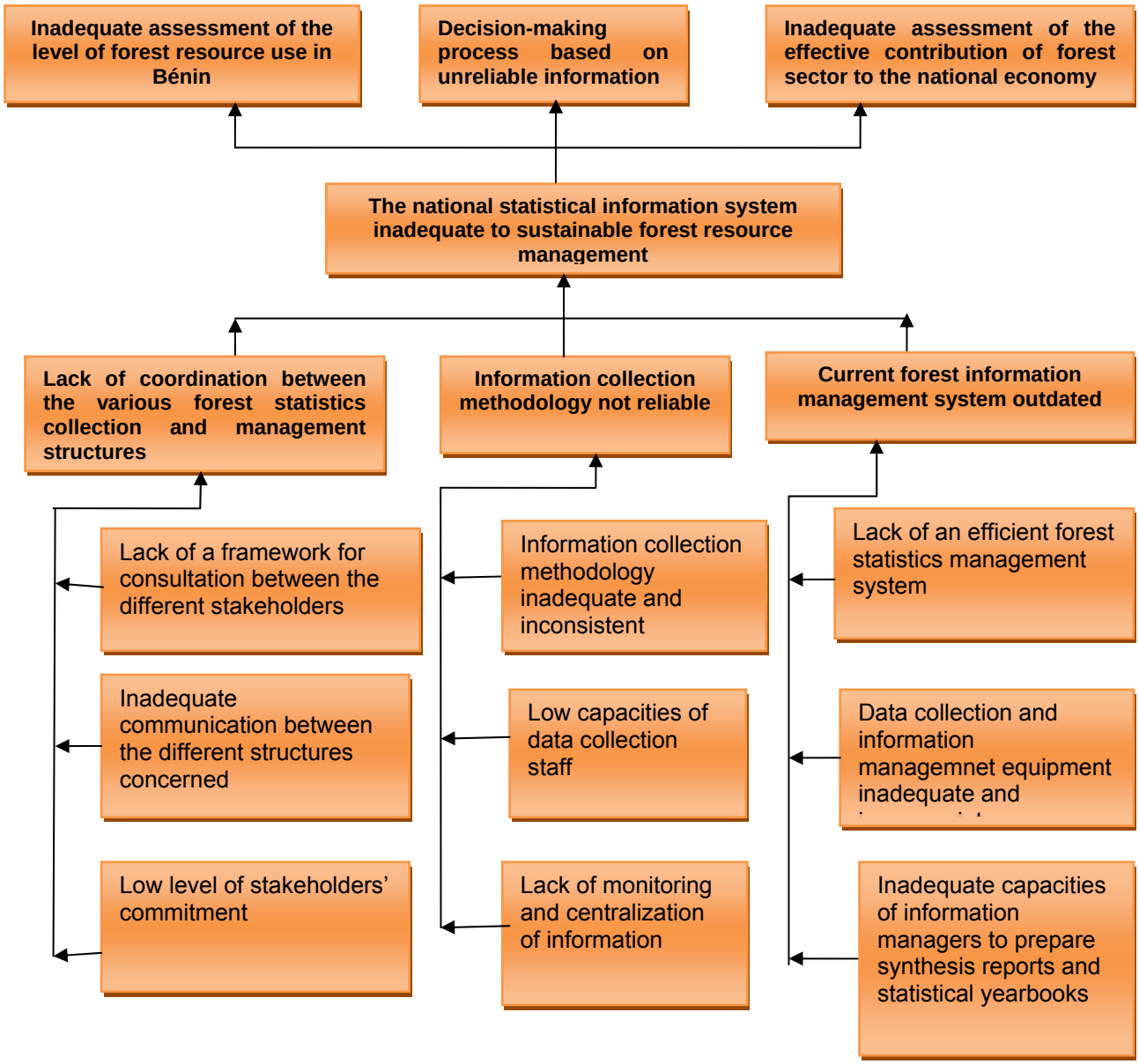
The analysis of the problem identified three main causes, namely:

- Lack of coordination between the different data collection structures;
- Collection methods and basic data for analysis inadequate;
- Lack of a management system for forestry statistics.

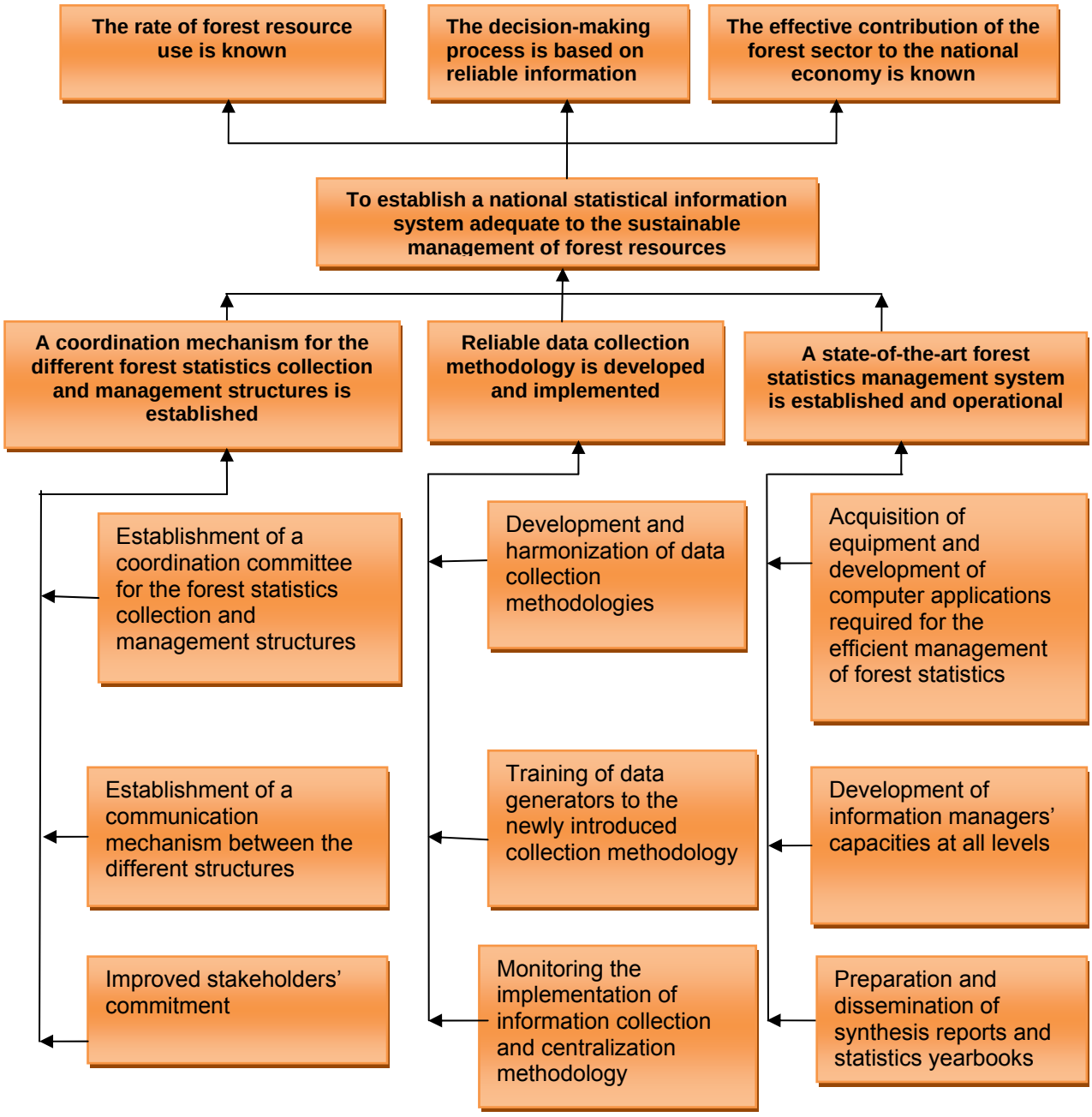
The resolution of the causes identified will meet the needs of beneficiaries in terms of availability of reliable information on the sector for the sound management of forest resources.

Addressing the identified causes will enable to meet the needs of beneficiaries in terms of reliable information data from sector made available for the rational management of forest resources.

Problem tree



Tree of solutions



2.1.4. Logical Framework Matrix

The logical Framework Matrix is as follows:

Intervention Strategy	Measurable indicators	Means of verification	Key Assumptions
Development Objective : To contribute to the sustainable management of the forest resources of Bénin through the generation of reliable information on these resources	Impact indicators **- By project completion date, reliable information on the management, production, use and trade of forest resources are available,** **- By project completion date, the contribution of the forest sector to the national economy is known,** **- By project completion, at least one decision regarding sustainable forest resource management has been taken based on statistical information data.**	• **INSAE** Annual Report, • Project progress reports • Annual tax revenues • Yearbook of forest statistics, • Decisions	Stability of administrative institutions
Specific Objective To establish a national information system for the sustainable management of forest resources	Outcome indicators - By project completion, 80% of key players use the new information system in place - By project completion, 80% of external users of statistical information are satisfied	- Project progress reports, reports by the various structures and reports by monitoring missions - Survey data	The structures or stakeholders involved in the project assume their roles.
Outputs 1 : A coordination mechanism for the forest statistics collection and management structures is established and operational.	Output indicators - the Coordinating Committee for the various forest statistics management structures is in place and operational - Number of stakeholders / structures integrated in the committee	- Decision (ministerial order) to create the coordinating committee. - Activity Report of the Committee.	Other structures or stakeholders are willing to take part.
Outputs 2 : Reliable information collection methodology is developed and implemented	The methods of collecting adequate information on the major forest products are developed, validated and implemented. Manual for statistics monitoring and evaluation procedures of developed and available	- Validation reports on the manuals for collecting information and monitoring and evaluation of statistical work - Project monitoring and evaluation report	Stakeholders support the new data collection methodology and procedures

Outputs 3 : A forest statistics information management system is established and operational	Computer databases on forestry statistics are available	Project progress reports	Motivation of stakeholders to use new technologies
	At the end of the project reliable information on the forestry sector are disseminated on time	- Report by the Technical and Financial Partners (ITTO, FAO, UNDP, ECOWAS)	

2.2. Objectives

2.2.1. Development objective and impact indicators

To contribute to the sustainable management of the forest resources of Bénin through the generation of reliable information on these resources.

Indicators

- **By project completion date, reliable information on the management, production, use and trade of forest resources are available,**
- **By project completion date, the contribution of the forest sector to the national economy is known,**
- **By project completion, at least one decision regarding sustainable forest resource management has been taken based on statistical information data.**

2.2.2. Specific Objective and outcome indicators

The specific objective of the project is to establish a national information system for the sustainable management of forest resources in Bénin.

Indicators

- By project completion, 80% of key players use the new information system in place
- By project completion, 80% of external users of statistical information are satisfied.

PART THREE : DESCRIPTION OF PROJECT INTERVENTIONS

3.4. Outputs and activities

3.4.1. Outputs

Output 1 : A coordination mechanism for the forest statistics collection and management structures is established and operational

At the end of the first quarter of the first year a structures coordinating committee for the collection and management of forest statistics is in place and operational.

Its specific role will be to:

- Ensure coordination and cooperation between the different stakeholders involved in the project
- Identify concerns of stakeholders;
- Organize advocacy actions on issues related to the lack of consultation and coordination in forestry statistics collection and management and their impact on the development and future of forestry;
- Make recommendations on measures and strategies for the effective coordination of actions to establish an information system to enable the sustainable management of forest statistics.

Output 2: Reliable information collection methodology is developed and implemented

- Information collecting methods applicable to the sector are developed, validated and implemented. **Initially**, relevant information on the sector to be collected will be identified, together with the nature of this information, specific methods for data collection and processing, and a centralization / consolidation mechanism. **Subsequently, 200 executive and members fo the general staff will receive training on the appropriate implementation of these data collection methodologies. Two agents [at least] will be trained for each municipality, including municipal officials and their deputies and executive staff of Forestry Inspectorates and Government administration departments. In turn the trained officials will be appointed as trainers for their own staff and/or collaborator personnel. Trough this procedure the entire personnel will receive training.**

Output 3: A forest statistics information management system is established and functional

- At the end of the project, computer applications on the management of forest statistics are operational.

These are the applications:

- management of databases on forests with development plan
- commercial use of forest products
- processing of timber products in forest industries;
- marketing of forest products.
- management of users and other stakeholders involved in forestry

To achieve the outputs listed above, the following activities will be implemented:

3.4.2. Activities

Output 1 : Forest statistics collection and management structures are coordinated

A1.1 : **To establish the project management team**,
A1.2 : To organize the project launching workshop,
A1.3 : To establish a committee to coordinate the forest statistics collection and management structures,
A1.4 : To organize a stakeholders mobilization workshop by internalizing the project,
A1.5 : To support the mechanism of communication and synergy of actions between the various structures.

Output 2 : Reliable information collection methodology is developed and implemented

A2.1 : To develop and harmonize data collection methodology ;
A2.2 : To validate data collection methodologies ;
A2.3 : To train grassroots staff in the new data collection methodologies and procedures;

A2.4 : To develop a monitoring & evaluation procedures manual for forest statistics,
A2.5 : Monitoring the implementation of new procedures for data collection

Output 3: A forest statistics information management system is established and operational
A3.1. To identify the needs of producers and users for the establishment of an efficient forestry statistics management system,
A3.2. To develop computer applications for effective information management.
A3.3. To acquire and set up the equipment
A3.4. To train users
A3.5. To consolidate and disseminate statistical information

3.4. Implementation approaches and method
3.4.1. Implementation method

This project has a delicate mission: to establish a national system for collecting and managing information for the sustainable management of forest resources. To achieve this, the project will directly work with all stakeholders involved in forestry statistics and rely on a participatory and iterative approach. All stakeholders including the primary stakeholders involved in the chain of data collection and management for the sector will be outreached through appropriate advocacy and training workshops. These workshops will allow participants to exchange enough knowledge for the emergence of a shared vision to develop new methods and procedures for data collection and also to effectively implement these methods and procedures developed in a participatory fashion.

Practically, the project will be implemented in three successive stages as follows:

1. **Stakeholders mobilization ;**
2. **Definition and harmonization of data collection procedures and methods with all stakeholders concerned,**
3. **Centralization, processing and dissemination of information.**

Stage 1 : Stakeholders mobilization
As early as in the project launching workshop, those involved in collecting and managing information on the forestry sector will be advocated and outreached on the objectives and mission of the project. Following this workshop a **coordination mechanism for forest statistics collecting and managing structures** will be identified. A coordination structure representing all players will be made operational in a participatory manner. The Directorate for Forest and Natural Resources which is the national institution acting as guarantor for the sustainable management of forest resources, will play a leading role in the project. This structure will be responsible for ensuring and facilitating dialogue and regular exchanges of knowledge between project stakeholders. At the closure of the project, the Directorate will ensure continuity and sustainability of project activities and achievements.

Stage 2 : Defining and harmonizing the data collection procedures with all directly involved stakeholders

The establishment of a national system for collecting and managing information will lead to changes in work habits among all stakeholders, which requires to implement new, appropriate methods and procedures These methods should take into account indicators and statistics regularly requested by some technical and financial partners such as ITTO, FAO, UNDP, ECOWAS, the GEF. To achieve this, the project will seek the services of a consultant well experienced in this field. The new methods developed will then be discussed and validated by all stakeholders to address their concerns. This is a very important condition to secure the full commitment of all stakeholders in the new system to be implemented. Then the project will support the acquisition of equipment required for the effective implementation of the new data collection methodology. Local workshops for training forest workers and other stakeholders in the practical application of new data collection methodology and procedures will be organized. These practical training workshops will enable data collection staff to control and internalize the new methodology. **The project plans to train two officers per municipality, i.e. 154 officers and around 46 executives from Governement departments, Forest Inspectorates and other structures.** Thus the structures that collect data will benefit from enhanced technical capacity for producing reliable data.

Stage 3. Information centralization, processing and dissemination
Information collected at various collection centers should be centralized and processed to have data available at the national level. To achieve this, eight (08) Focal Points for Statistics Information System

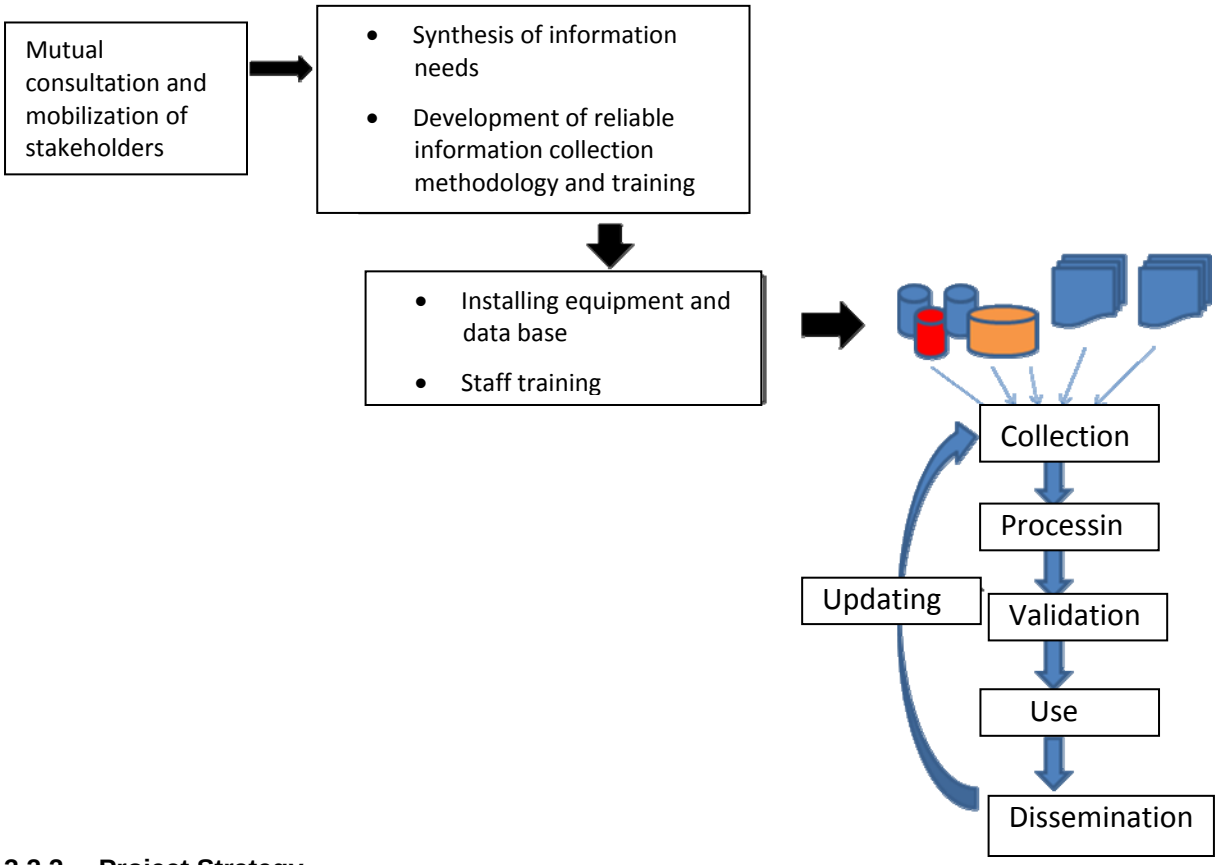
(PF/SIS) will be established by DGFRN to ensure the collection and use of in the key centres and structures that drive the information supply chain for the forestry sector. These focal points are to ensure the implementation of the project at local level. The eight Focal Points are distributed as follows:

One Focal Point in each of the six Forest Inspectorates, one in ONAB and one in CENAGREF.

This project will also computerize the data collection chain, to address the problems of long delays to produce statistical data and the risk of error in the processing of such data. Indeed, a computerized chain of data collection has the advantage of reducing delays in data availability. At this level, the project will also use the services of a consultant well experienced in the design of databases. Thus, exploitation of new information and communication technologies (NICTs) will reduce delays, data loss and ensure the availability of required data.

Practical training workshops on the use of databases will be organized for staff employed in the management of forestry statistics collection centers.

The implementation approach of the project is summarized in the following graph:



3.2.2. Project Strategy

The project strategy is as follows:

- To establish institutionally strong structures (Project Steering Committee, the “consultation and users’ group committee”) where all stakeholders are represented and their concerns taken into account. The DGFRN will ensure that these structures play a full role, so as to give the Executing Agency the technical and organizational capabilities that will enable it to ensure their sustainability, including through the maintenance of applications to enable them to be always up to date and meet users’ expectations.
- to develop a technologically simple and user-friendly database, accessible with a readily available software. The involvement of stakeholders at all stages and regular training sessions will facilitate the ownership of the system. New Information and Communication Technologies will be used for information exchange. This will significantly reduce the costs of forwarding the information. This is an important rationale to be advanced during training sessions.

3.3. Work Plan

The schedule of project activities can be shown as follows:

Outputs/Activities	Responsible/ Collaborator	Year 1 Qtr.				year 2 Qtr.			
		1	2	3	4	1	2	3	4
Output 1 : A mechanism to coordinate statistics collection and management structures is established and operational									
A1.1. To establish a committee to provide direction and supervision to the project (COS)	MEHU Cabinet /DGFRN								
A1.2 : To organize the project launching workshop	Project team								
A1.3 : To establish a committee to coordinate the forest statistics collection and management stakeholders	Project coordinator/ stakeholders								
A1.4 : To organize a stakeholders mobilization workshop by internalizing the project	Project team								
A1.5 : To support the knowledge sharing and mutual consultation sessions between the various stakeholders of the forest sector information collection and management	Project team								
Output 2 : Reliable information collection methodology is developed and implemented									
A2.1. To identify the needs of producers and users for the establishment of an efficient forestry statistics management database.	**Project Coordinator**								
A2.**2** : To develop and harmonize data collection methodology	Project team / Consultant								
A2.**3** : To validate data collection methodologies	Project team / Consultant								
A2.**4** : To train staff in the new data collection procedures in the six *départements* and in Cotonou	Project team / Consultant								
A2.**5** : To develop a monitoring & evaluation procedures manual for forest statistics	Project team / Consultant								
A2.**6** : Monitoring the implementation of new procedures for data collection	Project team								
Output 3: A forest statistics information management system is established and operational									
A3.1. To develop computer applications (data base) for effective information management.	Project team / Consultant								
A3.2. To acquire and set up the equipment.	Project team / Service provider								
A3.3. To train data generators	Project team / Consultant								
A3.4. To consolidate and disseminate statistical information	Project coordinator								

3.4. Budget

3.4.1. Budget matrix

The budget of the pre-project (sic) is shown in the budget matrix table below. It provides the details of costs and activities and input quantities, unit costs, overall total and distribution of funding by funding sources.

Outputs/ Activities	Description	Budget component	Quantité		Units	Unit cost US$	Total cost US$	OIBT		Executing agency (DGFRN)
			Year 1	Year 2				Year 1	Year 2	
Output 1	**A coordination mechanism for the forest statistics collection and management structures is established and operational**									
A1.1 :	**To establish the project management team**									
	1 Project coordinator	**11.1**	12	12	Person/ month	1500	36000	18000	18000	
	1 Monitoring and evaluation officer	**11.2**	12	12	Person/ month	1200	28800	14400	14400	
	08 Focal Points for Statistics Information System (PF/SIS)	**11.3**	12	12	Person/ month	4000	96000	9600	9600	76800
	1 Secretary / accountant to manager project expenditures	**12.1**	12	12	Person/ month	700	16800	8400	8400	
	1 Driver of admin. vehicle	**12.2**	12	12	Person/ month	160	3840			3840
	Fuel and lubricants	50	860	860	litre	1.4	**2500**	**1250**	**1250**	
	Desktop computer	44	2		Unit	1250	2500	2500		
	Laptop computer	44	2		Unit	1800	3600	3600		
	Project office	41	12	12	Month	400	9600			9600
	Vehicle	43	1		Unit	36000	36000	36000	0	
	Vehicle insurance	53	1	1	year	400	**800**			**800**
	Vehicle maintenance and spare parts	52	12	12	Month	250	6000	3000	3000	**0**
	Office supplies	54	12	12	Month	300	7200	3600	3600	
	Communication	53	12	12	Month	80	1920	**0**	**0**	**1920**
	Technical papers	54	10		Unit	80	800	800	0	
A1.2 :	**To establish a Technical Project Commitee (CTP)**									
	Support to **2 CTP** meetings	66	**1**	**1**	Meeting	**1500**	3000	1500	1500	

Outputs/ Activities	Description	Budget component	Quantité		Units	Unit cost US$	Total cost US$	OIBT		Executing agency (DGFRN)
			Year 1	Year 2				Year 1	Year 2	
A1.3 :	To establish a committee to coordinate the forest statistics collection and management structures									
	Four (4) knowledge-sharing and mutual consultation meetings of the various stakeholders of the forest sector information collection and management	66	2	2	Meeting	1250	5000	2500	2500	
A1.4 :	To organize the project launching workshop									
	1 meeting, 1 day 40 participants	66	40		participants	80	3200	3200		
	Transport and organization	66	40		participants	25	1000	1000		
Output 2	**Reliable information collection methodology is developed and implemented**									
A2.1 :	**To identify the needs of producers and users for the establishment of an efficient forestry statistics management database**									
	Mission to identify Producers' and Users' needs : 5 days, 4 participants	**34**	**40**		**Man./ day**	**80**	**3200**	**0**	**3200**	
A2.2 :	To develop and harmonize data collection methodology									
	To hire one consultant Expert in Forest Statistics to develop reliable data collection methodology	**21**	3		Pers./ month	5000	15000	15000	**0**	
A2.3 :	**To validate data collection methodologies document**									
	1 validation workshop; 1 day, 40 participants	61	40		Participants	35	1400	1400	0	
	Duplication of documents and facilities	61	50		copies	10	500	500	0	
A2.4 :	To train grassroots staff in the new data collection methodologies and procedures									
	A **15**-day mission with 3 participants to train staff in the data collection methodology in six departments	**32**	30		Man/ day	80	**3600**	**3600**	0	

Outputs/ Activities	Description	Budget component	Quantité		Units	Unit cost US$	Total cost US$	OIBT		Executing agency (DGFRN)
			Year 1	Year 2				Year 1	Year 2	
	Workshop to train 200 data collectors in the new collection methodology during 2 days.	61	**200**		Participants	**80**	**32000**	**32000**	0	
A2.**5** :	To develop a manual of monitoring and evaluation procedures for forest statistics	**23**	2		Pers./ month	5000	10000	10000	0	
	1 validation workshop; 1 day, 40 participants	61	40		Participants	35	1400	1400	0	
A2.**6** :	Monitoring the implementation of new procedures for data collection									
	04 x 5-day missions with 3 participants to monitor data collection	**33**		60	Man/ day	80	4800	0	4800	
Output 3:	**A forest statistics information management system is established and operational**									
A3.**1** :	To develop computer applications (data base) for effective information management									
	Acquisition of application development software programmes	40	1		Unit	7000	7000	7000	0	
	To hire one consultant to establish a data base	**22**	3		Pers./ month	7000	21000	**0**	**21000**	
A3.**2** :	To acquire and set up the equipment									
	15 Desktop computers:	40	15		Unit	1250	18750	18750	0	
	2 Laptop computers	40	2		Unit	3000	6000	6000	0	
	15 x 650 VA Power surge protector	40	15		Unit	100	1500	1500	0	
	Laser printer / Scanner NB 19 ppm, 600x600 ppp resolution, 16 MB memory	40	1		Unit	**1500**	**1500**	**1500**	0	
	Colour laser printer / scanner	40	1		Unit	2500	2500	2500	0	
	Antivirus	50	6		Unit	100	600	600	0	
	Office supplies (reams of printing paper, folders, stapling machine, binding machine, punching maching, CD, USB, etc.)	**54**	12	12	Month	150	5840	1800	1800	2240

Outputs/ Activities	Description	Budget component	Quantité		Units	Unit cost US$	Total cost US$	OIBT		Executing agency (DGFRN)
			Year 1	Year 2				Year 1	Year 2	
A3.**3** :	To train data generators									
	10-day mission with 3 participants to train users	**31**		30	Man/ day	80	2400	0	2400	
	Series of 7 training sessions with 210 users of computer applications (30 pers. @ training session in each of the six départements and one in Cotonou)	**34**		210	Participants	30	6300	0	6300	
	Rent for meeting hall and facilities	60		7	Day	300	2100	0	2100	
A3.4 :	To consolidate and disseminate statistical information									
	3-day mission to develop the format of forest statistics yearbook by 8 executives	**36**		24	Man/ day	80	1920	0	1920	
	1-day statistics yearbook validation workshop for 40 participants	**37**		40	Participants	30	1200	0	1200	
	Rent for meeting hall and facilities	60		1	Day	300	300	0	300	
	Printing and dissemination of forest statistics yearbook	60		1	Lump sum	**3000**	**3000**	**0**	**3000**	

3.4.2. Yearly consolidated budget

Category	Description	Total	Year 1	Year 2
10	**Project personnel**			
11.1	01Project coordinator	36000	18000	18000
11.2	01 Monitoring and evaluation officer	28800	14400	14400
11.3	08 Focal Points for Statistics Information System (PF/SIS)	96000	48000	48000
12.1	Secretary / accountant	16800	8400	8400
12.2	Driver of admin. vehicle	3840	1920	1920
19	**Component total**	**181440**	**90720**	**90720**
20	**Sub-contracting**			
21	One consultant forest statistics expert hired to develop reliable data collection methodologies.	15000	15000	0
22	One I.T. consultant dbase expert hired	21000	0	21000
23	One consultant hired to develop a Manual of monitoring and evaluation procedures for forest statistics	10000	10000	
29	**Component total**	**46000**	**25000**	**21000**
30	**Duty travels**			
31	**10-day mission with 3 participants to train users**	**2400**	**0**	**2400**
32	**15-day** mission with 3 participants to train staff in the data collection methodology in six departments	**3600**	**3600**	**0**
33	04 x 5-day missions with 3 participants to monitor data collection	4800		4800
34	Mission to identify the needs of producers and users : 5 days and 4 participants	3200	0	3200
35	Series of 7 training sessions with 210 users of computer applications (30 pers. @ training session in each of the six départements and one in Cotonou)	6300	0	6300
36	3-day mission to develop the format of forest statistics yearbood by 8 executives	1920	0	1920
37	1-day statistics yearbook validation workshop for 40 participants	1200	0	1200
39	**Component total**	**23420**	**3600**	**19820**
40	**Immobilisation**			
40	Acquisition of application development software programmes	7000	7000	
40	15 Desktop Computers	18750	18750	
40	2 Laptop computers	6000	6000	
40	15 x 650 VA Power surge protector	1500	1500	
40	Laser printer – black and white scanner	1500	1500	
40	Colour laser printer / scanner	2500	2500	
41	Project office	9600	4800	4800
43	Vehicle	36000	36000	
44	Desktop computer	2500	2500	
44	Laptop computer	3600	3600	
49	**Component total**	**88950**	**84150**	**4800**

Category	Description	Total	Year 1	Year 2
50	**Consumables**			
50	Fuel and lubricants	2500	1250	1250
50	Antivirus	600	600	0
52	Vehicle maintenance and spare parts	6000	3000	3000
53	Vehicle insurance	800	400	400
53	Communication	1920	960	960
54	Office supplies	7200	3600	3600
54	**Office supplies (reams of printing paper, folders, stapling machine, binding machine, punching maching, CD, USB, etc.)**	**5840**	**2920**	**2920**
54	Technical papers	800	800	0
59	**Component total**	**25660**	**13530**	**12130**
60	**Miscellaneous**			
60	Rent for meeting hall and facilities	2100	0	2100
60	Rent for meeting hall and facilities	300	0	300
60	Printing and dissemination of forest statistics yearbook	**3000**	**0**	**3000**
61	1 validation workshop for the manual of data collection procedures; 1 day, 40 participants	1400	1400	0
61	1 validation workshop for the statistics monitoring and evaluation manual ; 1 day, 40 participants	1400	1400	0
61	Printing of the document and facilities	500	500	0
61	Training workshop for **200** data collection staff	**32000**	**32000**	0
61	1 validation workshop; 1 day, 20 participants	0		0
62	Cost of financial audit	8000	5000	3000
66	Support to **2 CTP** meetings	3000	1500	1500
66	Four (4) knowledge-sharing and mutual consultation meetings of the various stakeholders of the forest sector information collection and management	5000	2500	2500
66	1 meeting, 1 day 40 participants	3200	3200	
66	Transport and organization	1000	1000	
69	**Component total**	**60900**	**48500**	**12400**
70	**EA national management costs**	**23929**	**15490**	**8439**
	Focal point/ contact person's monitoring costs			
79	**Component total**	**23929**	**15490**	**8439**
80	**Project monitoring and admin. costs**			
81	ITTO Monit. & Eval. costs	20000	10000	10000
82	ITTO Mid-term evaluation			
	Final evaluation	18000		
83	ITTO Programme support costs (8% on items 10 to 82 above)	**29534**		
89	**Component total**	**67534**		
100	**OVERALL TOTAL**	**517833**		

3.4.3. Yearly project budget : ITTO contribution

Yearly ITTO contribution is shown in the table below

Table : Yearly project budget : ITTO contribution (in $US)

Catégorie	Description	Total	Year 1	Year 2
10	**Project personnel**			
11.1	01 Project coordinator	36000	18000	18000
11.2	01 Monitoring and evaluation officer	28800	14400	14400
11.3	08 Focal Points for Statistics Information System (PF/SIS)	19200	9600	9600
12.1	Secretary / accountant	16800	8400	8400
19	**Component total**	**100800**	**50400**	**50400**
20	**Sub-contracting**			
21	One consultant forest statistics expert hired to develop reliable data collection methodologies.	15000	15000	0
22	One I.T. consultant dbase expert hired	21000	0	21000
23	One consultant hired to develop a Manual of monitoring and evaluation procedures for forest statistics	10000	10000	
29	**Component total**	**46000**	**25000**	**21000**
30	**Duty travels**			
31	**10-day mission with 3 participants to train users**	**2400**	**0**	**2400**
32	**15**-day mission with 3 participants to train staff in the data collection methodology in six departments	**3600**	**3600**	0
33	04 x 5-day missions with 3 participants to monitor data collection	4800		4800
34	Mission to identify the needs of producers and users : 5 days and 4 participants	3200	0	3200
35	Series of 7 training sessions with 210 users of computer applications (30 pers. @ training session in each of the six départements and one in Cotonou)	6300	0	6300
36	3-day mission to develop the format of forest statistics yearbood by 8 executives	1920	0	1920
37	1-day statistics yearbook validation workshop for 40 participants	1200	0	1200
39	**Component total**	**23420**	**3600**	**19820**
40	**Capital goods**			
40	Acquisition of application development software programmes	7000	7000	
40	15 Desktop Computers	18750	18750	
40	2 Laptop computers	6000	6000	
40	15 x 650 VA Power surge protector	1500	1500	
40	Laser printer – black and white scanner	1500	1500	
40	Colour laser printer / scanner	2500	2500	
43	Vehicle	36000	**36000**	
44	Desktop computer	2500	2500	
44	Laptop computer	3600	3600	
49	**Component total**	**79350**	**79350**	**0**

Catégorie	Description	Total	Year 1	Year 2
50	**Consumables**			
50	Fuel and lubricants	2500	1250	1250
50	Antivirus	600	600	0
52	Vehicle maintenance and spare parts	6000	3000	3000
54	Office supplies	7200	3600	3600
54	**Office supplies (reams of printing paper, folders, stapling machine, binding machine, punching maching, CD, USB, etc.)**	**3600**	**1800**	**1800**
54	Technical papers	800	800	0
59	**Component total**	**20700**	**11050**	**9650**
60	**Miscellaneous**			
60	Rent for meeting hall and facilities	2100		2100
60	Rent for meeting hall and facilities	300		300
60	Printing and dissemination of forest statistics yearbook	**3000**		**3000**
61	1 validation workshop for the manual of data collection procedures; 1 day, 40 participants	1400	1400	
61	1 validation workshop for the statistics monitoring and evaluation manual ; 1 day, 40 participants	1400	1400	
61	Printing of the document and facilities	500	500	
61	Training workshop for **200 executives and general staff members**	**32000**	**32000**	
61	1 validation workshop; 1 day, 20 participants	0		
62	Cost of financial audit	8000	5000	3000
66	Support to 6 PSC meetings	3000	1500	1500
66	Four (4) knowledge-sharing and mutual consultation meetings of the various stakeholders of the forest sector information collection and management	5000	2500	2500
66	1 meeting, 1 day 40 participants	3200	3200	
66	Transport and organization	1000	1000	
69	**Component total**	**60900**	**48500**	**12400**
80	**Project monitoring and admin. costs**			
81	ITTO Monit. & Eval. costs	20000	10000	10000
82	ITTO Mid-term evaluation			
	Final evaluation	18000		
	Sub-total 10 to 82 above	**369170**		
83	ITTO Programme support costs (8% on items 10 to 82 above)	**29534**		
89	**Component total**	**67534**		
100	**OVERALL TOTAL**	**398704**		

3.4.4. Yearly project budget : Executing agency's contribution

Yearly DGFRN contribution is shown in the table below :

Table : Yearly project budget : DGFRN contribution

Category	Description	Total	Year 1	Year 2
10	**Project personnel**			
11.1	08 Focal Points for Statistics Information System (PF/SIS)	76800	38400	38400
12.2	Driver of admin. vehicle	3840	1920	1920
19	**Component total**	**80640**	**40320**	**40320**
40	**Capital goods**			
41	Project office	9600	4800	4800
49	**Component total**	9600	4800	4800
50	**Consumables**			
53	Vehicle insurance	800	400	400
53	Communication	1920	960	960
54	**Office supplies (reams of printing paper, folders, stapling machine, binding machine, punching maching, CD, USB, etc.)**	**2240**	**1120**	**1120**
59	**Component total**	**4960**	**2480**	**2480**
70	**EA national management costs**	**23929**	**15490**	**8439**
	Focal point/ contact person's monitoring costs			
79	**Component total**	23929	15490	8439
	OVERALL TOTAL	**119129**	**63090**	**56039**

3.5. Assumptions, risks, sustainability

3.5.1. Assumptions and risks

Risks identified as probable are as follows :

The administrative instability of DGFRN, which is the Executing Agency of the project could affect the speed of project implementation and sustainability of actions. Indeed at the General Directorate of Forestry and Natural Resources staff assignments are held every year. These appointments and relocation may concern key forest workers involved in the implementation of the project. But the likelihood of this risk is reduced by the proposed solution which is to set up the Project Steering Committee and establish the staff of the Management Unit by means of an interdepartmental order. For field staff under the Forestry Administration, the proposed solution is provide consistent training to all forestry officers to new methods and procedures for collecting information in order to make all relevant staff members operational.

The identified risk associated with the project's objective is that the actors or structures involved in the project are not playing their role. This risk will be reduced by awareness campaigns that will lead all stakeholders to become fully committed to the project's success. For private stakeholders, in addition to outreach work targeting them, they will be recalled the merits of the actions in accordance with Articles 48 and 58 of Decree No. 96-271 of 02 July 1996 providing the Law Enforcement Procedures and Act No. 93-009 of 02 July providing the Forest Regime of the Republic of Benin, making it mandatory for forest product traders and industrialists to keep a log book or ledger where the nature, quantities of input and output of forest products traded by their businesses are to be recorded.

Regarding Output 1, there is a likely risk that other involved structures or stakeholders do not accept to be part of a coordination and mutual consultation mechanism. The probability of this risk is reduced by awareness campaigns which will demonstrate the merit of such actions.

Regarding Output 2, a risk is anticipated that stakeholders do not support the new data collection methods and procedures. This risk will be reduced in part by the participatory approach followed by the project that will involve all stakeholder groups and by the intermediation of the coordination committee involving the different forest statistics management structures.

The notable risk identified in connection with Output 3 is that stakeholders would not be motivated enough to use the new technologies. This risk will be reduced through the system straightforwardness and ease of use. Relevant structures lacking the computer equipment required will be provided with it.

3.5.2. Sustainability

This project addresses a need long expressed by the stakeholders as it will help establish a platform for knowledge- and experience-sharing and facilitate dialogue among all stakeholders in terms of national forestry statistics. With its strength in human resources, DGFRN will establish Focal Points for the Statistics Information System (PF / SIS) to ensure the sustainability of project actions.

The participatory nature of the establishment and management process of the national information system for forest statistics is to secure the sustainability of this system. At the end of the Project, the Mutual Consultation Committee which will bring together the main stakeholders will take over and ensure the continued operation of the system in place. Its work will help achieving an increased awareness of the importance of statistics in forestry development and forest resources conservation issues. This awareness is the primary guarantor of project results sustainability. Operating costs of this Committee will be borne by the DGFRN which will incorporate these costs in its future annual budgets.

PART FOUR : IMPLEMENTATION ARRANGEMENTS

Organizational set-up and stakeholders participation mechanism

Executing agency (AE) and stakeholders

The Directorate for Forest and Natural Resources (DGFRN) which is the national institution acting as guarantor for the sustainable management of forest resources will play the role of a leader. DGFRN is the Executing Agency of the project. Its track records include the development and management of several projects and programmes that collaborated with it in its own Government-led missions. These include the *Programme de Gestion des Forêts et des Terroirs Riverains* (PGFTR) (Management Programme for Forests and Surrounding Community Lands), the Natural Resources Conservation and Management Programme (ProCGRN), the Programme to Manage the Agoua, Monts Kouffés and Wari Maro Forests (PAMF), the Community Forests Development and Management Project (PAGEFCom), the Firewood Project (Phases I & II), the Special Reforestation and Land Rehabilitation Programme (PSRRT) etc.. It has a staff of over 700 executives distributed throughout the territory. More information on its missions, activities, organization is provided in Annex. In the implementation of this project, the Executing Agency will be supported by the The National Wildlife Reserve Management Centre (CENAGREF), the *Office National du Bois*, the National Institute of Statistics and Economic Analysis (INSAE); the Associations of Timber Users.

The Executing agency will work with all partners identified during project development. They would need to contribute to the successful implementation of the project. Some partners are already included in the project organization chart.

The DGFRN will provide project necessary office facilities and amenities. It will also provide the project eight (08) focal point executives for the Statistical Information System that will ensure the implementation of the project at the six forest inspectorates of ONAB and CENAGREF and will second other members of the project implementation team.

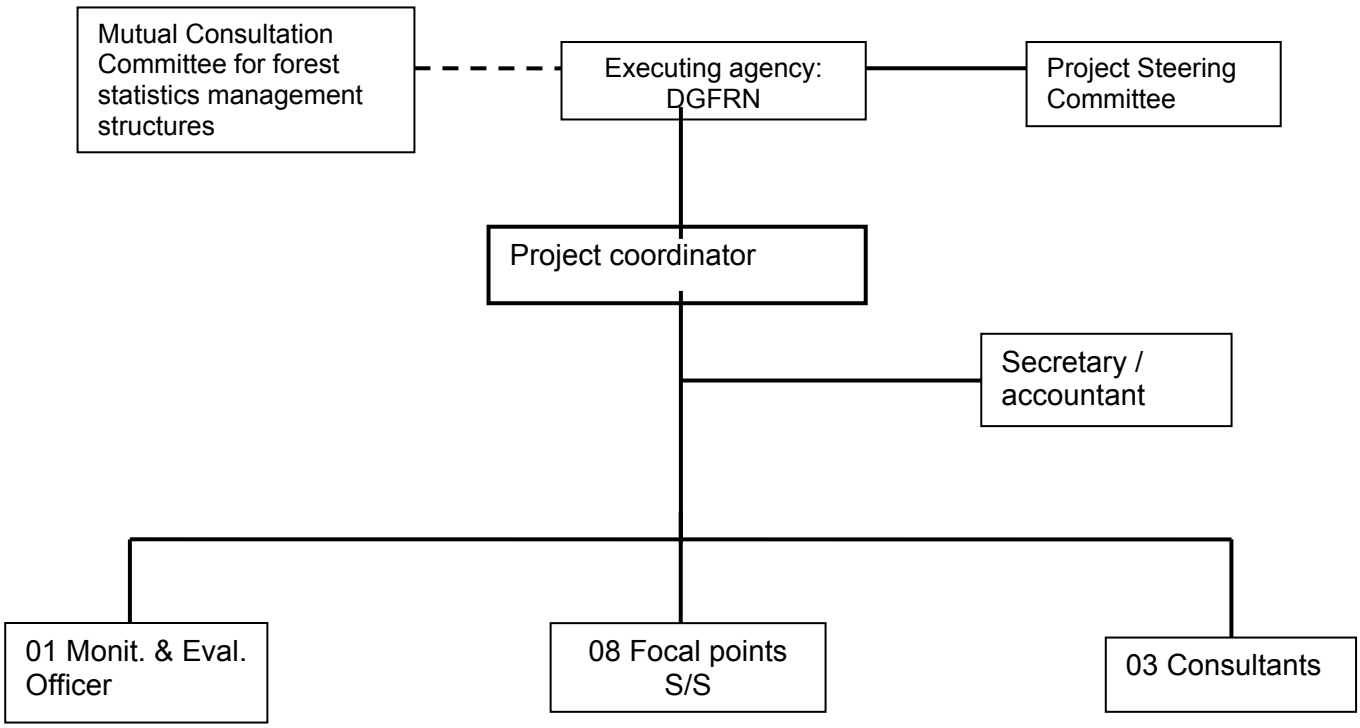
4.1.1. Project management team

The project management team will comprise the following members :

One National Coordinator to be appointed to manage the project. He will be assisted by a team comprising:

1. A forest engineer responsible for the Monitoring and Evaluation component;
2. An expert in forestry statistics;
3. Two national consultants;
4. Eight (08) Focal Points for the Statistical Information System responsible for the implementation of the project: Six Focal Points at the Forest Inspectorate of the six *départements* of the country, one with ONAB, and one with CENAGREF
5. One Secretary / Accountant,
6. Driver of the project vehicle.

The profile and CVs of the nominated persons are included in Annex 1.
Figure 4 : Organigramme du projet



4.1.2. Project Steering Committee (PSC)

The PSC mission is to oversee the project, approve expenditures, to ensure compliance of procedures, to review the activities carried out and to study and propose changes to the budget and activities. The Project Steering Committee provides strategic management for the entire project and ensures that its execution is carried out in accordance with the deadlines, efficiently and in accordance with the logical framework matrix and other aspects of the project document.

The PSC membership is as follows:

1. One Chairperson appointed by order of the Minister in charge of Water and Forests
2. One representative of ITTO;
3. Representatives of the structures of the line ministries involved. These are:
   - the Treasury Department,
   - The National Institute of Statistics and Economic Analysis (INSAE),
   - The National Wildlife Reserve Management Center (CENAGREF),
   - The Centre for Forest Research and Training
   - The *Office National du Bois* (ONAB),
4. Two (02) representatives of economic operators in the forestry sector (ANUB, ACROPOF)
5. The Coordinator representing the Executing agency of the project (who will act as secretary for the Steering Committee). The PSC will meet at least once a year.

4.1.3. Stakeholders participation mechanism

Participation of stakeholders will be through the stakeholders coordination and consultation mechanism.

The Executing agency will establish a Mutual Consultation Committee for the Forest Statistics Management Structures. This committee will be responsible for communicating information to stakeholders and offering a platform through which they can provide inputs to the project; it will also

support the coordination of actions undertaken by the structure collecting and managing of forest statistics. The Mutual Consultation Committee may request and receive information and provide advice but has no jurisdiction within the project. Its concerns and suggestions will be forwarded to the Chairperson of the Project Steering Committee. It will also broker solutions to issues that may arise during the implementation of the project.

Its membership will be as follows :

- One representative of the trade association representing forest industries
- Three representatives of trade associations representing timber users
- Two representatives of the local structures managing participatory forest development plans;
- One representative of the civil society organizations and/or NGOs heavily involved in forest resources management;
- One representative of the General Councils, local authorities receiving a portion of forest taxes;

It is chaired by one member from this Committee elected at the end of the first Meeting convened by the Coordinator, who will act as Secretary.

4.2. Reports, Review, Monitoring and Evaluation

The Executing agency will submit reports to ITTO with the frequency that is suitable for projects with a duration of two years. ITTO will have monitoring and evaluation missions conducted by persons it will appoint to the task and at intervals of its choosing.

The project will be monitored and evaluated by representatives of ITTO in keeping with the usual procedures of the Organization.

4.2.1. Project progress reports

A project onset report and the first Annual Operations Plan (AOP) shall be developed to transfer the first tranche of ITTO funds required for project start. The twice-yearly progress reports will be submitted to ITTO at regular intervals. The annual audit report on financial accounts will be prepared and submitted annually during the life of the project.

4.2.2. Project completion report

At the end of the project, the project management team will prepare a project completion report to be submitted to ITTO three months after the close of the project; it will also prepare the audit report in accordance with the ITTO standards and requirements. The project completion report will summarize all project activities and achievements, lessons learned etc..

4.2.3. Project technical reports

The Executing agency will provide the ITTO and other structures involved with all technical reports and study reports prepared by the consultants during the project implementation period.

4.2.4. Monitoring, Review and Steering Committee inspections

Semi-annually, the project will be inspected by the Steering Committee. Then the project will receive an annual supervision mission at a date to be mutually agreed between the Executing agency and ITTO. During these inspection missions, the project must show its progress and demonstrate how its LFM logic is being followed and how decisions of the Executive Committee are being abided by.

4.2.5. Dissemination and mainstreaming of project learning

The project will establish a system for communicating the results to the actors and stakeholders, using multiple communication channels:

- Information on the website,

- Publication and dissemination of articles, data sheets and reports (Yearbook of forest products, etc..)

4.2.6. Dissemination of project results

Results will be disseminated by way of technical reports, progress reports and the final report. Reports on workshops will be organized as much for outreach and advocacy purposes with project stakeholders as for providing training and will also be edited and published. This dissemination may be through the Ministry's website. Yearbooks on forest products expected from this project will also be edited, published and disseminated to stakeholders.

4.2.7. Mainstreaming of project learning

This project will heavily rely on information and communication technologies to manage statistical data on forests.

ANNEX 1 : Profile of the Executing Agency – DGFRN

1. Background

Name : *Direction Générales des Forêts et des Ressources Naturelles* (DGFRN)
Postal Address: BP : 393 COTONOU (Rép. BENIN)
Tel. : (229) 21-33-06-62,
E-mail : foretsbenin@yahoo.fr

The Department of Forestry and Hunting (currently General Directorate of Forestry and Natural Resources) was established by Order No. 2428 of the Governor of French West Africa on 23 July 1938. It is part of the very early administrative departments created by the Colonial Administration. She has had several names under the successive supervision of the various line Ministries under which it was placed.

Under Decree No. 007/MEPN/DC/SGM/DGFRN/SA of 14 February 2007 providing the creation, and rules of organization and operation of DGFRN, the DGFRN is placed under the supervision of MEHU. Its remit is the planning, programming, implementation and coordination of actions undertaken to achieve the objectives of the national forestry policy. As such, it is responsible for:

- developing and monitoring the implementation of laws and regulations for the management of forests and wildlife,
- providing technical support to private organizations and local communities to sustainably and rationally manage forest and wildlife resources and improve their operational techniques;
- identifying and enforcing the rules and conditions of forest and wildlife resources harvesting and uses,
- implementing and monitoring the agreements and conventions ratified by Benin on forests and natural resources,
- coordinating Activities of other structures involved in the management of forests and natural resources,
- to act as law enforcement agency for forests and natural resources.

At Headquarters level, the forest administration includes the following three technical directorates :

- Directorate of Policies, Control and Monitoring of Forest Logging and Uses (DPCEF) ;
- Directorate of Conservation and the Promotion of Natural Resources (DCPRN) and ;
- Directorate of Administrative services (DSI).

At field level, DGFRN is represented by six Forest Inspectorates. The “cantonnements forestiers” (forest quarters” report to these departmental structures, and so do the “Sections Communales de l’Environnement et de la Protection de la Nature” (Communal Sections for the Environment and Nature Protection) that combine environment-management and forestry posts at district level (see chart of DGFRN below).

In addition, in the process of restructuring DGFRN, the Technical Forest Planning Units (Cellules Techniques d’Aménagement Forestiers -- CTAF) were created. These technical units (task forces) are being set up around some forests and reforestation areas with participatory management plan.

Currently, the Forestry Administration is supported by seven projects and programmes. These are as follows:

- Management Programme for Forests and Surrounding Community Lands (PGFTR), financed by
- Community Forests Development and Management Project (PAGEFCOM),
- Special Program of Reforestation and Land Rehabilitation (PSRRT),
- National Forest Programme (NFP)
- Integration Project of Sacred Forests in Protected Areas System of Benin
- Technical Cooperation Project on Non-timber Forest Products TCP / NWFP.

2. Infrastructures

DGFRN has among its central and headquarters infrastructures premises that can accommodate the project. The Forestry Administration has also infrastructure at the *département* level within six Forest Inspectorates.

3. Budget

The overall annual budgets in **US$** for the previous three years assigned to the DGFRN have been as follows:

2009 Budget	2010 Budget	2011 Budget	Total
42,180	18,160	8,920	69,260

These budgets were used in the following expenditure:

Sovereign functions, purchases of supplies and consumables for computer equipment, maintenance and repair of furniture and computer equipment, housekeeping, etc. Meetings and workshops.
It is noted that labour costs are not included here as these costs are borne by the national budget.

This budget represents the amount allocated by the State to DGFRN through MEHU. The reducing annual DGFRN budget could be explained by the impact of the economic and financial crisis in recent years.

But it should be noted that this amount does not include payroll staff nor the national counterpart budgets to on-going projects and programmes in this area and it doesn't include some special expenditures.

Annual budget cuts have had no bearing on the capacity of DGFRN to implement this project. Rather, the reduction of financial resources allocated to the DGFRN drives the latter to seek additional funding until the state budget improves. The following table shows a list of some programmes and projects implemented or under implementation within the past three years. This table shows that DGFRN indeed has the capacity to implement this project.

Summary table of the main funding programs and projects in the forestry sector in Benin

Programmes and projects	Periods	Funding Sources	Total (Millions)
Natural Resources Conservation and Management Project (ProCGRN)	2004-2010	GIZ, KFW	-
Project firewood -- second phase (PBF II)	2004-2011	ADF (ADB BADEA) National Budget	11.75UC
Forest Management Project (PAMF)	2001-2008	ADF (ADB) National Budget BADEA	17.56 UC
Management Programme for Forests And Adjacent Landscapes (PGFTR)	2003-2013	WB, GEF National Budget	14 93 U.S. $
Project to Support Community Forest Management (PAGEFCOM)	2007-2012	ADF (ADB) National Budget	UC 43.70
Special Reforestation and Land Reclamation Programme (PSSRT)	2007-2011	National Budget	U.S. $ 0.2 -

Integration Of Sacred Forests In The Conservation Area System (PIFSAP)	**2010-2013**	**GEF, UNDP, National Budget**	**U.S. $ 2.89**

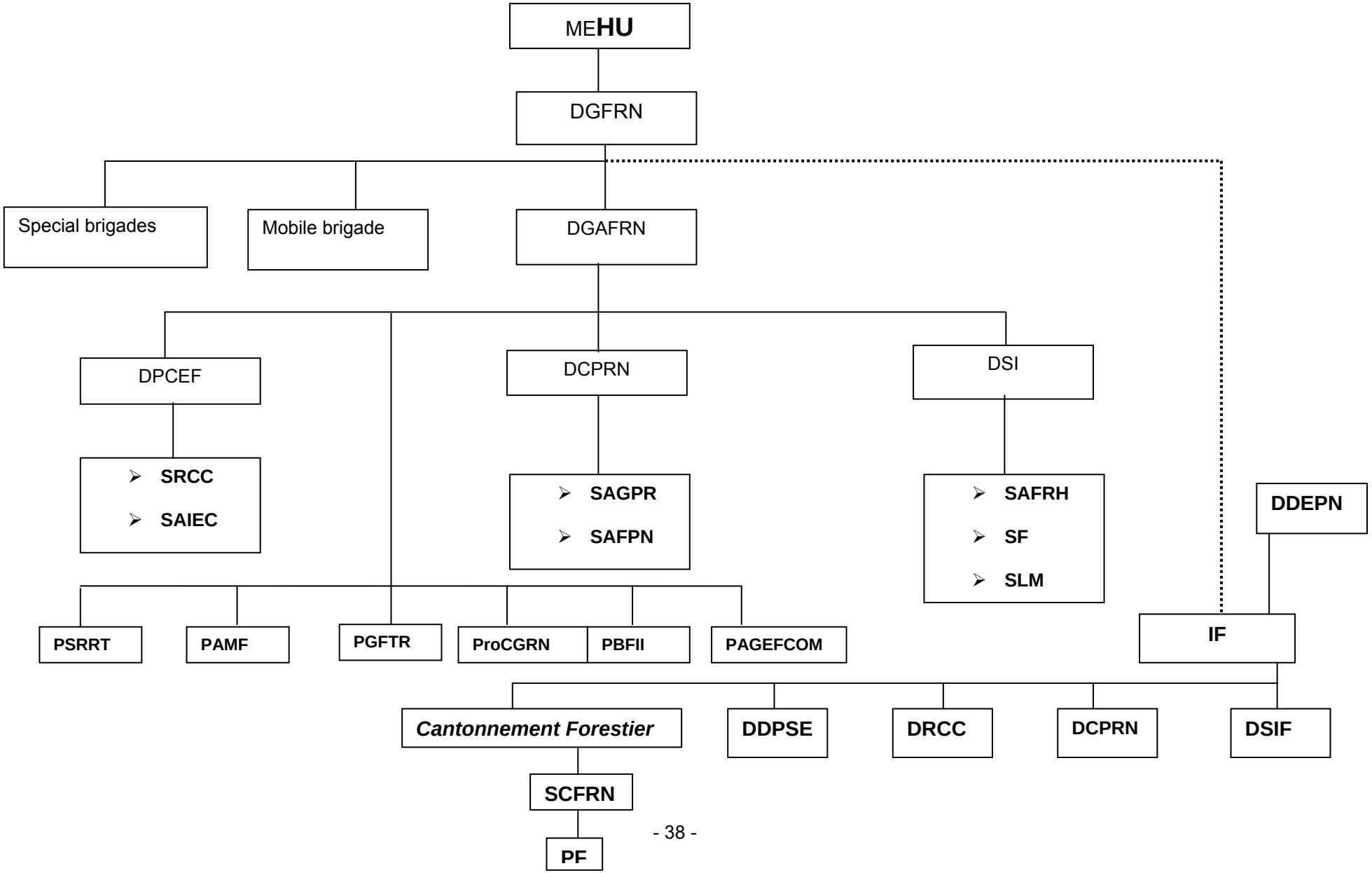
4. Staff

The General Directorate of Forestry and Natural Resources currently has a staff of 721 officials and employees in all categories; the staff is distributed among headquarters, in the decentralized structures in the Projects / Programmes Trust as well as the Centers and Office. This number is subdivided in the following groups:

Total number of staff holders of master's degree and graduate from tertiary educational institutions: 146

Number of qualified technicians and similar: 575;

Staff Chart of DGFRN



ANNEX 2. CVs of project staff seconded by the Executing Agency

CVs of the Project Management Team and Consultants Contracted by the Project

LOKOSSOU Achille Orphée

Identity	**Name : LOKOSSOU** **Surnames : Achille Orphée**
Marital Status	**Marital status:** Married, father of 05 children **Nationality:** Beninese **Birthday:** 10/12/1970 **Birthplace:** Allada (Department of the Atlantic) **Gender:** Male
Address	***Private*** *(+229) 95 45 07 24 (mobile)* *(+229) 97 73 52 25 (mobile)* *(+229) 21 06 17 49 (domicile)* *BP 2014 Ab-Calavi (Rep. BENIN)* *E-mail: lokossouo@yahoo.fr*
Title	**Engineer in Environment Management and Conservation**
Areas of technical skills	Development and management of Forests and Natural Resources, Forestry Project Development, Mitigation of and adaptation to the adverse effects of climate change, Conservation of Biological Diversity, Biosafety and Biotechnology,
University and postgraduate studies	- **2005-2006 :** Diploma in higher technical specialization in Developmental Biology, Faculty of Sciences, University of Lomé, Togo - **2004-2004 :** Research Master in Environment Management (Major : Environment and Development) University of Abomey-Calavi, Bénin - **2002-2003 :** 2nd Year Sociology FLASH University of Abomey-Calavi, Bénin - **1997 :** Operations Engineer's Degree in Environment Management and Protection, College of Polytechnics (CPU), National University of Bénin (UNB) - **1993** : Baccalaureate (Biology-Physics-Maths)
Professional experiences	**May 2006** to-date: **Forest Engineer, Forest and Natural Resources Management:** *Head of the Policy, Statistics and Syntheses Division with the General Directorate of Forestry and Natural Resources, Ministry of Environment and Conservation.* **Main activities** • Organization and management of data on forest sector statistics • Preparation of annual reports of activities 2007, 2008, 2009, 2010,2011; • Country Focal Point Stat; FAOStat, • Idenfication of performance indicators for the forest sector, • Synthesis and dissemination of data, • Development of projects and programmes for sustainable forestry development • Preparation of Clean Development Mechanisms for the Forestry sector • Evaluation of studies commissioned by DGFRN • Preparation of legislation for and implementation of Biosafety and GMOs activities. • Development participatory management plans for forest areas and surrounding community lands, • Development of govnermental policies, strategies and national programmes for the management of biodiversity, forests, wildlife and natural resources and conservation of fragile areas and the rehabilitation

	of degraded sites. **2001-2003 : Research Assistant at the International Institute of Tropical Agriculture (IITA-Cotonou)** • Management and implementation of the 'Biocontrol and Biodiversity' project in West Africa, • Implementation techniques for analysis and diagnosis of cellular and molecular enthomopathogene and plant pathogens viruses (ELISA, PCR etc.). • Study of biodiversity of vegetable crops pests and they natural enemies; • Impact study of biological control agents on pest populations; • Technical support to producers of vegetables, in peri-urban agriculture on sustainable production techniques and pest management, • Integrated pest management for pest of food and vegetable crops; • Preparation of financial reports and monthly activity reports • Preparation of scientific publications. **2000-2001 : Volontaire for the** *Mercy Ships* **international mission** IEC Health Environment & Development ; Translations : English, French, Local languages ; Local Develoment ; IEC Health Environment & Development ; **1997-1999- Research Assistant at the International Institute of Tropical Agriculture (IITA-Cotonou)** Execution of the project : « Biocontrol of the legume pod borer, *Maruca vitrata* (Fabricius) (Lep.: Pyralidae) in W. Africa » Study of the sustainable conservation of leguminosae ; Sustainable production of subsistence crops ;
Official appointment	Appointed **Deputy of the National Focal Point** for the Cartagena Protocol on Biosafety and the Biosafety Clearing-House for Biosafety by Order No. 0037/MEPN/DC/SGM/SA of June 8, 2009
Participation in international conferences and training programmes	• 2nd Global Conference on the International Partnership for the Satoyama Initiative (IPSI) Nairobi, KENYA from 13-14 March 2012 organized by the United Nations University Institute of Advanced Studies (UNU-IAS). • Regional Workshop for Capacity Building for the Risk Assessment and Analysis of GMOs to the Regional Program for Biosafety of the West African Economic and Monetary Union (UEMOA-PRB) convened by UEMOA from 30 November to 8 December 2011 Bobo-Dioulasso, Burkina Faso • Participation to the 5th International Wildland Fire Conference and exhibition 2011 (WILDFIRE 2011), Sun City (South Africa) 9-13 may 2011 supported by International Tropical Timber Organization (ITTO), • Participation in the First Global Conference on the International Partnership for the Satoyama Initiative (IPSI) Nagoya Aichi, Japan from 10-12 March 2011 organized by the United Nations University Institute of Advanced Studies (UNU-IAS). • Training on integration, synthesis and dissemination of environmental data, from 14 to 15 February 2011 in Bamako, Mali. Organized by the Niger Basin Authority (NBA); • International Training Workshop on the use and analysis of data on biodiversity from the GBIF network (Global Biodiversity Information Facility) from 19 to 28 November 2010 at the National Museum of

	Natural History in Paris, France; • International Workshop on Harmonisation of GMO Detection and Analysis, White River South Africa 28-29 October 2010. Organised by European Commission Joint Research Centre (EC-JRC); • International Workshop on "Confined Field Trial (CFT) for Genetically Modified Crops: A Theoretical and Practical course for regulators, applicants, reviewers and inspectors of CFTs". Accra, Ghana, 30th August – 3rd September, 2010, organized by The International Centre for Genetic Engineering and Biotechnology (ICGEB); • International Workshop on Theoretical Approaches and their Practical Applications in the Risk Assessment for the Deliberate Release of Genetically Modified Plants. Hermanus (Cape Town), South Africa, 22-26 March 2010 , organized by The International Centre for Genetic Engineering and Biotechnology (ICGEB); • Participation to the Conference of Parties of the UN Convention on Climate Change of December 7 to 18, 2009 in Copenhagen, Denmark; • Training Workshop on digitization and publication of data on biodiversity organized by GBIF, IFAN and South Plant Experts from 22 to June 26, 2009 in Dakar, Senegal; • Workshop Official launch of the Regional Programme on Biosafety of the West African Economic and Monetary Union (UEMOA-PRB) organized by UEMOA from 15 to 17 June 2009 in Bamako, Mali; • Consultation Seminar of Sahel-Sudanese Countries on the post- Kyoto 2012 financial mechanisms organized by FFEM, UNEP and CASCADe and held between 12 and 14 May 2009 in Dakar, Senegal; • Preparatory Meeting for UNFF8, Nairobi, Kenya, April 6-8, 2009 Organized by the African Forest Forum (AFF), with Funding from Sida, SADC / GTZ and the Intercooperation; • International conference on Africa Carbon Forum from 3 th – 5th September 2008 in Dakar, Senegal financed by UNEP and RISOE. • International workshop on Forest Governance and decentralization in Africa 8-11 April 2008 in Durban South Africa financed SADC/GTZ and the Intercooperation; • **2002 :** Survey and knowledge-sharing tour on the development of Niébé cultivation and improved Kano crop cultivation practices in Nigeria; • **2002** : Training course in IITA-Ibadan on the development tools of biotechnology and molecular and cell biology ;
Consultancies and other experiences	- January-July 2010: Development of the project document for the integration of sacred forests into the conservation area system in Benin. National Expert in Biodiversity and Management of Protected Areas and Sacred Forests for UNDP. - 12 to 23 October 2009: Capacity building Workshop for the implementation of a regulatory framework in Biosafety Africa Rice Center (IITA). Organized by FAO, MAEP, MEPN. - January-May 2007: Military Training as Officer Engineer for Water, Forestry and Hunting - March to September 2005: Establishment of control methods against mango insect pests in the department of Borgu, management of mango farmers on sustainable management techniques for mango pests. – Support and guidance in agroforestry and forestry - 2001-2003: Research and consultancy mission in Nigeria, Togo for the development of crop management and pest management of crops. - January-May 2001: Training on the development, monitoring and evaluation of development projects by the Mercy Ships international mission. - (1997): Special training in project development, management and appraisal, UNB / CUPPE. - (1997): Introduction to GIS (Geographic Information System) and

	GPS, natural resource management and biodiversity
Technical papers published	**Vayssières J. F., Lokossou O. (2007)** Traitements par taches (GF120) testés au Bénin contre les mouches de fruits inféodés au manguier CIRAD/COLEACP Lettre d'information N°6, Octobre 2006 4pp ; Vayssières J. F., Georgen G., Lokossou O., Dossa P., Akponon C. (2005). A new *Bactrocera* species in Benin among mango fruit fly (Diptera : Tephritidae) species. Fruits, vol.60 (6): 371-377 pp; **Andy C., Lokossou O** (**2003)** Impacts of the virus MvCPV on the legume pod borer *Maruca vitrata* (Lepidoptera: Pyralidae) IITA Annual Report 2003.
IT knowledge and other assets	Logiciels Word, Excel, PowerPoint, SAS, SPSS, Access, ArcView, Internet Explorer etc; Holder of Driving Licence Vehicle Cat. B ; Military training January to May 2007 ;
Languages	French: Excellent (written, spoken and read). English: Good (Written, spoken and read).
Community activities	Member of the node GBIF-Benin ; Member of the African Forest Forum ; Member of NGO *Centre de Développement des Œuvres Sociales* (CEDOS ONG) ; Founding Member of *Mutualité Chrétiennes*. (MC) ;
Reference persons	1. **Colonel BOSSOU Bienvenu**, Directeur Exécutif de CeSaReN ONG Tél. (+229) 95 42 50 47 E-mail: bmbc1957@gmail.com 2. **AGBANGLA D. Gaétan,** Conseiller Technique à la Protection de la Nature au MEPN, Tél.: (+229) 90 03 48 67, E-mail: gatanagban@yahoo.fr 3. **Pr. SOCLO H. Henri**, Directeur Général de l'Environnement, Professeur de Chimie de l'Environnement à l'Ecole Polytechnique d' Abomey Calavi Tél. (+229) 21 31 65 20 ou 21 31 50 58, E-mail : henrisoclo@yahoo.fr

I certify on my honour the truthfulness of the information above.

Cotonou, 14 Feb. 2012

LOKOSSOU Achille Orphée

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IDENTITY

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Nationality: Beninese
Date and place of birth: 28/02/1973 at Cotonou, Republic of Bénin.
Sex: Male
Profession: Associate professor in Biostatistics and Forestry; Faculty of Agronomic Sciences, University of Abomey-Calavi (FSA/UAC)
Position: Head of administrative and statistic section of the Faculty
Civil Status: Married, 2 Children.

PERMANENT ADDRESS

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EDUCATION

PhD in Biostatistics
Gembloux Agricultural University, Belgium, 2005.

MSc in Biostatistics (Graduated First)
Gembloux Agricultural University, Belgium, 2001

Engineer Degree in Forestry (Graduated First)
Faculty of Agronomic Sciences, University of Abomey-Calavi, 2000.

Bachelor Degree in Agronomy (Graduated First)
Faculty of Agronomic Sciences, University of Abomey-Calavi, 1998.

INTERNATIONAL PRIZES

PRIZE « **Heinz and Johanes** ». Best research paper in Ecology; 2007 edition. The Support Africa International Foundation, Germany, **2007**.

PRIZE « **Jan Tinbergen** ». Best young statistician from emerging and developing countries. The International Statistical Institute (ISI), Australia, **2005**.

PRIZE « **Biométrie 88** », Best young French biometrician in Belgium. National Association of French Belgian biometricians**,** Belgium, **2002.**

Fellow of the Alexander von Humboldt Foundation for outstanding achievements in research. Germany, **2007.**

INTERNATIONAL RESEARCH AWARDS

1. ECOWAS (Economic Community of West African States). Mise au point et harmonisation des techniques d'inventaire de la flore et de la végétation en Afrique de l'Ouest (*Development and harmonization of efficient forest inventory designs for all the vegetation types of West Africa*), 2012.
2. TWAS (Third World Academy of Sciences). Assessing the efficiency of shape and size of inventoried plots in the structural description of vegetation types of Bénin, 2011.
3. RSG Foundation (England). Understanding ecology, threats assessment and conservation of *Afzelia africana* in Benin. 2008

4. Wild Idea Foundation (USA). Analysis of the viability of the endangered multipurpose trees species *Afzelia Africana* Sm in the Wari-Maro Forest Reserve (Benin, West Africa). 2008
5. Alexander von Humboldt Foundation Foundation. Equipment grant and Book donation (Germany). 2008
6. GTZ-PROCGRN-BENIN. Caractérisation structurale des peuplements naturels à dominance *Afzelia africana* dans la forêt classée de la Lama (*Structural characterization of Afzelia africana dominated natural stands in Lama Forest reserve*) 2007.
7. TWAS (Third World Academy of Sciences). Relative Performance of linear, quadratic and logistic rules in Multi-Group Discriminant Analysis, 2006.
8. GTZ-PROCGRN-BENIN. Etude de la viabilité à long terme des peuplements naturels de *Pterocarpus erinaceus* Poir de la forêt classée de l'Ouémé Supérieur (*Study of long term viability of natural stands of Pterocarpus erinaceus Poir of the Ouémé Supérieur Forest reserve*), 2006.
9. IFS (International Foundation for Sciences). Assessing the population dynamics of *Isoberlinia* natural stands in Wari-Maro forest Reserve (Benin). 2006.
10. AFORNET (African Forest Research Network). Etude dendrométrique et établissement de tarifs de cubage des peuplements naturels de *Pterocarpus erinaceus* Poir des forêts classées de Wari-Maro au Bénin. (*Dendrometric study and establishment of stem taper functions of natural stands of* Pterocarpus erinaceus *Poir of Wari-Maro and Ouémé Supérieur Forest reserve*). 2005.
11. IFS (International Foundation for Sciences). Discrimination of *Isoberlinia* natural stands based on classification rules and error rates estimators. 2003.
12. GTZ-PROCGRN-BENIN. Classification et cartographie des peuplements naturels *d'Isoberlinia spp*. (*Classification and cartography of Isoberlinia dominated natural stands*), 2003.
13. AUF (Agence Universitaire de la Francophonie). Comparaison empirique des règles de classement et des estimateurs de taux d'erreur en analyse discriminante. (*Empirical comparison of classification rules and error rate estimators in discriminant analysis*), 2002.
14. ANAFE/ICRAF. Etude dendrométrique de *Acacia auriculiformis* au Sud du Bénin. (*Dendrometric study of Acacia auriculiformis in the Southern part of Bénin*). 1999.

AFFILIATION

Young affiliate of The Academy of Sciences for the developing world (TWAS, Italy), 2011.

Statistical Pan African Society (SPAS), 2009

Elected-Member of the International Statistical Institute (ISI, the Netherlands), 2005.
African Forestry Research Network, 2004.

Vice-chair of national and technical administrative boards for research on maize, Republic of Bénin, 2012.

RESEARCH INTEREST

Development and harmonization of efficient forest inventory designs in West Africa
Modeling climatic trends in West Africa
Impacts of climatic trends on the performance of West African agriculture
Discrimination and clustering;
Modeling of population dynamics of natural stands of native forest species in Benin;
Structural Study of natural stands of native forest species of Benin;
Discriminant Variable Selection Techniques;
Non timber forest products.

PROFESSIONAL EXPERIENCE

Biometrician, National Institute of Agricultural Research of Bénin, 2002-2007
Biometrician (Part time job), Africa Rice Centre, 2006-2008
Associate Professor, Faculty of Agronomic Sciences, University of Abomey-Calavi, 2007-

LECTURE IN OTHER WEST AFRICAN UNIVERSITIES

1. University of Abdou Moumouni, NIGER; Faculty of Sciences, NIGER. Contact person: Prof. Ali Mahamane. BP 10662 Niamey *Niger*. E-*mail:* ali_mahamane@yahoo.fr. Phone: +227 96967724. Fax: +227 20315072. Lecture in Biostatistics for MSc Students.
2. University of Kara; Faculty of Sciences, TOGO. Contact person: Prof. Baba Gnon. Email: gnonbaba@yahoo.fr. Lecture in Linear models for BSc students.
3. Kwame Nkrumah University of Science and Technology (KNUST), GHANA. Contact person: Prof. Samuel Odai. Email: snodai@yahoo.com. Lecture in Univariate statistical methods, Multivariate statistical methods and time series analysis for phD Student.
4. Higher National Agronomy and biotechnology Institute (Gabon). Lecture in Experimental design for engineer degree students. Contact person: Dr Kumulungui Brice Serge. Email: kumulungui@yahoo.fr
5. University of Parakou, BENIN. Interdisciplinary Doctorate cycle. Contact person: Prof. Nestor Sokpon, Vice-Chancelor. Email: nsokpon@yahoo.fr. Lecture in Multivariate statistical methods for MSc students.

SCIENTIFIC PUBLICATIONS (4 books, 59 scientific articles and many edited communications)

Books

1. GLELE KAKAÏ R. (2010). *Règles de classement et taux d'erreur en analyse discriminante*. Edition Européenne Universitaire, Allemagne, 237p.
2. GLELE KAKAÏ R., Sodjinou E., Fonton H. N. (2006). *Conditions d'application des méthodes statistiques paramétriques*. Bibliothèque Nationale, Bénin, 106 p.
3. GLELE KAKAÏ R., Palm R., Kokode G. (2005). *L'analyse discriminante décisionnelle : aspects théoriques et applications sur ordinateur*. Bibliothèque Nationale, Bénin, 64 p.
4. GLELE KAKAÏ R., Kokode G. (2004). *Techniques statistiques univariées et multivariées: applications sur ordinateurs*. Bibliothèque Nationale, Bénin, 67 p.

Articles

Accepted (In press)

1. DADJO C., ASSOGBADJO A.E., FANDOHAN B., GLELE KAKAÏ R., SINSIN B., VAN DAMME P. (2012). Uses and Management of Black Plum (*Vitex Doniana* Sweet) in Southern Benin. *Fruits*, 67(4):
2. HOUÉTO G., FANDOHAN B., OUÉDRAOGO A., AGO E., SALAKO V. K., ASSOGBADJO A.E., GLELE KAKAÏ R., SINSIN B. (2012). Floristic and dendrometric analysis of woodlands in the Sudano-Guinean zone: a case study of Belléfoungou forest reserve in Benin. *Acta botanica gallica*.

Published

Year 2012

3. ASSOGBADJO A. E., CHADARE F. J., GLELE KAKAÏ R., FANDOHAN B., BAIDU-FORSON J. J. (2012). Variation in biochemical composition of baobab (*Adansonia digitata*) pulp, leaves and seeds on three soil types and three provenances. *Agriculture, Ecosystems & Environment*. ***d***oi:10.1016/j.agee.2012.01.021
4. ASSOGBADJO A.E., FANDOHAN B., GLELE KAKAÏ R., KYNDT T., HARDY O.J., GHEYSEN G., SINSIN B. (2012). Genetic evidence of the contribution of ethnic migrations to the propagation and persistence of the rare and declining scrambling shrub *Caesalpinia bonduc* L. *Human ecology*. DOI 10.1007/s10745-011-9442-7
5. ASSOGBADJO A.E., GLÈLÈ KAKAÏ R., VODOUHÊ F.G., DJAGOUN C.A.M.S., CODJIA J.T.C., SINSIN B. (2012). Biodiversity and socioeconomic factors supporting farmers' choice of wild edible trees in the agroforestry systems of Benin (West Africa). *Forest Policy and Economics*. 14: 41–49.

Year 2011

6. ATIDEGLA S. C., AGBOSSOU E. K., HUAT J., GLELE KAKAÏ R. (2011). Contamination métallique des legumes des perimeters maraîchers urbains et péri-urbains: Cas de la commune de Grabd popo au Bénin. *International Journal of Biological and Chemical Sciences* 5(6): 2351-2361.

7. ADJANOHOUN A., ALLAGBE M., NOUMAVO P. A., GOTOECHAN-HODONOU H., SIKIROU R., DOSSA K. K., GLÈLÈ KAKAÏ R., KOTCHONI S. O., BABA-MOUSSA L.(2011). Effects of plant growth promoting rhizobacteria on field grown maize. *Journal of Animal & Plant Sciences*, 11(3): 1457-1465.
8. GNANGLÈ P. C., GLÈLÈ KAKAÏ R., ASSOGBADJO A.E., VODOUNON S., YABI J., SOKPON N. (2011). Tendances climatiques passées, modélisation, perceptions et adaptations locales au Bénin. *Climatologie,* 8 :26-40.
9. YEVIDE A. S. I., GANGLO J. C., GLÈLÈ KAKAÏ R., DE CANNIÈRE C. (2011). Effet de la densité, de l'âge et des groupements végétaux de sous-bois sur la vigueur des plantations privées de teck (*Tectona grandis* L.f.) gérées en régime de taillis au sud-Bénin (Afrique de l'Ouest). *International Journal of Biological and Chemical Sciences* 5(3):1215-1231.
10. DJODJOUWIN L., GLÈLÈ KAKAÏ R., SINSIN B. (2011). Influence des voisins sur le développement des espèces locales introduites dans les formations naturelles soudaniennes et guinéennes du Bénin. *International Journal of Biological and Chemical Sciences* 5(4): 1403-1413
11. DJODJOUWIN L., GLÈLÈ KAKAÏ R., SINSIN B. (2011). Caractérisation structurale des formations naturelles enrichies en essences forestières locales: cas des vertisols de la Lama (Benin). *International Journal of Biological and Chemical Sciences* 5(4): 1628-1638
12. GLÈLÈ KAKAÏ R., AKPONA T. J. D., ASSOGBADJO A. E., GAOUE O. G., CHAKEREDZA S., GNANGLE P. C., MENSAH G. A., SINSIN B. (2011). Ecological adaptation of the shea butter tree (*Vitellaria paradoxa* C.F. Gaertn.) along climatic gradient in Benin, West Africa. *African journal of ecology*, 49:440-449.
13. HOUEHANOU T. D., ASSOGBADJO A. E., GLÈLÈ KAKAÏ R., HOUINATO M., SINSIN B. (2011). Valuation of local preferred uses and traditional ecological knowledge in relation to three multipurpose tree species in Benin (West Africa). *Forest Policy and Economics*. 13: 554–562
14. DJOGBENOU C. P., AROUNA O., GLÈLÈ KAKAÏ R., SINSIN B. (2011). Analyse comparative des profils des Plans d'Aménagement Participatifs des forêts classées du Bénin. *VertigO - la revue électronique en sciences de l'environnement* [En ligne], Volume 11 Numéro 1 | mai 2011, mis en ligne le 27 mai 2011, Consulté le 07 juillet 2011. URL : http://vertigo.revues.org/10893 ; DOI : 10.4000/vertigo.10893.
15. ASSOGBADJO A.E., GLÈLÈ KAKAÏ R., ADJALLALA F.H., AZIHOU A.F., VODOUHE G.F., KYNDT T., CODJIA J.T.C. (2011). Ethnic differences in use value and use patterns of the threatened multipurpose scrambling shrub (*Caesalpinia bonduc* L.) in Benin. *Journal of Medicinal Plants Research*, 5(9): 1549-1557.
16. ADJANOHOUN A., BABA-MOUSSA L., GLÈLÈ KAKAÏ R., ALLAGBE M., YEHOUENOU B., GOTOECHAN-HODONOU H., SIKIROU R., SESSOU P., SOHOUNHLOUE C.K.D. (2011). Caractérisation des rhizobactéries potentiellement promotrices de la croissance végétative du maïs dans différents agrosystèmes du Sud-Bénin. *International Journal of Biological and Chemical Sciences*, 5(2): 433-444.
17. BABATOUNDÉ S., GLÈLÈ KAKAÏ R., HOUINATO M., ALKOIRET G.A., MENSAH G. A. (2011). Intake and digestibility of native and exotic grasses fed *ad libitum* to Djallonke sheep in south Benin. *Journal of agriculture, science and technology*, 5(4): 513-524.
18. FANDOHAN B., ASSOGBADJO A.E., GLÈLÈ KAKAÏ R., SINSIN B. (2011). Geographical distribution, tree density and fruit production of *Tamarindus indica* L. (Caesalpinioideae) in three ecological regions of Benin. *Fruits*, 66(1): 53-62.
19. ASSOGBADJO A.E, GLÈLÈ KAKAÏ R., EDON S., KYNDT T., SINSIN B. (2011). Provenance variation in fruit characteristics, seed germination and seedling growth dynamic of the multipurpose baobab tree (*Adansonia digitata* L.) in Benin (West Africa). *New forests,* 41:113-125.
20. AVOHOU T. H., HOUEHOUNHA R., GLÈLÈ KAKAI R., ASSOGBADJO A. E., SINSIN B. (2011). Firewood yield and profitability of a traditional *Daniellia oliveri* short-rotation coppice on fallow lands in Benin. *Biomass and Bioenergy*, 35: 562-571.
21. ADJANOHOUN A., ALLAGBE M., NOUMAVO P. A., GOTOECHAN-HODONOU H., SIKIROU R., DOSSA K. K., GLELEKAKAÏ R., KOTCHONI S. O., BABA-MOUSSA L. (2011). Effects of plant growth promoting rhizobacteria on field grown maize. *Journal of Animal & Plant Sciences*, 11(3): 1457-1465

Year 2010

22. DAGBENONBAKIN G. D., AGBANGBA E. C., GLELE KAKAÏ R., GOLDBACH H. (2010). Preliminary diagnosis of the nutrient status of cotton (*Gossypium hirsutum* L) in Benin (West Africa). *Bulletin de la Recherche Agronomique du Bénin*, 64: 32-45.

23. GNANGLÈ P. C., GLÈLÈ KAKAÏ R., OUMOROU M., N'DJOLOSSE K., BONOU W., SOKPON N. (2010). Tests de croissance de jeunes plants de néré (*Parkia biglobosa*, Jack, R. Br.) en pépinière. *International Journal of Biological and Chemical Sciences*, 4(6): 1939-1952.
24. DJOGBENOU P., GLÈLÈ KAKAÏ R., SINSIN B. (2010). Comparative analysis of stakeholders' perceptions of participatory forest management success in Benin. *International journal of biodiversity and conservation*, 2(12):395-404.
25. **NDJIONDJOP M.N., MANNEH B., CISSOKO M., DRAME N.K., GLÈLÈ KAKAÏ R., BOCCO R., BAIMEY H., WOPEREIS M. (2010).** Drought resistance in an interspecific backcross population of rice (*Oryza* spp.) derived from the cross WAB56-104 (*O. sativa*) × CG14 (*O. glaberrima*). *Plant Sciences*, 179: 364–373.
26. GBEMAVO D.S.J.C., GLÈLÈ KAKAÏ R., ASSOGBADJO A.E., KATARY A., GNANGLÈ P. (2010). Effet de l'ombrage du Karité sur le rendement capsulaire du cotonnier dans les agroécosystèmes cotonnier-karité du Nord Bénin. *Tropicultura*, 28(4): 193-199.
27. DJAGOUN C. A. M. S., GLELE KAKAÏ R., KONNON D-D., SEWADE C., KOUTON M., BONOU W., GOUWAKINNOU G., FANDOHAN B. (2010). Potentiel des Ressources Végétales Forestières Alimentaires et Médicinales de la Forêt Classée de l'Ouémé Supérieur et N'Dali au Nord Bénin. *Fruit, Vegetable and Cereal Science and Biotechnology*, 4(1): 47-54.
28. ASSOGBADJO A.E, GLÈLÈ KAKAÏ R., KYNDT T., SINSIN B. (2010). Conservation Genetics of Baobab (*Adansonia digitata* L.) in the Parklands Agroforestry Systems of Benin (West Africa). *Not. Bot. Hort. Agrobot. Cluj* 38(2):136-140.
29. FANDOHAN B., ASSOGBADJO A.E., GLÈLÈ KAKAÏ R., SINSIN B. (2010). Effectiveness of a protected areas network in the conservation of *Tamarindus indica* (Leguminosea-Caesalpinioideae) in Benin. *African journal of ecology*. DOI: 10.1111/j.1365-2028.2010.01228.x.
30. FANDOHAN A. B., ASSOGBADJO A. E., GLELE KAKAÏ R., SINSIN B. (2010). Variation in seed morphometric traits, germination and early seedling growth performances of *Tamarindus indica* L. *International Journal of Biological and Chemical Sciences*, 4(4): 1102-1109.
31. GLÈLÈ KAKAÏ R., PELZ D. R. (2010). Asymptotic error rate of linear, quadratic and logistic rules in multi-group discriminant analysis. *International journal of applied mathematics and statistics.* 18(10): 69-81.
32. GLÈLÈ KAKAÏ R., PELZ D. R., PALM R. (2010). On the efficiency of the linear classification rule in multi-group discriminant analysis. *African Journal of Mathematics and Computer Science Research.* 3(1): 19-25.
33. FANDOHAN A. B., ASSOGBADJO A. E., GLELE KAKAÏ R., SINSIN B., VAN DAMME P. (2010). Impact of habitat type on the conservation status of tamarind (*Tamarindus indica* L.) populations in the W National Park of Benin. *Fruits*, 65(1):11-19.
34. FANDOHAN B., ASSOGBADJO A.E., GLÈLÈ KAKAÏ R., KYNDT, T., SINSIN B. (2010). Quantitative morphological descriptors confirm traditionally classified morphotypes of *Tamarindus indica* L. fruits. *Genet Resour Crop Evol*, DOI 10.1007/s10722-010-9575-3.
35. FANDOHAN A. B., ASSOGBADJO A. E., GLELE KAKAÏ R., KYNDT T., EMMY D.C., CODJIA J.T.C., SINSIN B. (2010). Women's Traditional Knowledge, Use Value and the Contribution of Tamarind (Tamarindus indica L.) to Rural Households' Cash Income in Benin. *Economic botany.* DOI. 10.1007/s12231-010-9123-2.
36. OUMOROU M., SINANDOUWIROU T., KIKI M., GLELE KAKAÏ R., MENSAH G., SINSIN B. (2010). Disturbance and population structure of *Vitex doniana* Sw. in northern Benin, West Africa. *International journal of biological and chemical sciences,* 4(3): 624-632.
37. ASSOGBADJO A. E., GLÈLÈ KAKAÏ R., SINSIN B., PELZ D. R. (2010). Structure of *Anogeissus leiocarpa* Guill., Perr. Natural stands in relation to anthropogenic pressure within Wari-Maro Forest Reserve in Benin. *African journal of ecology*, 48(3): 644–653.

Year 2009

38. GLÈLÈ KAKAÏ R., PELZ D. R., PALM R. (2009). Relative efficiency of non parametric error rate estimators in multi-group linear discriminant analysis. *African Journal of Mathematics and Computer Science Research*, 2(10): 218-224.
39. GLÈLÈ KAKAÏ R., PALM. R. (2009). Empirical comparison of error rate estimators in logistic discriminant analysis. *Journal of Statistical Computation and Simulation*. 79(2): 111-120.
40. GLÈLÈ KAKAÏ R., SINSIN B. (2009). Structural description of two *Isoberlinia* dominated communities in the Wari-Maro forest reserve (Benin). *South African Journal of Botany*, 75(1): 43-51.

41. BONOU, W. GLÈLÈ KAKAÏ R., ASSOGBADJO A. E., FONTON H.N., SINSIN B. (2009). Habitat Characterization of *Afzelia africana* Sm. In the Lama forest reserve (Bénin). *Forest ecology* and *management*. 258: 1084–1092.
42. SOUNON M., GLELE KAKAÏ R., AVAKOUDJO J., SINSIN B. (2009). Tests de germination et de croissance de *Artemisia annua* L. *anamed* sur différents substrats au Bénin. *International journal of biological and chemical sciences*, 3(2): 337-346.
43. COMLAN H., GLÈLÈ KAKAÏ. R., ASSOGBADJO A. E., ODJO T., SINSIN B. (2009). Test de la germination des graines de C*aesalpinia bonduc* (l.) Roxb au Bénin. *International journal of biological and chemical sciences*, 3(2): 310-317.
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45. ASSOGBADJO A. E., AMADJI G., GLÈLÈ KAKAÏ R., MAMA A., SINSIN B. (2009). Evaluation écologique et ethnobotanique de *Jatropha curcas* L. au Bénin. *International Journal of Biological and Chemical Sciences*, 5(3): 1065-1077.
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Year 2005

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Year 2003

58. GLÈLÈ KAKAÏ R., PIRAUX F., FONTON N, PALM R. (2003). Comparaison empirique des estimateurs de taux d'erreur en analyse discriminante, *Rev. Stat Appl.* 51 (2) : 91-104.

Year 2002

59. FONTON N. H., GLÈLÈ KAKAÏ R., RONDEUX J. (2002). Etude dendrométrique de *Acacia auriculiformis (Cunn A.)* en mélange sur du vertisol au Bénin. *Biotechnol. Agron. Soc. Environ.* 6 (1) : 29-37.

CONSULTANCY

- Expert statisticien dans l'étude relative à l'estimation des besoins en bois-énergie des grands centres de consommation au profit du PGFTR ; PGFTR, 2006 (Cabinet EAR-Development).
- Expert statisticien pour le traitement des données relatives à la caractérisation morphologique des arbres de baobab (Adansonia digitata) et de leur capsules dans la sous-région Ouest Africaine (Bénin, Sénégal, Burkina Faso, Mali), Université de Ghent, Belgique, 2009
- Expert statisticien dans Evaluation des dégâts occasionnés par Helicoverpa armigera dans les exploitations cotonnières du département de l'Alibori au cours de la campagne 2008-2009. Ministère de l'Agriculture de l'Elevage et de la Pêche, 2009
- Expert statisticien dans l'analyse des tendances de la production cotonnière au Benin. Ministère de l'Agriculture de l'Elevage et de la Pêche, 2007
- Expert statisticien dans l'étude relative à la réalisation de l'étude ethnobotanique des forêts classées de Tchaourou–Toui-Kilibo au profit du PGFTR. PGFTR, 2008, Cabinet CIDEV.
- Expert biométricien de l'atelier des formations des jeunes chercheurs de l'Afrique de l'Ouest à la rédaction des protocoles de recherche sur les cultures négligées.

SELECTED COMMUNICATIONS AND SYMPOSIUMS

1. 21-23 November, 2011: *22nd General meeting of the academy of sciences for the developing world*, Trieste, Italy. Presentation: Estimation of the density of recruitments in tropical dense forest: efficiency of inventory plots patterns.
2. June 2010: 21st *annual session of The International Environmetric Society (TIES/ISI)*, Margarita Islands, Venezuela with paper presentation on Characterization of the habitat of an endangered species (*Afzelia africana* Sm.) in the Lama Forest reserve (Benin, West Africa), 20-25 June, 2010.
3. 20-22 October 2010: *International and interdisciplinary conference on food, medicinal and cosmetic plants in sahelian zones*. Paper presentation: Indigenous knowledge and diversity of wild fruit trees in agroforestry systems of Bénin), Dakar, 20-22 October.
4. August 2009: *57th session of International Statistical Institute (ISI)*, Durban, South Africa with paper presentation on Relative efficiency of non parametric error rate estimators in multi-group linear discriminant analysis, 16 – 22 august, 2009.
5. August 2007: *56th session of International Statistical Institute (ISI)*, Lisboa, Portugal with paper presentation on Data driven choice of a classification rule in discriminant analysis,22 – 29 august, 2007.
6. April 2005 : *55th session of International Statistical Institute (ISI)*, Sydney, Australia with paper presentation on Relative Performance of Error Rate Estimators in Linear, Quadratic and Logistic Discriminant Analysis, 5 – 12 april, 2005.
7. February, 2005: *100 year of Agricultural research in Benin*, Niaouli, Benin, with paper presentation: Utilisation des mathématiques et statistiques en agriculture, 14 – 18 February, 2005.
8. May, 2004 : *36ème journées françaises de statistiques*, Montpellier, French, with paper presentation on Performance relative des règles linéaire, quadratique et logistique en analyse discriminante, 24 – 28 may, 2005.

9. July 2002*: 21th International Biometric Conference* (IBC), 2002, Freiburg, Germany, with paper presentation: Error rates estimation in linear discriminant analysis**,** 21 - 26 July, 2002.

Theses

1. GLÈLÈ KAKAÏ R. (2005). Comparaison empirique des règles de classement et des estimateurs des taux d'erreur en analyse discriminante. PhD thesis. Gembloux Agricultural University, Gembloux, 202p.
2. GLELE KAKAÏ R. (2001). Estimation des taux d'erreur en analyse discriminante. MSc Thesis. Gembloux Agricultural University, Gembloux, 73p.
3. GLELE KAKAÏ R. (2000). Etablissement d'une table de cubage de *Acacia auriculiformis* au Sud-Bénin, Mémoire d'Ingénieur Agronome, FSA/UAC, Abomey-Calavi, 110 p.

COMPUTER SKILL

Word Processing: Microsoft office (Word, Excel, Powerpoint, Frontpage, Access).
Statistical Software: SAS, Minitab, SPSS, STATISTICA, R, GENSTAT. SAS Software is the most used.
Statistical Language: SAS, MATLAB, MINITAB.

LANGUAGE SKILLS

French (fluent in spoken, reading and written)
English (fluent in written and reading, working notion in spoken).
Fon (Mother tongue).

CV of IT Consultant

Identity

Surname:	AKPONA
Forename(s):	Adéyèmi Christian
Nationality:	Beninese
Family Status :	Bachelor with no children
Date of birth:	16 Août 1986 in Cotonou
Sex:	Male
Postal address:	BP. 613 Porto-Novo / IMSP
Email:	christian.akpona@imsp-uac.org
Phone:	(+229) 97297111 / 95148592
Skype address:	christianakpon

Graduation diplomas

- **October 2012** : Master's in Computer Science and Engineering and Applied Sciences – Major : Networks and Information Systems
  Institut de Mathématiques et de Sciences Physiques, University of Abomey – Calavi
- **October 2006 – August 2009** : **BA in Management Information Technology (WITH DISTINCTION)**
  Ecole Nationale d'Economie Appliquée et de Management, University of Abomey – Calavi.
- **October 2005 – July 2006** : Undergraduate in Physics and Chemistry
  Faculté des Sciences et Techniques, Université of Abomey – Calavi.

August 2005: Baccalaureate (Biology-Maths-Physics) (with Honours)
Collège OKPARA - Parakou

- **June 2001**: Brevet **d'Etude du Premier Cycle (BEPC)**
  Collège OKPARA - Parakou
- **June 1997** : **Certificat d'Etude Primaire (CEP)**
  Complexe Polytechnique Dally Makagnon – Cotonou Kpondéhou

Certificates

- Attestation de formation en « Imagerie et Interface en Java » , Ecole Polytechnique Fédérale de Lausanne
- Attestation de participation au concours régional de programmation organisé par ICPC (International Collegiate Programming Contest) et sponsorisé par IBM.
- Attestation de formation en Maintenance informatique par SUPERMAN INFORMATIQUE.
- Attestation de fin stage en Gestion Electronique des Documents(GED).

Expériences professionnelles

- July 2011 to-date : Executive Director, *Innovation Nouvelle Technologies* (INT Expert) , Cotonou

- **2011** : Member of the Examination board for the Advanced Vocational Training Certificate (BTS) , Cotonou
- **December 2009- May 2010** : Traineeship in GED-TECHNOLOGIES, Cotonou,
- **Aug. 2009** : College in-training period with **Africaine Vie** followed by a dissertation : ***"Establishment of an information system for the preparation of Africaine Vie transfer deeds"*** and creation of the «SIAVie» application.
  Language used : Java **Dbase software :** ORACLE 10 g
- **March 2009** : Creation of the application «TransitChrono» for the "OTOLA Services" firm.
  Language used : Visual Basic 6 **Dbase software :** MySQL
- **August 2008** : College in-training period with **Agence Bénin Presse (ABP)** followed by the preparation of a paper : «***Automated management of car fleet***» and creation of the «GESTPARC» application.
  Language used : Visual Basic 6 **Dbase software :** Microsoft Access

Cross-cutting experiences

- Lecturer at the ESTB-Benin Telecom: C language - Java - Office Suite
- Lecturer at HEGI (School of Business and Industry): Software Design
- Development of a phone booth management software (PhoneBilling) running on VOIP (Africacalls).
- Promoter of VOIP telephony software (VoipSoftClient) Africacalls society in Benin.
- Development of the enrolment and accounting software at the of nursery and primary school "The Garden of Edilene"
- Development of Expert Website INT (www.intexpert.fr)
- Development of the AEI-Synergy website and the website of the firm "Smile development".
- Development of ISIX Engineering website.
- Development of Setsic website (www.setsic.com)
- Chairperson of the AEI-Synergy Club (Computer-Synergy Student Association) responsible for the organization of tutorials in Algorithms, Turbo Pascal to students the first year and the promotion of business computing sector in Benin

IT Skills

- Operating system : Windows (XP, Vista, Seven), Linux (Debian, Ubuntu)
- Development softwares : Microsoft Visual Basic 6.0, NetBeans(Java), DreamWeaver (HTML, PHP,CSS,JavaScript), Windev, Qt4(C++)
- Databases: ORACLE, MySQL, ACCESS
- Other softwares : EasyPHP, SWI-PROLOG, Office, Kile(Latex)

Language skills

- French : Fluent (spoken, read, written)
- Anglais : Fluent (read), working ability (spoken, written)
- Fon, Nagot: fluent

Reference persons:

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I certify on my honour the truthfullness of all information above.

Cotonou, 28 March 2012

Adéyèmi Christian AKPONA

ANNEX 3.
Terms of Reference of Key project personnel and consultants whose remuneration will be financed by ITTO

Position : Project coordinator		
Title	**Experience**	**Duties**
Forest Engineer, Master in forestry or equivalent	At least 10-year confirmed experience in administrative and technical management of forestry projects **And at least five years experience at the statistics at a forest statistics management position involving data compilation and the preparation of annual reports on the forest sector**	- Responsible for coordination of all Activities under the project work plan developed - Accountable to the Executing agency - Interfaces with ITTO through the preparation of project progress reports - Interfaces with collaborating structures - Responsible for project administration - Reports to the Cabinet and the Supervisory Board of the progress of project activities.
Poste : IT Consultant		
Title	**Experience**	**Duties**
Computer Engineer / database specialist	At least 10-year confirmed experience in Dbase management systems installation and applications	- To develop a database management system for forestry statistics - To plan the application development work - To defines the man / machine interfaces for the applications to be developed - To designs the user guides for applications - To reflect the data collection standards in the applications - To test the system - To validate the system - To provide training to systems users
Poste : Monitoring & Evaluation Officer		
Title	**Experience**	**Duties**
Forest engineer in charge of monitoring and evaluation (Forestry Engineer specializing in project planning and monitoring)	At least five year Professional Experience in management of forest statistics, monitoring and evaluation of projects	- To develop a detailed plan of activities for the project - To assist the Coordinator in the implementation of the project - To undertake monitoring and evaluation tasks on the implementation of the comprehensive plan - Activities following the SIS Focal Points and field-level activities - To collect data from other players outside the sector - To monitor the implementation of contracts and sub-contracts - To participate in the the project validation studies.

Poste : Forest Statistics Consultant		
Titre	**Expérience**	**Duties**
PhD or Master in Bio statistics and forestry	• At least 10-year demonstrated experience in : • Multivariate analyses • Forest inventories and assessments • Experimental design and statistical analysis of experimental data • • Methods of data collection in forestry	- To define the various information and data to be collected taking into account indicators of forest sector development and information needs of national and international stakeholders - To develop reliable data collection methods - To Take into account… - To train users in different application methods, - To contribute to the identification of elements to be included in the information system be implemente - To develop the format of data input and editing - To contribute to the development of the Statistical Yearbook.
Poste : Secretary / accountant		
Titre	**Expérience**	**Duties**
Holder of a Vocational Training Certificate in Secretariat, employed full-time)	Demonstrated experience as executive P.A and accounting	- To assist the Coordinator in secretarial duties - To performs data entry, editing, filing and storage of project documents; - To handle the editing of the minutes of meetings chaired by the Coordinator - To design the recording media of accounting and financial operations of the project - To record all accounting transactions on behalf of the project - To prepares the cash flow plan of the project - To prepare all documents for use in the audit of the project - To establish each year-end financial balance sheet.

ANNEXE 4 : EVALUATION DU PANEL ET POINT DE LA PRISE EN COMPTE DE SES RECOMMANDATIONS

PD 678/12 (M) **Establishment of a National Forest Statistics Information Management System in Benin**

Assessment by the Forty-fourth Panel

A) Overall Assessment

The Panel noted that the proposal was about establishing a national forest statistics information management system in Benin as a basis for strengthening the management of forest resources in the country. The Panel was of the overall opinion that the proposal had been soundly formulated and well written in virtually all of its parts and sections.

In its assessment of Part 1: Project Context, the Panel noted that it was adequate and well presented. Nevertheless, the Panel felt that the average degradation costs of 3-5 percent of the GDP should be substantiated.

On Part 2: Project Rationale, the Panel noted that it was well presented with a detailed stakeholder and problem analysis which were both logical, clear and consistent, leading to a concise logical framework matrix with clear development and specific objectives and an optimal number of outputs. However, the proposal could benefit from an elaboration of the role of the six forest inspectorates at the field level under sub-section 2.1.1 – Institutional set up and organizational issues. Furthermore, additional information and explanation were needed on how DGFRN would be able to implement the proposal with its forest staff not sufficiently trained in information collection and management. The furnishing of information on the composition of the working group which identified the proposal's stakeholders would also be useful while the breaking up of primary stakeholders (PS) 4 could further enhance the stakeholder analysis table. Similarly, the logical framework matrix could be improved by refining the indicator for the development objective to further strengthen the long-term impact of the proposal.

With regards to Part 3: Description of Project Interventions, the mere establishment of the PSC was not sufficient to be regarded as an activity and activity A.1.1 should therefore be deleted. Moreover, the inclusion of the PSC would be relevant only to those proposals with an ITTO budget component of at least US$400,000.00 and a duration of 24 months. Potential users of the system should also be involved in the proposal from the beginning of its implementation. Under the Workplan, activity A.3.1 should be scheduled at the commencement of the implementation of the proposal ahead of activities A.2.1 and A.2.2. The budget tables as presented were complete and comprehensive. However, it was doubtful that the proposed workshop under activity A.2.3. to train 600 data collectors could be achieved within the time and budget allocated. The budget for the printing and dissemination of the proposed forest statistics year book also appeared to be unrealistically low while the frequency for the meetings of the project technical committee (PTC) in place of the PSC should be reduced from six to two.

On Part 4: Implementation Arrangements, the proposal could benefit from a brief explanation of how DGFRN as the Executing Agency would be assisted in the implementation of the proposal by those agencies indicated in the proposal. The provision for the PSC should be changed into a PTC and a schedule for reporting, monitoring and evaluation should be provided. In examining the profile of the Executing Agency, the Panel noted that the annual budget allocated to DGFRN had sharply declined in recent years. An explanation for this reduction and its implication on the capacity of DGFRN to implement the proposal should be provided, too.

B) Specific Recommendations

To further enhance the proposal, the Panel recommended that it be revised in accordance with the overall assessment above and the following recommendations:

1. Substantiate the average degradation costs as a percentage of the GDP.
2. Elaborate the role of forest inspectorates at the field level.
3. Explain how DGFRN will be able to implement the proposal with its forest staff not sufficiently trained in information collection and management.
4. Provide information on the composition of the working group, which identified the proposal's stakeholders.
5. Break up the primary stakeholders (PS) 4 in the stakeholder analysis table.
6. Refine the indicator for the development objective.
7. Delete proposed activity A.1.1.
8. Provide for the involvement of the potential users of the system from the beginning of the implementation of the proposal.
9. Reschedule activity A.3.1 at the commencement of the implementation of the proposal ahead of activities A.2.1 and A.2.2.
10. Review activity A.2.3 and the budget allocated for the printing and dissemination of the proposed forest statistics yearbook.
11. Reduce the frequency for the meetings of the PTC from six to two.
12. Provide brief explanation of how DGFRN as the Executing Agency would be assisted in the implementation of the proposal by other agencies indicated in the proposal.
13. Substitute the provision for the PSC with a PTC.
14. Explain the reduction in the annual budget for DGFRN and its implication in the capacity of DGFRN to implement the proposal.
15. Include an Annex that shows the overall assessment and specific recommendations of the Expert Panel and respective modifications in tabular form. Modifications should also be highlighted (**bold and underline**) in the text.

C) Conclusion

Category 1: The Panel concluded that the proposal could be commended to the Committee with the incorporation of the above amendments.

REVIEW OF AMENDMENTS INCORPORATED TO THE PROPOSAL IN RESPONSE TO THE RECOMMENDATIONS FROM THE EXPERT PANEL

Recommendations by the Panel	Respective amendments
1. Substantiate the average degradation costs as a percentage of the GDP	According to a study undertaken by MEHU in 2002, environmental degradation costs on average 3 to 5% of GDP and its main causes are as follows: - Soil erosion 42%, - forest clearing for arable land 17%, - pollution 14%, - declining soil fertility 12%, - flooding 10%, - loss of fishery resources 3%. A review of these data shows that around 50% of these costs are caused by forest resources and plant cover degradation.
2. Elaborate the role of forest inspectorates at the field level.	Forest Inspectorates are the decentralised services of the Forestry Administration. In that capacity their remit is as follows: - To implement the forestry programme at the *Departement* (administrative district) level, - To be involved in the forest and wildlife resources inventory, - To undertake the monitoring of forest use and hunting and to ensure that the ecological

Recommendations by the Panel	Respective amendments
	balances are conserved, - To enforce forest and wildlife-related regulations, - To contribute to the development and dissemination of technological packages for natural resource management, - To manage and facilitate reforestation campaigns, - To ensure information and training opportunities for producers, private and public stakeholders and local communities regarding laws and regulations relating to forest and natural resources, - To issue licences for forest product use and trade, - To contribute to monitoring and evaluation and to prepare progress reports on forest resource management.
3. Explain how DGFRN will be able to implement the proposal with its forest staff not sufficiently trained in information collection and management.	To implement this project and achieve expected results, DGFRN will seek the services of consultants with a proven experience as trainers in forest data collection and management to provide training to its personnel. As it is, the training of DGFRN personnel in information data collection and management is one major need to be addressed by the project. In addition, training activities will be supported by monitoring and evaluation activities. Therefore when the personnel will be adequately trained and equipped, information data collection will be expected as a reliable and sustainable process.
4. Provide information on the composition of the working group, which identified the proposal's stakeholders.	The Working Group membership includes DGFRN executives (Division Managers, Department Managers, Inspectorate Managers and Technical Directors), the representatives of projects and programmes reporting to the Centers and the Timber Office Board
5. Break up the primary stakeholders (PS) 4 in the stakeholder analysis table	Timber producers, Forest users/ /logging companies, Timber traders, Timber industrialists
6. Refine the indicator for the development objective	By project completion date, reliable information on the management, production, use and trade of forest resources are available, By project completion date, the contribution of the forest sector to the national economy is known, By project completion, at least one decision regarding sustainable forest resource management has been taken based on statistical information data.
7. Delete proposed activity A.1.1.	Activity reformulated.
8. Provide for the involvement of the potential users of the system from the beginning of the implementation of the proposal.	Potential users of the system will be involved from the start of the project implementation process (a project launching workshop and a mutual consultation meeting).
9. Reschedule activity A.3.1 at the commencement of the implementation of the proposal ahead of activities A.2.1 and A.2.2.	Activity rescheduled.
10. Review activity A.2.3 and the budget allocated for the printing and	Activity reviewed and budget increased.

Recommendations by the Panel	Respective amendments
dissemination of the proposed forest statistics yearbook.	
11. Reduce the frequency for the meetings of the PTC from six to two.	The number of PTC meetings has been cut down to two.
12. Provide brief explanation of how DGFRN as the Executing Agency would be assisted in the implementation of the proposal by other agencies indicated in the proposal.	CENAGREF will contribute to the implementation of the project by nominating a focal point whose capacities will be further developed. In return CENAGREF will provide relevant information on the management of forest resources in the two national parks. ONAB too will provide the project with a focal point whose capacities will be further developed. In return ONAB through its focal point will feed the system with data on the management, production, use and marketing of State forests plantation resources under its Authority. INSAE is a key project partner which will support DGFRN to evaluate the annual contributions of the forestry sector to the national economy. It is the structure having the authority to disseminate official data on the various sectors of economic activities.
13. Substitute the provision for the PSC with a PTC.	Recommendation addressed.
14. Explain the reduction in the annual budget for DGFRN and its implication in the capacity of DGFRN to implement the proposal	This budget represents the amount allocated by the State to DGFRN through MEHU. The reducing annual DGFRN budget could be explained by the impact of the economic and financial crisis in recent years. But it should be noted that this amount does not include payroll staff nor the national counterpart budgets to on-going projects and programmes in this area and it doesn't include some special expenditures. Annual budget cuts have had no bearing on the capacity of DGFRN to implement this project. Rather, the reduction of financial resources allocated to the DGFRN drives the latter to seek additional funding until the state budget improves.
15. Include an Annex that shows the overall assessment and specific recommendations of the Expert Panel and respective modifications in tabular form. Modifications should also be highlighted (**bold and underline**) in the text.	Recommendation addressed.