



2009 ANNUAL REPORT



Strengthening partnerships for sustainable
improvement of Agriculture in West and Central Africa



Producers and End-Users at the Centre of Agricultural Research

Conseil Ouest et Centre Africain
pour la Recherche et le Développement Agricoles



West and Central African Council
for Agricultural Research and Development

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CORAF/WECARD

Conseil Ouest et Centre Africain
pour la Recherche et le Développement Agricoles

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SUMMARY



2009 Annual Report of CORAF/WECARD

Strengthening partnerships for sustainable
improvement of Agriculture in West and Central Africa

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ABBREVIATIONS AND ACRONYMS

AAA

AATF, African Agriculture Technology Foundation
AfDB, African Development Bank
AgSSIP, Agricultural Services Sub-Sector Investment Project, Ghana
Africa Rice, Africa rice Center
AUC, African Union Commission
AVRDC, Advanced Vegetable Research and Development Centre
ARM, Agricultural Research Management
ARI, Animal Research Institute, Ghana
ASARECA, Association for Strengthening Agricultural Research in Eastern and Central Africa
AusAID: Australian Agency for International Development

BBB

BDS, Business Development Services
BMZ, Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
BNARI, Biotechnology Nuclear Agricultural Research Institute, Ghana

CCC

CAMES, Conseil Africain et Malgache de l'Enseignement Supérieur
CARBAP, Centre Africain de Recherche sur les Bananes et Plantains
CAADP, Comprehensive Africa Agriculture Development Programme
CAAPP, Central Africa Agricultural Productivity Program
CDB, Convention sur la Diversité Biologique
CERAAS, Centre d'Etude Régional pour l'Amélioration de l'Adaptation à la Sécheresse
CGIAR, Consultative Group for International Agricultural Research
CIFOR, Centre for International Forestry Research
CILSS, Comité permanent Inter-états de lutte contre la sécheresse au Sahel (Permanent Interstate Committee on Drought Control in the Sahel)
CIRAD, Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CIRAF, International Centre for Research in Agroforestry, ICRAF
CIRDES, Centre International de Recherche-Développement sur l'Élevage en Zone Sub-Humide
CMA/AOC, Conférence des Ministres de l'Agriculture/Afrique de l'Ouest et du Centre
CNRA, Centre National de Recherche Agricole, ISRA (Sénégal)
CORAF/WE CARD, Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles
West and Central African Council for Agricultural Research and Development
CRAL/DGRST, Centre de Recherche Agricole de Lidouma / Délégation Générale Recherche Scientifique et Technique)
(Lidouma Agricultural Research Centre/Directorate-General for Scientific and Technical Research)

IRD CI, International Research Development Centre (*IDRC*)
CRI, Crops Research Institut, Ghana
CTA, Centre Technique de Coopération Agricole et Rurale
CSIR, Council for Scientific and Industrial Research, Ghana
ACP, Afrique, Caraïbes, Pacifique

DDD

DFID, Département Britannique pour le Développement International (*Department for International Development*), Royaume uni)
DONATA, Dissemination of New Agricultural Technologies in Africa
DHS, Distinction, Homogénéité et Stabilité
DREAM, Dynamic Research Evaluation for Management

EEE

ELAT, Ecole de Lutte Anti-Tsétsé
ECCAS, Economic Community of Central African States
ECOWAS, Economic Community of West African States
ECOWAP, Economic Community of West African Policy
EMBRAPA, Brazilian Agricultural Research Institute
ES, Executive Secretariat

FFF

FAAPP, Framework for Africa Agriculture Productivity Programme
FAO, Food and Agriculture Organization of the United Nations
FARA, Forum for Agricultural Research in Africa
FASDEP, Revised Food and Agricultural Sector Development Policy
FORIG, Forestry Research Institute of Ghana
FRI, Food Research Institute, Ghana

GGG

GA, General Assembly
GB, Governing Board
GCARD IARC, The Global Conference on Agricultural Research for Development International Agricultural Research Center
GAEC, Ghana Atomic Energy Commission
GeRiCo, Gestion des Insectes Ravageurs du Cotonnier

III

IAR4D, Integrated Agricultural Research for Development
IAR, Institute for Agricultural Research, Ghana
GCARD IARC, The Global Conference on Agricultural Research for Development International Agricultural Research Center
ICRISAT, International Crop Research Institute for the Semi-Arid Tropics
IFAD, International Fund for Agricultural Development
IFPRI, International Food Policy Research Institute
IITA, International Institute of Tropical Agriculture

ABBREVIATIONS AND ACRONYMS

ILRI, International Livestock Research Institute
INERA, Institut de l'Environnement et de Recherches Agricoles
INRAB, Institut National de Recherche agricole du Bénin
IWMI, International Water Management Institute
INRAN, Institut national de recherches agricoles du Niger
INSAH, Institut du Sahel (Sahel Institute)
ISRA, Institut sénégalais de recherches agricoles
ITA, Institut de Technologie Alimentaire
ITRA, Institut togolais de recherches agricoles

KKK

KKM/PLS, Kano-Katsina-Maradi/Pilote Learning Sites

MMM

MDG, Millennium Development Goals
MDTF, Multi-Donor Trust Fund
MoU, Memorandum of Understanding
MTOP, Medium Term Operational Plan

NNN

NAIP, National Agricultural Investment Program
NARI, National Agricultural Research Institute
NEPAD, New Partnership for Africa Development
NARS, National Agricultural Research System
NGO, Non Governmental Organization

OOO

OP, Operational Plan
OPRI, Oil Palm Research Institute, Ghana

PPP

PADBBAO, Action Plan for Biotechnology and Biosafety Development in West Africa
Regional Strategic Analysis and Knowledge Support System
PARAO, Programme d'Appui à la Recherche agricole en Afrique de l'Ouest
PGRRI, Plant Genetic Resources Research Institute
PRASAC, Pôle Régional de Recherche Appliquée au Développement des Savanes d'Afrique Centrale
PROCORDEL, Programme Conjoint de Recherche sur l'Élevage en Afrique de l'Ouest
PR-PICA, Programme Régional de Protection Intégrée du Cotonnier Africain

RRR

RAILS, Regional Agricultural Information and Learning Systems
RAIP, Regional Agricultural Investment Program
REC, Regional Economic Community
ROCARIZ, Réseau Ouest et Centre Africain du Riz
ROCAREG, Réseau Ouest et Centre Africain des Ressources Génétiques
ROCARS, Réseau Ouest et Centre Africain de Recherche sur le Sorgho

SSS

SCARDA, Strengthening Capacity for Agricultural Research and Development
SRO, Sub-regional Organization
SAED, Société Nationale d'Aménagement et d'Exploitation des Terres du Delta du Fleuve Sénégal
SIG, Système d'Information Géographique
SFT, Sols Ferrugineux Tropicaux
SSA-CP, Challenge Programme Afrique Sub-Saharienne (*Sub-Saharan Africa Challenge Programme*)
SADC, South African Development Community

TTT

TTCU, Tsetse and Trypanosomiasis Control Unit

UUU

UEMOA, Union Economique et Monétaire Ouest-Africaine
UPOV, Union Internationale pour la Protection des Obtentions Végétales
URBIO, Unité de Recherche en Biologie
URPAN, Unité de Recherche sur les Productions Animales
USDA, United States Department for Agriculture
USAID, United States Agency for International Development

WWW

WACIP, West African Cotton Improvement Programme
WAFSA, West African Fertilizer Alliance
WARDA/ADRAO, West Africa Rice Development Association
WASA, West Africa Seed Alliance
WCA, West and Central Africa
WAAPP, West Africa Agricultural Productivity Programme
WECAMAN, West and Central Africa Collaborative Maize Research Network
WRI, Water Research Institute, Ghana

MESSAGE OF THE EXECUTIVE DIRECTOR

Massive mobilization of CORAF/WECARD Actors and Partners

During the year 2008, CORAF/WECARD imprinted pathways of sustainable agriculture with the launching of the first activities for the implementation of its operational plan 2008-2013. In 2009, these pathways served as a base for strengthening institutional capacity, broadening its scientific and financial cooperation, generating and transferring agricultural technologies and coordinating agricultural research in West and Central Africa.

In this same year, we noted success in the implementation of the institutional change management program, as enshrined in the operational plan 2008-2013 through the training of members of the Executive Secretariat (ES), the Governing Board (GB) and several stakeholders of the national agricultural research systems of our institution.

As such, we are pleased to report and highlight the reinforcement of the Executive Secretariat with the recruitment of the new Director of Programs and four Program Managers for Livestock, fishing and aquaculture; Policy, Markets and Trade; Natural resources management; Knowledge management and Capacity Strengthening. The contribution of CORAF/WECARD to the implementation of the Comprehensive Africa Agriculture Development Program - CAADP on which our strategy is aligned, was realized through conducting several activities initiated with the regional economic communities, FARA, 7 out of the 8 research programs, and via several other regional initiatives on specific projects. In this regard, it is a pleasure for me to cite the following major achievements: the development of the component "Sustainable development of agricultural holdings" of the Agricultural Investment Program in West Africa, support to 7 countries of ECOWAS to adhere to the West Africa Agricultural productivity Program (WAAPP) in Mali, Senegal and Ghana. It pleases me also to add, the participation of CORAF/WECARD to national round tables in many countries which were organized during the signing ceremony of the country compact, sensitization together with FARA, the political authorities of the countries of Central Africa on progress on CAADP Pillar IV in the sub-region.

The diversification of the scientific and financial partnership which was an area of concentration of the efforts of the Executive Secretariat, resulted in signing a cooperation agreement with CIRAD, Centre for international cooperation in agricultural research for development cooperation.



With the IFDC, International Centre on Soil Fertility and Agricultural Development, CORAF/WECARD is now member of the Steering Committee of the MIR +, project on regional markets for agricultural inputs" and coordinator of the research component of the project on the promotion of innovations and the facilitation of access to agricultural inputs.

The research activities of the 7 operational programs were conducted through the financial support of the Department for International Development (DFID) in Great Britain, United States Agency for International Development (USAID) in the United States, the African Development Bank (AfDB) through FARA, the International Development Research Centre (IDRC), ECOWAS and grants from countries through WAAPP.

Although it was not possible to finalize the establishment of the multi donor trust fund MDTF, which was expected to be fed by DFID and the European Union resources, consultations in 2009 helped to secure the funds of the EU for the year 2010. Furthermore, consultations also helped to secure funding for 2010 from the Australian Agency for International Development (AusAID).

We continually remain thankful to all these partners for their renewed support to CORAF/WECARD, which has enabled the progressive implementation of its operational plan.

MESSAGE OF THE EXECUTIVE DIRECTOR

There has been consolidation of the information and communication system of the institution; through the restoration of a rich website, a new design, and new topics leading to increase in the number of visitors from 350 to 1200 per month.

Similarly, new mailing lists were created; relations with the press were strengthened, with the launching of the platform on exchanging information with the press which is a forum for exchange and capacity strengthening of media professionals in the field of research and agricul-

tural development. The monthly newsletter coraf Echo and the quarterly newsletter coraf Action were produced and published regularly, during the year 2009.

This report, like those of previous years, since 2004, puts emphasis on the presentation of a national agricultural research system, hence that of Benin is presented in the annual report of 2009. It includes several stakeholders and has as focal institution, INRAB, the “Institut National des Recherches agricoles Bénin”, that the reader will discover.

Dr Paco Sérémé



ZOOM



CHANGE MANAGEMENT AT CORAF/WECARD

Numerous achievements

CORAF/WECARD's Strategic and Operational Plans adopted by the General Assembly in May 2007 incorporates the organizational, programming and structural reforms of the institution. The institutional reform process will facilitate the attainment of the four results of the Strategic and Operational Plans towards the accomplishment of CORAF/WECARD's mission.



Participants during a change management workshop

Why Change Management ?

The institutional reform at CORAF/WECARD is justified by the need to conform to the new principles of the African Union's CAADP and the policies as well as the guidelines of the FAAP; the need to deal with issues relating to poverty reduction and more directly with sustainable food security; the need for the deployment of the 1AR4D with special emphasis on small holder farmers and the new roles of CORAF/WECARD as defined by the Regional Economic Communities (ECOWAS, CEEAC, UEMOA and CEMAC).

At the end of the institutional reform process several results are expected. The players and the partners of CORAF/WECARD expected healthy governance structures and instruments for a more effective implementation

of the Operational Plan, which should include the review of the manuals and statutes concerning governance in such a way that it will reflect the changes as proposed in the Operational Plan; the preparation of a Human Resource Management Manual (HRM); methods for mobilizing and managing financial resources.

To facilitate the implementation of the institutional reform process, a change management team, the IDL GROUP selected through tendering is assisting the Executive Secretariat and the Governing Board by ensuring that the process takes into consideration standardized methods and procedures for an effective management of the changes identified.

Major achievements

The reform process initiated since the adoption of the Operational Plan (2008-2013) has helped to achieve a number of results both at the organizational level and that of programmes management.

Change at the level of the ES

In 2009, several changes have been made at the ES level . New posts have been created and filled.

A **procurement specialist** was recruited in June 2009, as well as a **new Director of Programmes**. Also four managers were recruited for the Knowledge Management and Capacity Programme, the Livestock, Fisheries and Aquaculture Programme, the Policy and Markets Programme, and Natural Resource Management.

Before 2008, the offices of CORAF/WECARD covered a total area of 310.5 square meter. New offices covering an

area of 903.0 m2 were built in 2009 to host both the existing staff and the new employees recruited to fill the new posts, in addition to the additional parking space of 110 square meter, thus bringing the total area of the CORAF/WECARD premises to 1,213.5 square meter. To facilitate the management of activities, manuals have been prepared: programmes management manual, competitive funds management manual, administrative and financial procedures manual, monitoring and evaluation manual, environmental management framework.



Inauguration of the new offices block of CORAF/WECARD Headquarters by Mrs Rachel Lambert from DFID and Dr Simon ZOK, Chairman of CORAF/WECARD, December 7th 2009

7 workshops to create awareness about the reform process in 2009

In 2009, seven workshops on the institutional reform process were organized to build the competences of the actors and partners of CORAF/WECARD in change management, to give the participants a clear understanding of the changes required and to get them to support the major activities for the implementation of this reform.

The trainers from the IDLGROUPE were the facilitators at these sensitization sessions.

John Sutherland, the lead trainer and his colleagues from the IDLGROUPE held discussions with the Directors General, the Scientific Directors and the officials of the agricultural private sector, NGOs operating in the agricul-

tural sector and representatives of producers organizations, staff of the Executive Secretariat, as well as members of the Governing Board.

The workshops helped to develop and strengthen the key competences of the actors and partners, with the view of enabling them to plan, manage and communicate more effectively among themselves..

For the staff of the Executive Secretariat, these training sessions helped them to acquire new skills that will help them to easily support the actors within the NARS.



The Development partners during 2009 december GB session praise the progress made by CORAF/WECARD in the Change management Process

Progress in reforms praised by the Development Partners

After a year of support by the IDLGROUPE Firm to the Executive Secretariat in the implementation of the institutional reform process, the Department for International Development (DFID), the main financial backer of this process, sent a consultant to evaluate the implementation of the institutional reform at CORAF/WECARD. This evaluation was done from 1 to 4 December 2009. The report was presented by Mrs. Rachel Lambert, head of the Agricultural Research

team of DFID, at the 2nd session of the Governing Board held from 7 to 9 December 2009 in Dakar.

All the development partners appreciated the appropriation of the institutional reform process by the Executive Secretariat. They praised the good results obtained and expressed their optimism in CORAF/WECARD successfully implementing the change process.



WEST AFRICA AGRICULTURAL PRODUCTIVITY PROGRAMME (PPAAO/WAAPP)

Significant progress

A year after its launching on 21 March 2008, WAAPP has become operational both at the level of the three countries involved in the first phase, namely Senegal, Mali and Ghana, and at the end of the level of CORAF/WECARD which is in charge of its regional coordination. In spite of a difficult take-off, the conditions have been met in order to accelerate the programme's implementation process to achieve the anticipated results. The extension of the programme to other countries must also be noted.

Objectives of PPAAO/WAAPP

The PPAAO/WAAPP has the following main objectives: (i) The promotion of the growth of the agricultural sector by facilitating access of farmers and agro-industrialists to improved technologies in order to improve agricultural productivity and the competitiveness of Africa's agricultural products on the global market; (ii) Improvement in the living conditions of consumers, particularly those affected by extreme poverty, through the availability of agricultural products at competitive and accessible prices.

Its specific objectives are as follows :

- Produce and distribute improved technologies of priority crops in the sub-region (roots and tubers, rice, cereals, cotton, livestock, fruits and vegetables, etc);
- Put in place an electronic information system on agricultural technologies and a good regional coordination by CORAF/WECARD;
- Make the competitive fund system applicable;
- Make the Monitoring-Evaluation system operational at the national and regional levels.

CORAF/WECARD's mandate

To achieve these results, CORAF/WECARD, mandated by ECOWAS as the executing agency of WAAPP at the regional level, is responsible for the management, implementation of the coordination and monitoring of the efficiency of the technology dissemination mechanisms and the progression of the productivity indicators and the competitiveness of the agricultural sector in countries participating in WAAPP.



Participants during the WAAPP extension meeting to other ECOWAS members in Abuja

Major activities in 2009

Among the activities that marked the year 2009, are notably the conduct of the reference study in the three countries, the consultation meetings of the authorities in charge of the national and regional focal groups, and the regional consultations on the preparation on the preparation of the second series of the Adaptive Program Lending (APL) held in June and November 2009 in Abuja (Nigeria), at the ECOWAS headquarters. Also world noting are the meetings of the RSC organized concurrently with the monitoring tour with the Crops Research

Institute (CRI) in Kumasi, the validation workshop of the reference study on agricultural productivity in West Africa and the workshop on the harmonization of the financial procedures of WAAPP which was held on 29 October 2009.

The year 2009 was also marked by the third joint supervision mission of WAAPP (World Bank-CORAF/WECARD) which reviewed the activities of CORAF/WECARD and those of the three countries. At the wrap-up meeting of the supervision mission in which CORAF/WECARD participated, all the strengths and weakness noted in the project implementation were raised by the WAPP officials. This mission noted the progress achieved and made recommendations towards a better execution of the project.

After two years of effective implementation of the PPAAO/WAAPP, CORAF/WECARD's coordinating role enabled the countries to make significant achievements:

- Harmonization of legislative documents on pesticides and seeds within the ECOWAS zone;
- Setting up of national specialisation centres in Senegal, Ghana and Mali;
- Strengthening of regional collaboration ties through the mobility of researchers;
- Production of technologies on national and regional priorities upon request;
- Extension of WAAPP to other ECOWAS member countries



Major crops (dry cereals, rice and roots and tubers), in Senegal, Mali and Ghana

CORAF/WECARD IN 2009

Diversification and intensification of activities for the implementation of the 2008-2013 Operational Plan

From January to December 2009, CORAF/WECARD, through its Executive Secretariat, the Scientific and Technical Committee and the Governing Board, carried out several activities for the implementation of the Strategic Plan (2007-2016) and the Operational Plan (2008-2013). These activities also concern advocacy, cooperation, programmes, information and communication, governance and financial resource mobilization.

Advocacy and Cooperation

The year 2009 was marked by several advocacy and cooperation activities with the technical and development partners. The main purpose for these activities was to mobilize resources for the implementation of the Operational Plan (2008-2013).

Continental partners

Within the framework of the Comprehensive Africa Agricultural Development Programme (CAADP) of NEPAD, CORAF/WECARD participated in the CAADP inter-pillar meeting which was held in July 2009 and in the fifth session of the CAADP Partnership Platform (CAADP-PP) which took place in Abuja in November 2009. CORAF/WECARD was selected to lead the working group on improving the Mutual Responsibility System of CAADP. This system helps to ensure that the partners honor their respective commitment concerning the implementation of CAADP.

With **FARA**, in August 2009, CORAF/WECARD organized, for the West and Central Africa sub-region, an Information Day on the European Union's FP7 Africa Appeal, in collaboration with FARA.

In October 2009, CORAF/WECARD participated in the FARA/SRO retreat.

In November 2009, CORAF/WECARD and FARA, organized a workshop in Cameroon to sensitize the key stakeholders of CAADP Pillar IV in Central Africa and the role of CORAF/WECARD in coordinating initiatives such as the West Africa Agricultural Productivity Programme (WAAPP) financed by the World Bank.

Regional and sub-regional partners

With **ECOWAS**, the Executive Secretariat took part in all the activities organized in the sub-region, including (i) the signing of the majority of agreements for the National Agricultural Innovation Projects (PNIA); (ii) the validation and signing of technical and financial agreements for the Regional Agricultural Investment Programme (PRIA) in October and November 2009 respectively.

CORAF/WECARD, in collaboration with the World Bank, organized several activities linked with the West Africa Agricultural Productivity Programme (WAAPP).

UEMOA and CORAF/WECARD, in July 2009, designed a cooperative mechanism in the area of research agricultural development which fits well with UEMOA's Agricultural Policy Objectives and with CORAF/WECARD's Strategic Plan. Projects are being finalized to be implemented in 2010.

Development Partners

Advocacy with the development partners was intensified in 2009 and several positive reactions were received from the European Commission, the World Bank through the establishment of the Multi-Donor Trust Fund, USAID, AusAID, IDRC and ECOWAS.



Farmers expect more from the outputs of the cotton FSP Project

Scientific partners

CORAF/WECARD has diversified its scientific partnership, while strengthening the relations with existing partners.

ILRI

This partnership is aimed at strengthening the relations between ILRI and the NARS in the sub-region to facilitate research in several areas related to livestock by taking climate change into consideration. An agreement has been prepared and will be signed in 2010.

CIRAD

Subsistence Crop Initiative. CIRAD and CORAF/WECARD, supported by the AFD and IFAD, organized workshops and technical meetings in September, October and November 2009 on the following theme: "Improving food security and increasing agricultural revenue through the improvement of the value chains of pluvial staple crops in West and Central Africa." It was aimed at reviewing "the status of research on the major staple crops and the major constraints encountered as well as the scope of the progress achieved." This meeting hel-

ped to strengthen the collaboration between the NARS and their partners on the production of staple crops to improve food security and increase the revenue in west and Central Africa.

FSP on Coton. The sub-contract between CIRAD and CORAF/WECARD for the coordination of Component 1 of the "FSP Cotton Mobilization Project No. 2006-43," financed by the French Ministry of Foreign and European Affairs, was signed by the two parties in November 2009. This project will be implemented within the framework of the cooperation between CORAF/WECARD, CIRAD and UEMOA, based on the modalities of a wider collaboration on biosafety. The project will be launched in early 2010.

Signing of a cooperation framework agreement. CORAF/WECARD and CIRAD signed a cooperation framework agreement on 12 December 2009 in Dakar on developing agriculture in West and Central Africa.



Dr Gerard Mathéron, CIRAD DG and Dr Paco Sérémé, CORAF/WECARD ED during the convention signature between their organisation

CIBA. The main areas of collaboration in research-development and capacity building in the area of agricultural biotechnology between France (Agropolis-CIRAD-IRD), Brazil (EMBRAPA) and West and Central Africa (CORAF/WECARD) were identified at a workshop organized by CIBA in Montpellier, France, in October 2009. The main result of this meeting was the recommendation on the signing of a formal tripartite cooperation agreement between CORAF/WECARD, at a meeting at the INSAH/CILSS in Bamako in August 2009, agreed to cooperate in several areas. A cooperation agreement including an action plan and a budget is being finalized by WASA to formalize this partnership which will be integrated into the Staple Crops Programme financed by USAID.

WASA. Wasa and CORAF/WECARD conveyed to work together during a meeting at INSAH/CILSS in Bamako in August 2009. The finalisation by WASA of a cooperation framework with action plan and budget is ongoing.

WAFSA. In September 2009, CORAF/WECARD agreed to join the WAFSA alliance. This will involve mechanisms to improve the effectiveness of the players in soil improvement and the acquisition of inputs by small farmers. A cooperation framework agreement will be signed in 2010.

CTA. CORAF/WECARD and CTA pursued a scientific partnership through the coordination of a project aimed at capitalizing and transferring results of agricultural research for development in West and Central Africa. Following the meeting of the Consultative Committee of the CTA in November 2009, CORAF/WECARD is defining a strategy which will help to fully exploit the cooperation established with the CTA to be implemented in 2010.

AVRDC. During a meeting between the AVRDC and CORAF/WECARD in November 2009, specific actions were identified to strengthen the partnership.

IFDC. To respond to the challenges of the limited potential in national markets, for agricultural inputs in order to create a considerable dynamism and competitiveness, ECOWAS and UEMOA initiated “the Regional Market for Agricultural Inputs Project (MIR+)” which is coordinated by the IFDC. The inputs targeted by this project are seeds, fertilizer and plant protection products.

At the same ceremony for launching the project in Abuja, Nigeria in November 2009, CORAF/WECARD was assigned the role of member of the project Steering Committee and Coordinator of research activities of the Component 2 of the project related to “the promotion of innovations and facilitation of access to agricultural inputs.”



The numerous activities led by CORAF/WECARD with its scientific partners will contribute to improve agricultural development in WCA.

Information and Communication

Several activities were organized by the Information and Communication Department of CORAF/WECARD, mainly to enable the institution and its activities to be known, and to contribute to the dissemination of knowledge through publications and the restoration of its website. In its support to the organization of the 2nd Agricultural Science Week and the 9th General Assembly scheduled to take place in Cotonou from 24 to 29 May 2010, the Department of Information and Communication has designed a portal on these events in order to share information.

The strengthening of relations between the players within CORAF/WECARD was concretized through the creation of several distribution lists : corafecho@coraf.org; railspf@coraf.org; ag2010@coraf.org; ca@coraf.org;

cts@coraf.org; pria@coraf.org. These distribution lists have contributed towards facilitating the collaboration and exchange of information between actors and partners of CORAF/WECARD.

To access knowledge related to activities and results of national, regional and international research accelerate the development process, the management of information and database technology has been an essential activity of the Information and Communication Department. In this perspective, the website has been reactivated with new features to better present CORAF/WECARD and its activities. The new site was put online in February 2009. The visits to the site have increased from 800 persons per month to 1600 persons since February 2009.

The rehabilitation of CORAF/WECARD's information network has been initiated to put in place a sub-regional system in 2010. Training on technical information systems (Php Projekt, Infosyst, eRAILS...) was given. The Staff of the Department were given training in technical information systems (Php Projekt, Infosyst, eRAILS...) in Germany and Ghana.

In the perspective of establishing a documentation centre, an inventory and classification of all the data was done with the Winsys database. CORAF/WECARD possesses more than 3,000 documentary data which will be digitized as from 2010 through Electronic Database Management [EDM].



Support of communication the programmes and projects took the form of media coverage of the majority of regional meetings and workshops. Communication plans on the SCARDA project and the Biotechnology and Biosafety Programme were prepared and implemented within the framework of activities of these programmes and projects.

Portals were created on WAAPP, the SCARDA project and the scientific journal on the DONATA Project and the Staple Crops Programme. "Agronomie Africaine" (Agronomy in Africa). Brochures were produced and edited. They will be printed in 2010.

The management of the RAILS Project also continued within the NARS and at the regional level with the acquisition of computer equipment for 5 countries (DRC, Cote d'Ivoire, Cameroon, Guinea and Ghana). Two workshops organized in Accra enabled the focal points to share their experiences.

A draft communication strategy for CORAF/WECARD adapted to the new Strategic and Operational Plans was

drawn up. It will be finalized in 2010.

In terms of Publications, 3 issues of the quarterly news bulletin, CORAF ACTION (50, 51 and 52) were published. Twelve issues of the monthly online bulletin, CORAF Echo, were published. The 2008 report of CORAF/WECARD was published. In 2009, an interactive CD Rom of the Annual Report was produced and it was appreciated by all the users. Support for the publication of the regional scientific journal, "Agronomie Africaine," led to the publication of three volumes: 20 (3), 21 (1), and 21 (2).

Several activities were organized to strengthen the visibility of CORAF/WECARD. The partnership with the Senegalese News Agency (APS) continued and information on CORAF/WECARD was regularly placed at the news agency's website (www.aps.sn). For the first time in a sub-regional institution, a platform for exchange of views with the national and international media professionals was launched and this enables journalists to exchange ideas with researchers and it contributes to build the capacity of journalists.

Governance

Throughout the year 2009, all the statutory meetings of CORAF/WECARD were held. The Governing Board held its two ordinary sessions, with the first taking place in Abuja, Nigeria from 25 to 26 May 2009, and the second session in Dakar from 7 to 9 December 2009.

The Scientific and Technical Committee held its extraordi-

nary session in Dakar from 13 to 15 July 2009 and its ordinary session from 22 to 24 October 2009. In 2009, the Executive Secretariat operated with a total staff strength of 29 persons including 5 executive officers of the management team and 10 senior officers, 3 middle-level officers and 11 employees constituting the support staff.

The leadership of the Executive Directorate, ensured the coordination of the implementation of the 2008-2013 Operational Plan through projects and programmes at the sub-regional level and within the NARS.

Several advocacy and cooperation activities were also organized in countries of the sub-region and at the international level. The 2010 Annual programme and related budget were prepared based on the Operational Plan: (i) appropriate technologies and innovations are developed; (ii) decisions are taken on policies, institutions and mar-

kets; (iii) the sub-region's agricultural research system is strengthened and coordinated; (iv) the demand for agricultural knowledge from users is satisfied. The Executive Secretariat served as a focal point for the Association's partners and actors; it ensured and coordinated the exchange of information between the member countries and institutions.

In 2009, CORAF/WECARD organized or participated in 69 workshops and meetings in the sub-region, Africa and the world.

Financial resource mobilisation

The mobilisation of financial resources in 2009 was intensive and it bore fruits. The promises made by the partners in 2008 were fulfilled in 2009 to ensure the implementation of the 2008-2013 Operational Plan.



Development partners ready to support CORAF/WECARD for its Operational Plan implementation



THE OPERATING STATEMENT OF THE EXECUTIVE SECRETARIAT OF CORAF/WECARD (IN THOUSANDS OF FRANCS)

Certified accounts

	2009	2008
RESOURCES		
Operating subsidies	2, 622, 732	1, 656, 364
NARS' contribution	20, 000	20, 000
Other products	154, 937	88, 671
Total of resources	2, 798, 669	1, 765, 035
INVESTMENTS AND CHARGES		
Programmes		
Activities of programmes	1, 863, 900	898, 789
Investments	2, 819	11, 369
Total for programmes	1, 866, 719	910, 158
Governance and management		
Organs of governance	100, 190	155, 522
Operation of the Executive Secretariat	584, 205	534, 346
Investments	56, 581	53, 997
Total for Governance and management	740, 976	743, 865
Other charges		
Depreciations and provisions	110, 638	51, 274
Total for other charges	110, 638	51, 274
Total of investments and charges	2, 718, 333	1, 705, 297
RESULT OF THE FISCAL YEAR	80 337	59, 738



Analyse du Compte d'exploitation

The operating statement of the fiscal year presents the means that have been mobilized during this period and the way these means have been used for the implementation of the institution's activities.

The norms, the methods for financial management and the standards for records keeping and presentation are the ones that are generally admitted at the international level. The financial statements of the period covered by this report have been audited and certified by the MAZARS - Senegal auditing firm.

The analysis of the financial partnership reveals a progressive diversification in funding sources. This is due to the efficient advocacy actions that have been conducted, on the one hand, and, on the other hand, to the restoration of confidence in CORAF/WECARD from its technical and financial partners resulting from the strengthening of institutional governance.

The consequence of this diversification in partnership is the increase in resources that amounts to CFA francs 2.8 billion compared to 1.7 billion in 2007, that is to say a 58.6% increase.

The activities of the programmes launched in 2008 are in net progress with the recruitment of the programmes managers, going from 900 million CFA francs in 2008 to 1.8 billion in 2009. They are however still below the volume planned in the Operational Plan. This tendency will be positively reversed with the launch of the competitive and commissioned projects.

Despite the significant progress achieved by the institution during the last years, the dialogue with the financial partners must be maintained as far as the increase in the volume of operations and the diversity of conditionalities are concerned for the harmonization and the strengthening of the National Agricultural Research System's fiduciary management system.



FISCAL YEAR 2009 AUDIT AND CERTIFICATION OF CORAF/WECARD

Accounts for the 2009 fiscal year, from January 1 to December 31, were audited and certified by the accounting firm MAZARS located in Dakar, Senegal.

ADRESSEE: Governing Board

Opinion Letter

We have audited the accompanying financial statements of West and Central African Council for Agricultural Research and Development (WECARD), which comprise the balance sheet as at December 31, 2009, and the income statement, statement of expenses by category for the year ended, and a summary of significant accounting policies and other explanatory notes.

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the OHADA accounting standards in force in Senegal. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing (ISA). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.

An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

In our opinion, the financial statements present fairly, in all material respects the financial position of West and Central African Council for Agricultural Research and Development (WECARD) as of December 31, 2009, and its financial performance for the year ended in accordance with the OHADA accounting standards in force in Senegal.

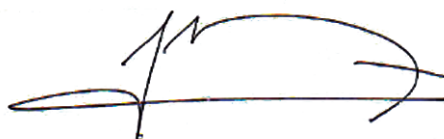
Without impacting our opinion expressed above, we wish to bring to your attention the following information:

The Board of directors of the WECARD having stopped annual accounts closed December 31st, 2007 had approached the question of the covering of the debts on the National Systems of Agricultural Research for member countries and a resolution granting a maximum deadline of two years to the debtor countries to reduce their debts was adopted.

In the term of this deadline expiring in the closing date of the exercise 2009, there are always debts in conformance with the contributions of the SNRA for an amount of 108 million FCFA.

By that time, only Ivory Coast, Guinea Conakry, Nigeria and Chad are up to date of their contributions.

Mazars Senegal : Taïbou MBAYE



Partner

Dakar, May 3rd 2010

MAJOR WORKSHOPS, MEETINGS AND MISSIONS

organised by CORAF/WECARD or in which it participated
in 2009

Statutory meetings

25 to 27 May 2009, Abuja. First session of the 2009 Governing Board.

13 to 15 July 2009, Dakar. Extraordinary session of the Scientific and Technical Committee.

20 to 23 October 2009, Dakar. 7th ordinary session of the Scientific and Technical Committee.

7 au 9 December 2009, Dakar. Second session of the 2009 Governing Board.

Change Management Workshops

24 to 26 April 2009, Saly Portudal, Senegal. Training Workshop on Change Management in CORAF/WECARD for NARS Actors

21 to 23 May 2009, Abuja. Governing Board Orientation Session on Change Management

22 to 24 June 2009, Dakar. NARS Trainers Training on Change Management

6 to 8 July 2009, Saly Portudal, Senegal. Regional Trainers Training Workshop on Change management

3 to 6 October 2009, Dakar. Training Workshop on Change Management in CORAF/WECARD for NARS Actors

06 to 09 November 2009, Dakar, Senegal. NARS facilitators training Workshop on Change Management

15 to 24 November 2009, Dakar, Senegal. Programmes Managers Workshop on Change management.

Meetings for the CAADP implementation

15 to 16 January 2009, Dakar. Launching workshop of the thematic 2 of PRIA by CORAF/WECARD

16 to 19 February 2009, Dakar. Information and planning meeting for the 15 countries and 16 leaders of the thematic groups on the ECOWAS Common Agricultural Policy.

26 to 27 February 2009, Abuja. Information and mobilisation meeting for development partners in the implementation of the ECOWAS Common Agricultural Policy.

Other Meetings on Advocacy and Cooperation

3 March 2009, Dakar. Visit by the official in charge of the agricultural sector of the Delegation of the European Commission to Senegal to the ES of CORAF/WECARD.

9 March 2009, Brussels. CORAF/WECARD, CARBAP and PRASAC to the European Commission.

5 to 6 March 2009, Accra. Workshop on resource mobilisation organised by FARA.

9 to 10 March 2009, Dakar. Working visit to AUS/AID by CORAF/WECARD.

11 to 15 March 2009, Cotonou. CORAF/WECARD mission to the Beninese authorities concerning the preparation of the 9th General Assembly scheduled to take place in the Beninese capital in 2010.

4 to 9 April 2009, Nairobi. Meeting of the Governing Board of the International Centre for Research in Agroforestry (ICRAF). CORAF/WECARD, a member of this Board is invited to attend.

7 April 2009, Ouagadougou. Consultation meeting of CILSS, UEMOA and ECOWAS on harmonising initiatives on Biosafety. CORAF/WECARD will be represented.

10 to 11 April 2009, Dakar. Workshop to launch the sub-programme «Institutional building for the implementation of the ECOWAS common Agricultural Policy» with support from ECOWAS and CORAF/WECARD.

1 to 5 June 2009, Dakar. World Bank supervision mission to CORAF/WECARD within the framework of the WAAPP Programme.

1 to 17 June 2009, Dakar. Working session between a World Bank mission and the Executive Secretariat of CORAF/WECARD on the setting up of the Multi-Donor Trust Fund.

10 August 2009, Dakar. Working session between the director General of the International Institute on Livestock Research (ILRI) and the Executive Director of CORAF/WECARD and his close associates.

14 to 15 October 2009, Dakar. Working session with a delegation from AusAID.

14 to 16 October 2009, Dakar. Discussions with a delegation from CIRAD and the signing of a cooperation agreement.

20 to 25 October 2009, Yamoussoukro, Cote d'Ivoire. Meeting of experts, Ministers, partners and Heads of State of ECOWAS within the framework of the Regional Agricultural Investment Programme.

24 to 25 November 2009, Yaounde, Cameroun. Sensitisation session on CAADP Pillar IV for actors and partners in Central Africa.

12 December 2009, Dakar. Signing of a framework agreement on cooperation between CIRAD and CORAF/WECARD.

Scientific and Technical meetings

20 to 21 January 2009, Entebbe, Uganda. International consultation workshop organized by the Agricultural Science and Technology Initiative (ASTI).

20 to 23 January 2009, Banjul. Regional workshop for the official launching of the Regional Project on the Sustainable Management of the Endemic Ruminant Livestock in Africa (PROGEBE).

2 to 11 March 2009, Ouagadougou, Bamako and Abidjan. Monitoring and evaluation tour of the activities under the Disseminating New Agricultural Technologies in Africa Programme (DONATA).

4 to 10 April 2009, Bonn, Germany. Workshop for Managers of the RAILS Project at FARA and the Sub-Regional Organisations (OSRs).

27 to 30 April 2009, Accra. Workshop on the consolidation of communication strategies and the management of the SCARDA Programme.

24 to 26 June 2009, Abuja. WAAPP workshop for coordinators of beneficiary countries and the five future beneficiary countries.

13 to 17 July 2009, Accra. Second conference of the Africa Chapter of the International Association of Agricultural Information Specialists (IAALD).

20 to 25 July 2009, Cotonou, Benin. First technical preparatory mission for the 2010 General Assembly and the 2nd Agricultural Science Week of West and Central Africa.

29 July 2009, Dakar. Ceremony for the launching of the activities of the RDV of CORAF/WECARD, a forum for exchange and training of men and women of the media on agricultural research and development issues in Africa.

8 to 10 September 2009, Ouagadougou, Burkina Faso. Workshop on the preparatory phase of the operational intervention framework for developing a project on staple crops in West and Central Africa.

29 to 30 September 2009, Bamako, Mali. Regional workshop on management strategies of fruit flies organised by ECOWAS.

29 September to 3 October 2009, Nairobi, Kenya. Validation workshop of the 2009-2016 Strategic Plan of ASARECA's Livestock and Fisheries Programme.

9 to 13 November 2009, Bamako, Mali. Tour of the Communication Department of CORAF/WECARD to diagnose the communication systems for the implementation of the WAAPP communication strategy.

9 to 11 November 2009, Dakar, Senegal. Regional workshop on the launching of the project "Building the resilience of means of subsistence to reduce poverty in the semi-arid zones of West Africa (PLM)".

HIGH POINTS OF RESEARCH

The year 2009 witnessed the launching of all CORAF/WECARD's programmes and coordination of various programme activities, research projects and implementation of regional initiatives at the Executive Secretariat, in the operational Units and in the NARS.

Result 1. Appropriate technologies and innovations are developed

Livestock, Fisheries and Aquaculture Programme



Livestock, Fisheries and Aquaculture Programme started activities in 2009

The Programme Manager was recruited in mid-July 2009. Upon his arrival, he initiated this activity which aims, through a wide consultation of stakeholders, at analyzing constraints and defining research priorities (orientations, themes, sub-topics) and the implementation strategy for the development of the livestock,

fisheries and aquaculture sub-sectors in West and Central Africa. In that regard, a Concept Note was prepared and Terms of Reference were published for the recruitment of consultants at the websites of CORAF/WECARD and partner institutions.

Resource mobilization efforts resulted in the IDRC funding the project titled “Developing the resilience of livelihoods to alleviate poverty in semi-arid zones in West Africa”. This project aims at strengthening the resilience of small-scale farmers by advocating for mixed, sustainable and profitable dairy and market gardening production systems in semi-arid zones of West Africa. With a budget of CFAF 403,604,100 over a four-year period, the project will be implemented by the National Agricultural Research

Systems of Mali, Niger and Togo. CORAF/WECARD will be in charge of coordinating at regional level while ILRI will provide scientific support to the national research teams. The project launching took place in November 2009 in Dakar and provided the opportunity to develop a logical frame, a workplan (July 2009-June 2010) and a 4-year operational plan, as well as to readapt the budget to suit the activities.

Staple Crops Programme

Within the context of the Staple Crops Programme, three (3) commissioned projects funded by USAID were evaluated and launched between August and October 2009. These projects are implemented by divisions of the NARS in ten member states of CORAF/WECARD to address regional priority themes identified in collaboration with the main actors. They are:

1. Promotion of Striga-resistant Sorghum varieties to alleviate food crisis in the Sahelian zone (Senegal, Mali, Burkina Faso and Niger);
2. Promotion of the improved yam cutting technology (minisett) to improve productivity and reduce the reuse of tubers as seeds (Ghana, Nigeria, Togo and Benin);
3. Improvement of the quality of post-harvest aspects

and packaging of rice, sorghum/millet and cassava products to increase its marketing in West Africa (Ghana, Nigeria, Mali, Senegal, Burkina Faso, Liberia, Togo, Benin, Niger).

All three projects are implemented on the basis of projects commissioned for a two-year period. The choice of institutions to host the projects was based on the comparative advantages they had in the area of research and development projects coordination in the relevant areas. These institutions are: Institut d’Economie Rurale (IER) du Mali (Rural Economy Institute of Mali) coordinator of the first project. The project on the promotion of yam is coordinated by the National Root Crops Research Institute of Nigeria and the third by the Songhai Centre in Benin.



More projects for the staple crops development in WCA.

Three (3) conceptual notes were prepared by CORAF/WECARD according to the regional research priority areas identified in the framework of the Staple Crops Development Programme. Funded by the MDTF, three (3) appeals were made to member institutions. They addressed the following main themes:

- Integrated Crop Management Technologies to improve agricultural productivity of (1) maize, (2) Niebe and (3) plantain;
- Cereal storage, threshing and packaging technologies to reduce post-harvest losses and improve market quality of maize and niebe;
- Processing and packaging technologies to improve conservation period and marketing of maize and niebe.

Following a call for competitive funds research proposals initiated by the Staple Crops Programme, thirty (30) research project proposals were received from 14 NARS. These project proposals were evaluated in January 2010. Four (4) projects dealing with the improvement of productivity of (i) maize, (ii) niebe, (i) and plantain, as well as the processing of (i) maize and (ii) niebe were selected. These projects will be launched in May 2010.

In the context of partnership with CIRAD, there is an ongoing initiative to develop a project on staple crops, with the objective of improving the value chain of staple crops in order to achieve food security in West and Central Africa.

The extension of WAAPP to the other ECOWAS countries resulted in the drawing up of the Mano River Rice Programme with the objective of strengthening and extending regional cooperation in the area of technology generation and dissemination and training in regional priority products (rice) within the Mano River Union.

Finally, several other competitive fund projects addressing the three (3) main themes ((i) agricultural productivity improvement, (ii) input use intensification, (iii) and the promotion of post-harvest technologies are currently being developed within the Staple Crops Programme. In order to address the main speculations of staple crops in West and Central Africa, a call for research proposals will be issued every year for the next three years. The budget allocated for 2009 to implement the selected project amounts to US\$1,450,000. The MDTF was the sole partner to support the launching of this first call for proposals.

Natural Resources Management Programme

Recruited in September 2009, the Manager of the Natural Resources Management Programme initiated the process of defining the priority research orientations to be translated into competitive and/or commissioned projects. A conceptual note was prepared and terms of reference for the baseline study published on CORAF/WECARD's website for the recruitment of consultants.

Within the framework of the European Union Appeal specifically to Africa, within its 7th Umbrella Programme, the Programme Manager prepared and shared a concept note with African institutions in the sub-region as well as with European partners. A consortium of partners with comparative advantage for the implementation of the project was formed. Led by CORAF/WECARD, the representatives of the consortium formulated a proposal which was submitted prior to the closing date, in mid-January 2010.



Natural Ressource Management Programme started activities in 2009

Biotechnology and Biosafety Programme

Within the framework of the implementation of the ECOWAS Biotechnology Action Plan, after lengthy consultations, an implementation plan of the section on Biotechnology promotion in the ECOWAS zone was agreed on. The priority activities regrouped in three projects address the following themes:

- Training of the scientific and technical staff in Biotechnology and Biosafety;
- Capacity building of national and regional institutions (Laboratories, scientific equipment, greenhouses and experimental fields) in order to conduct biotechnology research;
- Coordination and consultation of sub-regional agricultural biotechnology activities.

The total amount of funds allocated by ECOWAS to implement these activities in 2009 is estimated at US\$1,360,000. These funds will be made available to laboratories and specialized centres of West Africa on a competitive basis.

Within the context of the special support of USAID to CORAF/WECARD to improve food security and alleviate poverty in West and Central Africa, three (3) new projects were developed in the framework of the Biotechnology and Biosafety Programme. Launched during the period from August to October 2009, all three (3) projects will be implemented on the basis of projects commissioned for a two-year period. The choice of institutions to host the projects was based on the comparative advantage they possess regarding the coordination of research and development project in the relevant areas. The total cost for the three projects selected for the Biotechnology and Biosafety Programme was estimated at US\$2,047,500. The projects are as follows:

- Promotion of RYMV-resistant rice varieties and possessing RYMV1 genes introduced through assisted selection by molecular marker, in West Africa. The project is directed by the CNRA in Côte d'Ivoire.
- The use of in vitro tissue farming methods to preserve, multiply and distribute cassava cuttings without ACMV to farmers in West and Central Africa. Project directed by the Crops Research Institute (CRI) of the Council for Scientific and Industrial Research (CSIR) in Ghana.
- Improvement of the quality of niebe through the adoption of the Bt Niebe in West Africa.



Research activities and Biosafety will be strengthened through the different projects led by CORAF/WECARD

This project is directed by INERA in Burkina Faso and should involve the other two countries of the sub-region that have adopted their law on Biosafety, that is, Mali and Togo.

All the supplementary agreements were signed between the host institutions and the other partner institutions and implementation is ongoing.

The project for strengthening the implementation of agricultural biotechnology in Africa (SABIMA) is a continent-wide FARA project to address the human capacity needs of NARS in order to manage the safe management of biotechnology in Africa. The activities of the project are implemented by the following NARS and their partners: CRI-CSIR (Ghana); INERA (Burkina Faso) and NARC (Nigeria). The project was launched in September 2009. Contracts and sub-contracts were signed by the concerned institutions, initial funds were provided and activities started.

Result 2: Strategic policy options, institutions and markets are developed

Policy, Markets and Trade Programme

The Manager of the Policy, Markets and Trade Programme was recruited in August 2009 and right after arrival at the Executive Secretariat, she started the identification process of priority research orientations to be translated into competitive and/or commissioned projects. A conceptual note and terms of reference were prepared. As a cross-sectional programme, the formulated terms of reference were used to consolidate those of the baseline studies of the Livestock, Fisheries and Aquaculture Programme and the Natural Resources Management Programme.

The Programme Manager has established a strategy to use the current projects under the various Programmes of CORAF/WECARD in order to generate appropriate policy, markets, and trade options for these programmes.



Policy, Markets and Trade Programme started activities in 2009

Result 3: The Agricultural research system in the sub-region is strengthened and coordinated

Capacity Strengthening Programme



Strengthening Capacity activities have been coordinated in the countries

The Capacity Building (and Knowledge Management) Programme Manager was recruited in mid-July 2009. Right from his arrival at the Executive Secretariat, he started the process of defining priority intervention areas of the two programmes to be translated into competitive and/or commissioned projects. Since the SCARDA project is already focused on strengthening the capacity of National Agricultural Research Institutions (NARIs) and Universities, the reference study projected will focus on producers, civil society, NGOs and agribusiness actors. A conceptual note and terms of reference have been prepared to that effect. In view of the cross-sectional nature of this programme, the terms of reference were used to consolidate those of the Livestock, Fisheries and Aquaculture and Natural Resources Management Programmes.

The DONATA Project (cf. Knowledge Management Programme) facilitated the registration of 7 NARS researchers in African Universities. Since the launch of the DONATA project, 11 researchers have been registered of the total of 23 expected.

The Project on Strengthening Capacity for Agricultural Research and Development in Africa (SCARDA) is a continental FARA project funded by DFID, to meet the needs in human capacity strengthening for NARS in the area of agricultural research. During the period of report-writing, the capacity of NARS were strengthened in the areas of agricultural research management, M&E and training, the formulation of participatory action plans, including the formulation of the communication plan of SCARDA. The mid-term review of the SCARDA

project was done in February 2009. It enabled to develop the needed recommendations for achieving the expected outputs. The disbursement of funds for the implementation of project activities is a major challenge that undermined the implementation of all the activities since September 2009.

The FARA continental project on Regional Agricultural Information Learning Systems (RAILS) is funded by the AfDB and addressed the need for data processing equipment, interconnection among NARS, SROs and FARA. Managing the acquisitions and interconnections and introducing requests were the main activities of 2009 between countries. Procurement is not actually totally completed.



Through SCARDA, the capacity of many actors has been strengthened in 2009

Result 4: Requests from target clients for agricultural knowledge are met

Knowledge Management

The Knowledge Management Programme initiated consultative platforms for actors and technology dissemination activities (maize and cassava) in 7 countries. Activities have started to list technologies emerging from member NARS.

The project for the Dissemination of new Agricultural Technologies in Africa (DONATA) is a FARA initiative at the African level. Funded by the AfDB, the project meets the need to efficiently improve dissemination channels through innovation platforms for technology adoption (IPTA) targeting 8 countries in West and Central Africa. During the period of the report, 8 additional IPTAs were created in various target countries for the two basic products selected – maize and cassava. The value chain approach used for this project enabled to record significant progress since it ensured the availability of technologies for farmers and less for others, in view of the lack of ability to initiate and/or develop IPTAs.

FARA's Sub-Saharan Africa Challenge Programme – Kanu-Katsina-Marida pilot sites (SSA CP-KKM PLS) is a programme drawn up to address the need to increase the development impact of agricultural research on livelihoods in Africa. It aims at achieving that objective through the development, testing and promotion of an integrated approach in order to conduct agricultural research for development (IAR4D) in Africa. In March 2009, the functions of the Coordinating Institution of the SSA CP-KKM PLS were transferred from IITA to



Within the framework of DONATA Project, several technologies have been adopted by end users

CORAF/WECARD. CORAF/WECARD signed an agreement with FARA and recruited a Project Coordinator in April 2009. To date, the main achievement includes the creation and operation of 12 innovation platforms, reference surveys and participatory M&E systems established in all the TF sites. IAR4D knowledge sharing practices are currently satisfactorily implemented through various mechanisms.

COMPETITIVE FUNDS AND COMMISSIONED PROJECTS

The clear objective of CORAF/WECARD to implement the regional competitive funds mechanism stems from three main motivations: to open and diversify scientific and financial partnership, to further guide research towards demand and regional priorities and to improve the quality of research activities (scientific relevance and quality). In addition to this mechanism, there is the commissioned research mechanism.

The use of commissioned research as an implementation mechanism of priority research activities was a new

element with the new Strategic and Operational Plans. This new approach enables CORAF/WECARD to seek for specialized centers to implement the urgent priority challenges. Such a priority action incites projects to integrate social requirements; and to ensure the quality of project and promote excellence.

The 12 last competitive fund projects managed by CORAF/WECARD ended in 2008. While waiting to launch new projects in 2010, 2009 saw the launching of about fifteen commissioned projects.

This table shows the ongoing projects at CORAF/WECARD and the beneficiary countries

Project Title	Duration	Domains	Countries	Financial Mechanisms
Promotion of <i>Striga</i> Resistant <i>Sorghum</i> Varieties to mitigate food crises in the Sahelian zone	2 years(June 2009 – May 2011)	Sorghum	Senegal Mali Burkina Faso Northern Nigeria	Commissioned / USAID/ the Global Food Security Response (GFSR) projects
Promotion of improved yam miniset technology to improve productivity and reduce excessive use of food yam for planting in West Africa		Yam	Ghana Nigeria Togo Benin	Commissioned / USAID/ the GFSR projects
Improving post-harvest quality and packaging of rice, sorghum/millet and cassava products to enhance marketability in West Africa	2 years(June 2009 – May 2011)	Rice Sorghum Millet Cassava	Benin Nigeria Senegal Ghana Liberia	Commissioned / USAID/ the GFSR projects
Facilitating the adoption of Bt- Cowpea in selected West African countries	2 years(June 2009 – May 2011)	Bt Cowpea / of AATF	Burkina Faso Togo Mali	Commissioned / USAID/ the GFSR projects
Using in vitro tissue culture methods to preserve, multiply and distribute ACMV free cassava cuttings to farmers in West and Central Africa	2 years(June 2009 – May 2011)	Cassava / Technical backstopping of IITA	Côte d'Ivoire, Ghana, Benin, Togo, Niger, Liberia, Sierra Leone	Commissioned / USAID/ the GFSR projects
Evaluation and deployment of rice varieties with rymv resistant gene in West Africa	2 years(June 2009 – May 2011)	Rice / Technical backstopping of ARC (ex WARDA)	Côte d'Ivoire, Liberia, Ghana, Burkina Faso, Sierra Leone, Niger, Nigeria	Commissioned USAID/ the GFSR projects
Building livelihoods resilience to alleviate poverty in semi-arid areas of West Africa (PLM)	July 2009 -	Livestock Horticulture / Technical backstopping ILRI	Togo Mali Niger	Commissioned / IDRC
Strengthening Capacity for Agricultural Research and Development in Africa (SCARDA)	3 years (June 2007- May 2010)	Capacity strengthening issues	Mali Congo Brazzaville, Gambia, Ghana	Commissioned / DFID
Dissemination of New Agricultural Technologies in Africa (DONATA)	6 years (2007-2012)	Cassava and Maize Value Chains	Burkina Faso Cote d'Ivoire Cameroun Sierra Leone Mali Congo Senegal	Commissioned / African Development Bank (AfDB)
Capitalization and Transfer of agricultural research results for agricultural Development in West and Central Africa	1 year	Research results' documentation and dissemination	21 countries (only Liberia is not yet involved)	Commissioned / CTA

Sub-Saharan African Challenge Programme : CORAF/WECARD is managing the Kano-Katsina-Maradi (KKM) Pilot Learning Site (PLS)	3 years (2007-2010)	Integrated Agricultural Research for Development (IAR4D)	North of Nigeria Niger	Commissioned /EC/DFID Netherlands
West African Agricultural Productivity Programme (WAAPP) Phase I	3 years (2008 - 2011)	Roots and Tubers Cereals	Ghana Mali Senegal	Based on country willingness and interest/ World Bank countries' Loans
Africa Bio fortified Sorghum Project (ABS)	2007- 2009	Sorghum/ Technical backstopping of CSIR, University of Pretoria and ARC/LNR (South Africa) AATF, ICRISAT, UC Berkeley (USA)	Burkina Faso only Extension planned to Mali, Ghana, Nigeria and Togo in phase 2	Commissioned Africa Harvest Biotech Foundation International (AHBFI)
Projet FSP- mobilisateur Coton (FSP-coton)	2009- 2011	Cotton / Technical backstopping of CIRAD/ CIRDES/ IITA	Benin, Burkina Faso, Mali, Togo	Commissioned CIRAD/French Ministry of Foreign and European Affairs
Implementation of the ECOWAS Action Plan on Biotechnology and Biosafety: Phase 1 Capacity Strengthening in Biotechnology and Biosafety in West Africa (5 projects)	2007- 2012	Capacity strengthening in Biotechnology and Biosafety / Technical backstopping of CORAF Centers of Excellences	All ECOWAS member states	Competitive/ Economic Community of West African States (ECOWAS)
Strengthening Capacity for Safe Biotechnology Management in Sub-Saharan Africa (SABIMA)	2009- 2011	Capacity strengthening in Biotechnology / Technical backstopping of FARA	In West Africa: Ghana, Burkina Faso and Nigeria/ In East Africa: Uganda and Kenya/ In Southern Africa: Malawi	Commissioned / The Syngenta Foundation for Sustainable Agriculture ("SFSA")

PLANNING, MONITORING AND EVALUATION

The activities of planning and monitoring-evaluation were intensive in 2009. They consisted of supporting the programmes and initiatives of CORAF/WECARD, namely the Staple Crops Programme and the WAAPP project. The Monitoring and Evaluation Unit also prepared several technical reports and coordinated the preparation of the 2010 Annual Plan of Work and Budget. Among other activities, there was training on the planning and monitoring-evaluation intended for specialists within the framework of WAAPP and the CORAF/WECARD Manual on Monitoring and Evaluation was prepared

Programmes Support

The Monitoring and Evaluation (M&E) Unit team participated in the launching of three projects financed by USAID and sponsored by CORAF/WECARD within the framework of the Staple Crops Programme. Assistance was given in the analysis of the logical frameworks, the adequate nature of the indicators defined and the preparation of the Annual plans of work at the regional and national levels, and the 2010 annual budget.

WAAPP

The Unit coordinated the preparation and validation of a Monitoring and Evaluation Manual for WAAPP/PPAAO. The Unit also organized in September a one-week regional training sessions devoted to building the capacity of the field staff of WAAPP/PPAAO in the area of strategic planning, result-oriented management and monitoring and evaluation procedures. This training session brought together 18 persons from the three countries involved in the pilot phase of WAAPP.

The Unit conducted a general review of the progress made, constraints, as well as the lessons learned, both at the country and regional levels during the implementation of WAAPP.

Monitoring and Evaluation Manual

The Unit developed a Monitoring and Evaluation Manual validated by the STC (Scientific and Technical Committee) during its meeting of October 2009. According to the recommendations made at the meeting, a Monitoring and Evaluation Strategy should be developed from the document, which will lead to the putting in place of an operational system of the M&E.

Reports and 2010 APWB

The unit has been involved in the preparation of technical reports on the progress made, the constraints as well as the lessons learned from the interventions by CORAF/WECARD.

The Unit's specialists coordinated the preparation of the 2010 Annual Plan of Work and Budget. The staff of this Unit benefited from training in project and programme management in Montreal, Canada. The purpose was to improve their skills in the performance of their tasks.



The Unit made several visits in the countries to assess project activities



BASE CENTRES

CERAAS

The activities of the Regional Centre for Studies on the Improvement of Plant Adaptation to Drought (CERAAS) consisted of project implementation, students training and participation in national and international meetings.

Sorghum

The main activities on sorghum consisted of genetic characterization of sorghum varieties through the identification of ideotypes, the development of DNA extraction techniques and the potted seedlings of eight varieties of sorghum with 15 individuals per variety. The sampling of young leaves on 2-3 weeks old seedlings and the drying of leaves with silica gel have enabled the extraction of DNA using the MATAB technique without liquid nitrogen with a quartz mill. Another sorghum-related activity is the creation and disse-

mination of varieties of good quality sorghum seeds adapted to agro-ecologic conditions peculiar to Senegal. The introduction of a test in farming areas and on sites, of the varieties selected was done on 10 new early varieties and 2 controls for the northern area, 9 intermediate cycle new varieties and 2 controls in the south-central area, and 7 new long cycle lines and 2 controls in the south-central area. Tests enabled to identify the lines on the basis of outputs levels and farming preferences.



Creation and dissemination of improved sorghum varieties was one of the major activities at CERAAS

Fonio

The main activity on fonio was the genetic characterization of Senegal's fonio collection. Seedlings from 64 accessions of the potted collection, with 10 individuals per variety, were realized. The sampling of young leaves

on 2-3 weeks old seedlings enabled to extract DNA using the CETAB technique without liquid nitrogen. PCR analyses with RAPD markers have been launched.

Millet

Millet ecotypes research was conducted for the Northern, Central-North and Central-South regions of Senegal. The objective was to create two new improved varieties from the local 'Thialack' population; and extend new millet varieties of extra early, short and intermediate cycle. The collection enabled to gather all the cultivated forms of the local 'Thialack' variety existing in real environment to obtain the maximum variability and diversity. All the seedlings introduced were harvested. There were 9 tests in farming areas with 3 per agroclimatic area and 3 referential tests on site. The analysis of results enabled the identification of potentially high-yielding varieties in the various areas. Still on millet, the activities consisted of establishing an operational agro-meteorological monitoring mechanism for the crop season, able to monitor in real time the state of crops and forecast yields and pursue the improvement of agricultural outlook methodologies and tools (crop models) through a permanent comparison with data collected in rural areas. In 2009, the dates of seedlings by farmers for millet, maize, sorghum on 2 sites, the daily rainfalls and the climatic data for 16 sites were recorded.

Tamarind

In 2009, tamarind-related activities involved assessing the natural plant population of tamarind in Senegal, to establish the map of tamarind population areas and to assess the climatic effect (prediction model). The plant population in each agro-ecological area was recorded. The climatic impact (prediction) and the repartition map are already available.

Another main activity on the tamarind was the in-situ eco-physiological characterization of tamarind (*Tamarindus indica* L.) which enabled to assess the hydric operation of tamarind and to study its physiological characteristics. The phonological monitoring of physiological factors of the plant (leaf water potential, gaseous exchanges) was ensured.

The study of the mycorrhizal diversity associated with tamarind and the in-situ evaluation of the root colonization ratio of tamarinds was conducted. The aim was to identify the mycorrhizal potential of population sites. As a result, the trapping of mycorrhiza, the monoclonal farming of mycorrhizal stocks, and the identification of mycorrhizal stocks associated to tamarind were identified. The mycorrhizal potential of population sites was recorded for each agro-ecological area.

Sésame

The induction of a genetic variability of sesame (*Sesamum Indicum* L.) through gamma rays irradiation was the main sesame-related activity. The objective was to obtain elite genotypes for a variety improvement programme of sesame, and to select high-yielding genotypes.

In 2009, the seeds of two sesame varieties widely planted in Senegal (32-15 and 38-1-7) and "Birkan", a Turkish variety, were irradiated with two doses of gamma rays (300 and 400 Gy). Two generations were conducted under irrigation system and a third generation in rainfed conditions at the CNRA in Bambey. During the second generation (M2) 144 potential mutants were selected. In the third generation (M3), 71 of the 144 mutants were confirmed including: indehiscent mutants, multi-capsule axillary leaf, early mutant and potentially high-yielding mutants as compared to their original parents.



Tamarind-related activities enabled to assess the natural plant population of tamarind in Senegal

CARBAP

At the African Research Centre on Banana and Plantain (CARBAP), the main activities in 2009 consisted in implementing the activities of regional projects and furthering the training of researchers.



CARBAP Research activities have permitted to contribute to the development of Banana and Plantains

The blackline disease in Cameroon

The study on the conditions of reintroduction of systemic fungicides in programmes against blackline disease in Cameroon was one of the main activities. The overall objective is the sustainable improvement

of the Cameroonian banana sector's competitiveness in the context of the national development strategy and the objectives in support to the Cameroonian banana sector. In 2009, several results were obtained.

Improvement of fungicides resistance evaluation methods :

Development of a method based on conidium germination; comparison of ascospore and conidium methods. In this experiment, three fungicides, Tilt 250 EC, Callis 400 OL

and Bankit 75 SC representing the three different modes of action respectively (triazoles, benzimidazoles and strobilurins) were compared.

Measuring the impact of processing strategies on resistance to fungicides :

The development of experimental mechanisms in order to do away with inoculum sources outside the plot (gene flux); needed requirement for the exclusive measurement of the selection impact; experimental plots were installed in an area devoid of banana trees.

Evaluation of the competitiveness of resistant stocks as compared to sensitive corms :

Collection and characterization of strobilurins-resistant corms; Collection and characterization of triazoles-resistant corms.

Dessert Bananas

The study of soil infestation by phytoparasitic nematodes and the assessment of their impact on the productivity of industrial dessert banana plantations in Cameroon was also an essential activity in CARBAP. The objective is to sustainably improve the competitiveness of the Cameroonian banana sector within the context of its national development strategy and to support the Cameroonian banana sector.

In 2009, the geo-referenced transect method was used to sample roots and soils in the rhizosphere of banana trees in order to ascertain the diversity of nematodes in commercial dessert banana plantations in Cameroon. In the selected areas, it was determined periods of high infestations in order to correlate with yields in order to assess the efficiency of strategies to fight against nematodes developed by each commercial plantation.

Research helped to develop a simplified traditional method for breeding *R. similis* while focusing on the characterization of ideal reproduction conditions of the nematode, mainly the substratum nature and the conditions of the breeding environment.

Training and various activities

Support to the doctoral FASA-CARBAP School through the realization of joint research and through training in improving plantain productions in peri-urban agriculture. These actions fit into the institutional context of the FASA-CARBAP convention. They are based on the introduction in peri-urban farming areas of new blackline-resistant dwarf hybrids (MRN, a real plague for these plants) recently created by CARBAP and successfully tested for standard culinary and gustative adoption.

In 2009, 6 PhD students (4 Cameroonians, 1 Gabonese, 1 Congolese) from Research institutes in these countries, conducted their thesis activities at CARBAP and at the Catholic University of Louvain in Belgium.

Development of innovation platforms on banana and plantain sectors in Central Africa, strengthening of regional partnership, lobbying, test and validation of innovations, dissemination of innovations to ensure a better production of the banana tree in the sub-region.

In 2009, the main activity was the development of organized and operational platforms, the NTEM platform (Cameroon, Gabon and Equatorial Guinea), the Congo platform and the OUBANGUI platform. In each platform,

a charter was signed by the various partners and the implementation of activities validated in a participatory manner, and launched with CARBAP's support. The focus was on the preliminary diagnosis surveys which enabled to have an overview of the various constraints. Globally, the preliminary surveys concluded that the constraints recorded are numerous and concern all the major disciplines related to banana production (agronomy, genetics, phytosanitary issues, post-harvest aspects, sector...). Addressing these constraints started with training workshops, mainly concerning the phytosanitary protection of plantain. In order to ensure an adequate appropriation of the project by political authorities as well as their commitment and participation, numerous lobbying and sensitization actions were initiated. These initiatives will facilitate the implementation of transboundary actions, thus optimizing technology and innovation exchanges. Another main activity consisted of ensuring good communication and visibility of the European Union, the main donor.



Farmers Sensitization with a video

PRASAC

The Regional Pole of Applied Research in Agricultural Systems Development of Central Africa (PRASAC) is both an institution of the Central African Economic and Monetary Community (CEMAC) and an operational tool of the CORAF/WE CARD. Its role is to facilitate the implementation and coordination of agricultural research activities in Central Africa, a sub-group of the CORAF region. It constitutes regional theme teams and assists them in implementing projects under various funding sources (generally obtained competitively).

In 2009, PRASAC hosted six (06) projects (ACACIAGUM, CORUS, FONCIER, PLANTADIV, PEDILUVE, ARDESAC) of which the most important is the ARDESAC pro-

ject (ended in December 2009). The summary of the project's activities was done during an international conference organized in Garoua (Cameroon) in April 2009. This conference was attended by a great number of partners from Europe, Central Africa and West Africa.

During the same year, new actions were initiated to find new funding (cassava project, rice project, GIFSEC, etc). Finally, other themes (cereal sector, agri-business) were included by CEMAC in the regional indicative programme (10th FED). Moreover, PRASAC coordinates the 'research group' within CRUROR-AC (Conference of State Universities Deans and Central African Research Institutions Managers).

Progress of Research projects/programmes (summary)

ARDESAC: Support has the regional search for the sustainable development of the savannas of Central Africa
Amount of the financing : 3 000 000 Euros
Financial institution : European French Ministry of Foreign Affairs
Partners (for implementation) : CIRAD, IRAD, ICRA, ITRAD, LRVZ, (100 Researchers and involved technicians and trainees and welcomed students)
Purpose (s) : Strengthen the action of the PRASAC as pole of animation, support and coordination of the agricultural research in the savannas zone of Cameroon, Central African Republic and Chad
Activity on 2009 : Organization of an international external colloquium, an evaluation of the project

Land tax : Land(Basic) dynamics of transaction in the Central Africa savanna's
Amount of the financing : 29 613 Euros
Financial institution (financiers) : IRAM development, French Agency of Development (AFD)
Partners (for implementation): Cameroon, Central Africa , Chad
Purpose (s) : Investigate the outlines of the transfers, innovations of the land systems in rural areas of Saudi savanna
Activity on 2009 : Scientific handing-in of the final report and elaboration of the financial report

CORUS : Croissance urbaine et dynamiques agricoles autour des villes de N'Djamena et de Moundou au Tchad

Montant du financement : 66 000 euros

Bailleurs de fonds : Ministère français des Affaires Etrangères et Européenne

Partenaires (pour la mise en oeuvre) : Tchad (LRVZ)

Objectif (s) : Déterminer l'impact des dynamiques urbaines sur les bassins de productions et sur la structuration des filières émergentes et de mesurer leur contribution à l'approvisionnement de N'Djaména

Activités en 2009 : Encadrement des étudiants et évaluation à mi parcours du projet



A built pedilluve

PEDILUVE: Validation de l'utilisation du pédiluve au Tchad dans la lutte contre les tiques, les glossines et les maladies qu'elles transmettent aux bovins

Montant du financement : 22 751 euros

Bailleurs de fonds : Service de Coopération et d'Action Culturelle (SCAC) au Tchad

Partenaires (pour la mise en oeuvre) : Tchad (LRVZ, IUSTA)

Objectif (s) : Valider l'utilisation de cette technique dans le contrôle des glossines et des tiques au Tchad, et ainsi de contribuer à réduire les pertes socio-économiques dues aux pathologies causées par ces vecteurs

Activités en 2009 : Prospection, enquêtes, mise en place de deux pédiluves, traitement de troupeaux, observation de taux d'infestation et analyse des données.

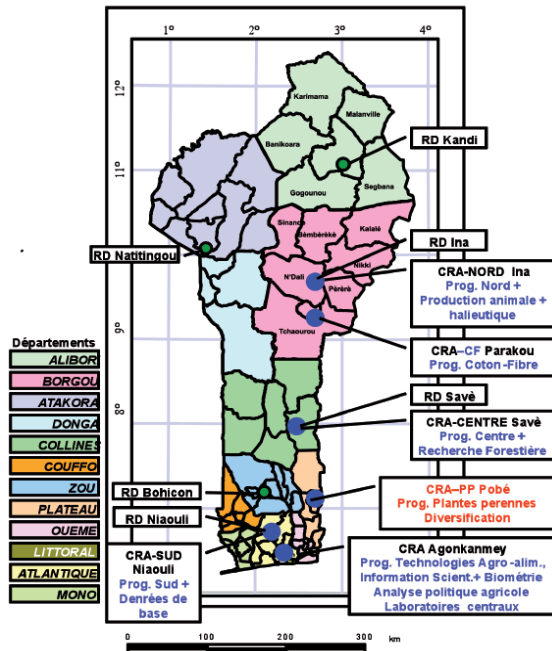
HONOUR TO...



NATIONAL AGRICULTURAL RESEARCH SYSTEM OF BENIN

The National Agricultural Research System of Benin includes the National Agricultural Research Institute of Benin, the Universities, the Beninese Centre for Scientific and Technical Research, the Regional Action Centres for rural development and all the Beninese institutions and organizations (NGOs, Public and Private Research firms, etc.) investing in agricultural research and in research-development. Benin is located between the 1st and 12th parallel and stretches over 670 km from the Gulf of Guinea, opening up, through a narrow coastline, to the Niger River and its tributary the Mekrou, which serves as a natural border with the Republic of Niger. The northern part of the country is larger than its southern part. The neighboring countries are Burkina Faso in the North-West, Togo in the West and Nigeria in the East. The country covers a surface area of 112,600 square kilometers.

Regarding the climate, Benin is divided in three main areas: i) A sub-equatorial zone stretching from the coast to the latitude of Savè (8°N) where annual rainfall varies between 900 mm in the South-West and 1,500 mm in the Center and South-East; ii) a guineo-Sudanian zone, from the 8th to 10th parallel, where rainfall averages vary between 1,000 and 1,200 mm/year; iii) a semi-arid Sudanian zone in the north of Borgou, between the 10th and 12th parallel with rainfalls varying between 900 and 1,100 mm/year and characterized by a long dry season (December to May), during which a hot and dry wind, the harmattan, blows, and a heavy rainy season (May to September).



The vegetation of Benin results from these pedological and climatic factors. From North to South, there are: i) the very dry continental area at the north of the 11th parallel including xerophytes species; ii) the dry continental area including savannahs with pieces of forests, the relics of the degradation of original forests, and iii) the subequatorial area which includes on sand belts, coconut groves along the beaches, thick semi-deciduous forest islands, sacred forests, shrubby fallows, sub-natural palm groves, selected oil palm plantations and gallery forests along the rivers; iv) the dry coastline at the edge of the Southern part of the Northern area, with mainly wooded species such as *Ceiba pentadra*, *Antiaris toxicaria* var *africaca*, *Triplochiton scleroxylon*, baobab (*Bombas africana*) and palmyra savannahs (*Borassus* sp.).



The Beninese wildlife is highly varied and especially protected in reserved forests and national parks. There are very big cats (lions and leopards), big herbivores (elephant, hippopotamus, buffalo, kob, and hartebeest), small carnivores, monkeys and all types of birds.

Benin is a flat country with an average altitude of 200 m where the Atakora, of modest dimensions in the north-west part of the country is uneven and exceeds 400m.

Benin enjoys an important drainage system including permanent and regular water bodies among which the longest is the Ouémé, which flows into the Porto-

Novo lagoon. It is navigable over 200km. The other rivers are the Mono, the Couffo, the Zou, the Mékrou, the Alibori and the Sota (tributaries of the Niger River), and the Pendjari. Moreover, the country has three large water basins: that of the Niger River (38,000 km²) that of the Volta and the coastal basin (45,000 km²).

The main types of soil in Benin are identified by their pedological nature and farming capacities. They include the so-called terre de barre plateaux, Kandi sandstone plateaux, vertisols and hydromorphic soils described as follows: i) terre de barre plateaux are covered with more or less ferrallitic, sandy-clay or sandy loam, red, very thick and fertile soils; ii) Kandi sandstone plateaux which support ferruginous soils slightly concretized with average fertility; iii) the vertisols, marly clays which are highly impermeable, with a propensity to bloat during the rainy season, while they become very hard and fragmented during the dry season. In summary, the most fertile soils favorable to intensive agriculture are the slightly ferrallitic soils of sedimentary plateaux.

The Beninese population was estimated at 7,769,750 inhabitants in 2006, comprising of 48.8% men and 51.2% women. This population is unevenly disseminated on the national territory. The South is densely populated with, in average, more than 322 inhabitants per square kilometre against 16 inhabitants per square kilometers only in the North-West. The population is characterized by a constant growth of 3.2%, a rural farming population of 5.09 million inhabitants (65.5%) and a remarkable youth (48.6% of the population is under 15).



Agriculture is the most important sector of the Beninese economy and the main source of growth with 41% of the GDP. The country has enormous potential in the area of agriculture with more than 7 million hectares of cropland of which hardly 70% are being developed. On the basis of criteria related to agro-pedology, to farming systems, to the space distribution of the population, to the vegetation and to identified constraints, it has been defined eight agro-ecological areas combining physical and demographical characteristics, the state of natural resources and economic activities (Zone 1: The northernmost zone of Benin, Zone 2: Cotton producing area of the north, Zone 3: Staple crops zone of the Borgou-

South, Zone 4: Western zone of Atacora, Zone 5: Cotton producing area of Central Benin, Zone 6: 'terres de barre' area, Zone 7: Depression zone, and Zone 8: Fisherie4s zone). The staple crops in these production systems are maize (*Zea mays*), millet (*Pennisetum glaucum*), sorghum (*Sorghum bicolor*), yam (*Dioscorea sp.*). Cash crops include cotton (*Gossypium hirsutum*), cowpea (*Vigna unguiculata*), cassava (*Manihot esculenta*) and peanut (*Arachis hypogea*). Among the perennial industrial crops, there are the oil palm (*Elaeis guineensis*), the coconut tree (*Cocos nucifera*) and the cashew tree (*Anacardium occidentale*).

Benin NARS Actors

Appearing in Africa towards the end of the 1970s, it was only in the 1990s that the International Service for National Agricultural Research (ISNAR) gave a more concrete meaning to the notion of National Agricultural Research System (NARS) in some African countries.

The effort to provide a more concrete content to NARS-Benin was reinforced in 1994 with the implementation of a sub-regional project on the strengthening of the role of universities within the NARS while outlining the importance of the role of the latter in the economic development of each of the concerned

countries. It was in 2003 that agricultural research and research-development institutions decided to formulate the statutes regulating their joint organization. On the basis of the national agricultural research policy, the NARS-Benin had the overall objective of contributing to rural poverty alleviation, food security, agricultural production diversification, sustainable protection and natural resources management, competitiveness, quality and development of Beninese agricultural products on national and international markets.



Its mission is to ensure the relevance of the objectives, methodology and results of agricultural research against the needs of users of research results. To that effect it is tasked with:

- Facilitating the coordination of agricultural research activities at national level;
- Ensuring resource mobilization (financial, material and human) and their optimal use;
- Capitalizing on the scientific knowledge and the results of research through consultation and exchange among the various components of the System;
- Producing and making available to users, tools and information likely to inform national agricultural policy decisions;
- Contributing to strengthening the capacity for action of the various components;
- Promoting synergy in research strategies and activities.

Under the supervision of the Ministry in charge of agricultural research, the NARS-Benin established its headquarters at the General Directorate of the National Institute of Agricultural Research of Benin (INRAB) at Agonkanmey (Abomey-Calavy District).

Apart from the founding members (National Agricultural Research Institute of Benin, Universities, Beninese Centre for Scientific and Technical Research, Regional Action Centres for Rural Development), the NARS-Benin encompasses all the Beninese institutions and organizations (NGOs, Public and private research firms, etc) involved in agricultural research and research-development.

For its organization, the NARS-Benin formed major bodies. They are: i) The General Assembly; ii) the Coordination Unit and; iii) the Committee Monitoring decisions taken by the General Assembly. The Coordinator of the Unit is the Director General of the National Agricultural Research Institute of Benin (INRAB).

The NARS-Benin operates with the contributions and membership fees, contributions from the various components, the System's own earnings generated from scientific events and the sale of books, contributions from bilateral or multilateral cooperation institutions, any other contribution (NGOs, APOs, etc) donations and legacies.

The NARS-Benin has By-laws which complement and specify the provisions of its Statutes.



National Agricultural Research Institute of Benin (INRAB)

The National Agricultural Research Institute of Benin (INRAB) is a scientific and technical public institution with corporate status and financial autonomy. It is entrusted with the coordination of the National Agricultural Research System (NARS) of Benin.

Its Mission :

To produce adequate technological innovations for the benefit of rural populations and to preserve natural resources.

Its Structure :

- One (01) Directorate-General;
- Three (03) Departments: i) Scientific Department; ii) Financial Resources Department; iii) Administration and Human Resources Department;
- Six (06) Agricultural Research Centres disseminated on the national territory: i) Central-South Agricultural Research (located in Niaouli); ii) Central Agricultural Research Centre (located in Savè); iii) Northern Agricultural Research Centre (located in Ina); iv) Agricultural Research Centre for Perennial plants (located in Pobè); Agricultural Research Centre and Laboratories (located in Agonkanmey) Agricultural Re-search Centre for Cotton and Fibers (located in Parakou).





Its achievements :

A lot has been done by INRAB in recent years in the area of technical and administrative management and in the area of research per se.

The establishment of departments in charge of administrative, financial and human resources management largely contributed to:

- Increasing financial resource mobilization of the national budget and partners;
- Improving financial management, particularly book-keeping, vouchers regularity and accounting;
- Improving human resource management (a human resource development programme is developed including a recruitment plan, a training programme, a career plan...).

Regarding the technical management of research, the coordination of research action within the institute/with the other components of the NARS and the relationships with the users, the most important achievement undoubtedly remains the design and implementation of the management cycle of agricultural research and its progress (CGRA) which enabled to achieve the following objectives:

- The vision of the Masterplan to mobilize all NARS human resources for national agricultural research programmes is achieved through the management cycle supported by competitive funds;
- Through the CGRA, the relevance of research themes and the scientific quality of projects are increasingly improved; the strengthening of researchers' capacity to prepare reliable protocols has become a reality;
- The initiative to define priority constraints enables to make available an annual agenda for national agricultural research;
- An initiative to develop research results obtained within the framework of CGRAs was performed with the formulation and diffusion of technical-economic referential (TER);
- Additional resources at the level of the national agricultural research system are more easily mobilized in the framework of federating protocols;
- The management cycle facilitates information on the strategy and global scope of research as a development instrument. Regarding research results, the

following examples show the contribution of agricultural research to the improvement of agricultural sectors performance in Benin;

- Development of new high-yielding maize varieties (2 to 3 tons per hectare);
- Development of new cassava varieties yielding from 18 to 22 tons per hectare in rural areas and on degraded terres de barre;
- Provision to producers of improved rice varieties (NERICA) identified as adapted to developed lowlands of Benin and able to yield from 4 to 6 tons of paddy per hectare;
- Significant role in the quantitative and qualitative production of cotton (profit in yields at ginning of the H-279-1 variety estimated at more than 3 billion per year). The practice of Targeted Staggered Control (TSC), developed through research, enables to achieve a 20-30% savings on pesticides, in addition to the highly positive impact on the environment;
- Improvement of oil palm productivity through genetic improvement activities: i) the possible yield of the material generated from the 2nd selection cycle, enabled to multiply by 5 that of the natural palm (3 tons of oil/ha in Benin's environment, 9 tons of oil/ha in limited ecology conditions; ii) the development and dissemination of cheap oil extraction technologies enabled an amazing development of small so-called village plantations the surface area of which are currently estimated between 35,000 and 40,000 ha with outputs of between 8 to 12 tons of bunches per hectare;
- Provision of selected seeds and development of appropriate techniques for the benefit of market gardeners and cashew producers;
- Assistance to processors for the competitiveness of marketed products;
- Contribution to the eradication of natural environment degradation through the capitalization and dissemination of information related to natural resources management and the development of techniques for the preservation of natural resources used in farming activities;

These non-exhaustive achievements are obtained in less than optimal conditions in the areas of infrastructure, equipment, human resources and motivation without which the incitement to produce would remain just a concept.

Challenge to INRAB in implementing the Agricultural Sector rehabilitation Strategic Plan (ASRSP)

Development of adequate technological innovations and knowledge generation in order to remove constraints limiting the productivity of priority sectors to ensure the competitiveness of Benin's agriculture on national, regional and international markets while ensuring food and nutrition security together with:

- Mechanization adapted to the different agro-ecological conditions;
- Water control;
- Promotion of improved seeds;
- Capitalization of available information on improved products storage/conservation and processing technologies;
- Development of storage/conservation and processing technologies;
- Strengthening of the capacity of producers and of supervisory structures.



The governing organs of CORAF/WECARD

The West and Central African Council for Agricultural Research and Development (CORAF/WECARD) is made up of four hierarchical bodies that ensure the implementation of the objectives of the sub-regional organization through operational units: the General Assembly, the Governing Board, the Scientific and Technical Committee, and the Executive Secretariat.

GENERAL ASSEMBLY (GA)

The General Assembly (GA) is the supreme decision-making authority of CORAF/WECARD and is made up of representatives of its NARS members, regional and international institutions in the sub-region and the private sector, agricultural professional organizations and development partners.

GOVERNING BOARD (GB)

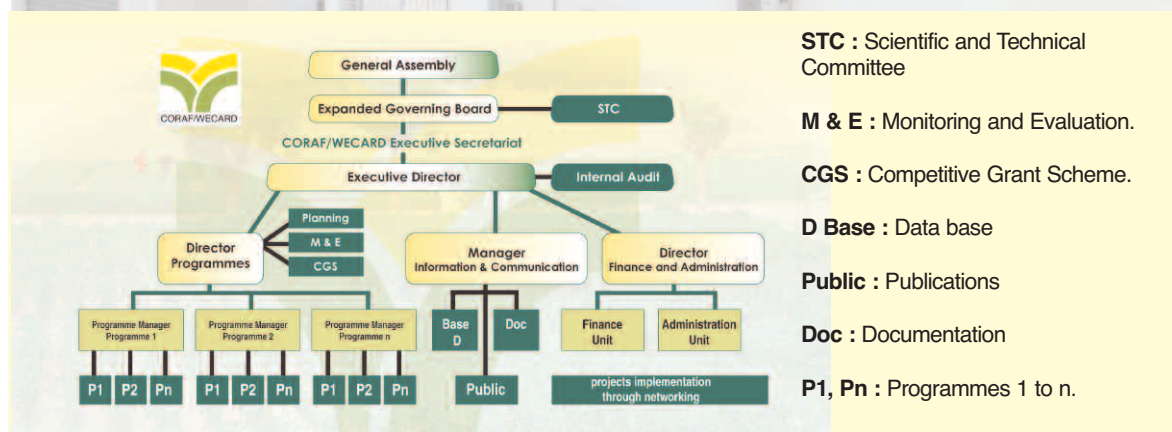
The Governing Board is the Body that controls and monitors the implementation of decisions endorsed by the General Assembly. It is made up of 14 members: the Chairman, the Executive Director of CORAF/WECARD, a Representative of the STC, three NARS representatives, five representatives of the agricultural research partners (RECs, NGOs, PAOs, private sector), one representative of the development partners and one representative of the scientific partners.

SCIENTIFIC AND TECHNICAL COMMITTEE (STC)

The Scientific and Technical Committee is the consultative body of the GB. Its role is to assess scientific activities and assist the Executive Secretariat in its leadership and scientific coordination functions. It is made up of twelve members, scientific personalities coming from the NARS and partner institutions and selected intuiti personae on the basis of their competencies.

EXECUTIVE SECRETARIAT (ES)

The Executive Secretariat is made up of the professional staff (Executive Director, Scientific Director, Director of Administration and Finance, Information and Communications Manager) and the support staff. Under the supervision of the Executive Director, it implements the decisions endorsed by the General Assembly, monitors scientific activities, organizes audit of research programmes and projects, mobilizes and manages human and financial resources and arranges statutory meetings.





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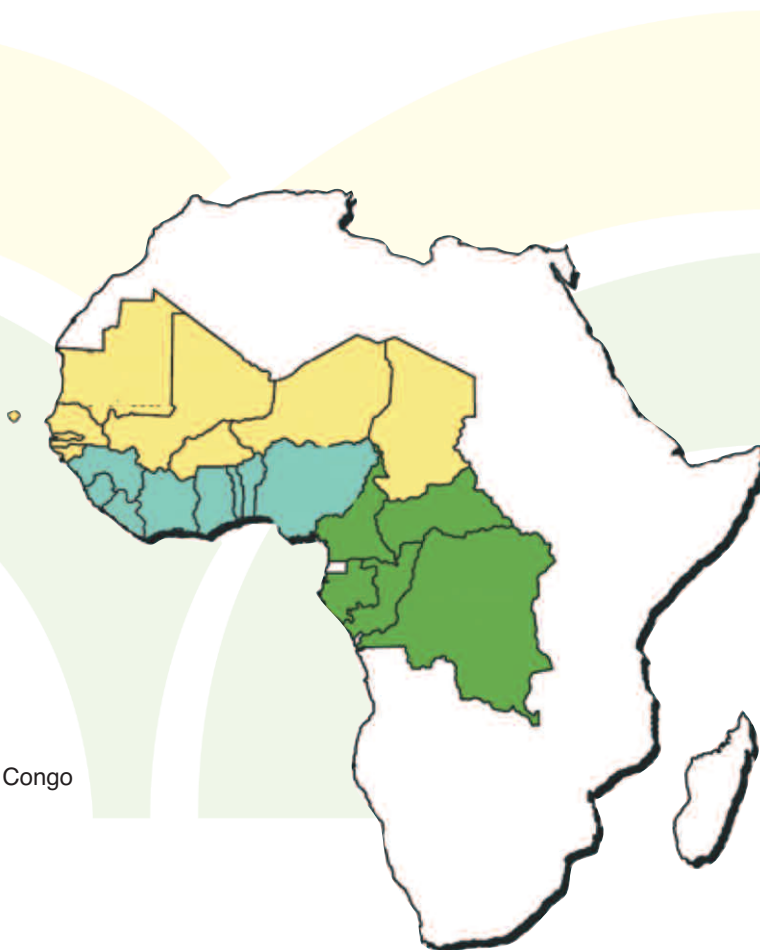
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