



ANNUAL REPORT 2014



**Innovating for Growth and Inclusive Development
in Regional Agriculture**

Innovating for Growth and Inclusive Development in Regional Agriculture

CORAF/WECARD Annual Report 2014

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



West and Central African Council for
Agricultural Research for Development

7 Avenue Bourguiba
B.P. 48, cp 18523
Dakar RP
Tel: +221-338699618
Fax: +221-338699631
Email: secoraf@coraf.org
Website: www.coraf.org

© 2015 by CORAF/WECARD

CORAF/WECARD encourages a fair use of this material. Proper citation is requested.

CORAF/WECARD (Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles / West and Central African Council for Agricultural Research for Development), 2015. *Innovating for Growth and Inclusive Development in Regional Agriculture: CORAF/WECARD Annual Report 2014*. Dakar, Senegal.



Message from CORAF/WECARD Management



Dr Alioune Fall, Chair of Board

We are pleased to submit the Annual Report for 2014, a year in which CORAF/WECARD's 2nd Operational Plan 2014-2018 was launched. The 2nd Operational Plan was designed to finalize the implementation of the Strategic Plan 2007-2016.

The 2nd Operation takes into account the evolving policy and institutional environment in which CORAF/WECARD and its stakeholders operate.

The new environment includes: i) The Africa Union/NEPAD's 'Sustaining the CAADP Momentum' which confirms the continuing validity of CAADP framework and the emphases on *Results and Impact*; ii) The FARA-led Science Agenda for Agriculture in Africa – which articulates the science, technology, extension, innovations, policy and social learning that Africa needs to apply in order to meet its agricultural transformation agenda; iii) the evolving REC's (ECOWAS, ECCAS, UEMOA and CEMAC) agricultural policies which seek to achieve accelerated poverty reduction and food security through sustainable agricultural growth. These helped set the stage for the implementation of the 2nd Operation Plan of CORAF/WECARD, some of whose outputs are reported herein.

CORAF/WECARD management remains grateful to its development partners namely the following 22 member countries: Cape Verde, Mauritania, Senegal, Guinea Bissau,



Dr Harold Roy-Macauley, Executive Director

Guinea Conakry, Liberia, Sierra Leone, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroun, Gabon, Central Africa Republic, Congo, Democratic Republic of Congo, Chad, Niger, Burkina Faso, Mali, and Equatorial Guinea; coupled with the support of the following donors Multi-Donor Trust Fund managed by the World Bank with financial contributions from (CIDA) Canada, and European Commission; USAID; DFAT (Australia); IDRC (Canada); AfDB funds managed by FARA; ILWAC (Danish); FPCR (Spain); UEMOA; ECOWAS; Islamic Development Bank

We also acknowledge the invaluable contributions of all actors involved in the field and technical implementation of CORAF/WECARD regional programs and projects. This report would not have been possible without these actors working from their national front, and who equally receive tremendous back-stopping from the CORAF/WECARD Executive Secretariat Staff.



We invite you to enjoy this report, and to share it with colleagues.

Contents

Message from CORAF/WECARD Management	3
Abbreviations & Acronyms	4
Quick Facts about CORAF/WECARD	9
Organizational Strengthening in Support of Operational Plan Implementation	11
Trends in Scientific and Technical Cooperation	26
Towards Achieving the CORAF/WECARD Strategic Results	29
Zoom 2014 - WASP - Seeds for Agricultural Transformation	40
Financial Overview	48
List of Projects carried forward to second OP (2014 – 2018)	51
Executive Secretariat Staff	55
List of Publications – 2013/2014	59



Abbreviations and Acronyms

APESS	Association pour la Promotion de l'Élevage en Savane et en Sahel
AR&D	Agricultural Research & Development
AWARD	African Women in Agricultural and Development
ASTI	Agricultural Science and Technology Indicators
AWPB	Annual Work Plan and Budget
CAADP	Comprehensive Africa Agriculture Development Programme
CCAFS	Climate Change Agriculture and Food Security
CEMAC	Communauté Economique et Monétaire de l'Afrique Centrale
CEBEVIRHA	Commission Economique du Bétail, de la Viande et des Ressources Halieutiques
CIAT	International Center for Tropical Agriculture
CILSS	Comité Permanent Inter Etat de lutte contre la Sécheresse dans le Sahel
CIRDES	Centre International de Recherche-Développement sur l'élevage en Zone Subhumide
CNCR	Conseil National de Concertation et de Coopération des Ruraux
COFENABVI	Confédération des Fédération Nationales de la Filière Bétail et Viande
CORAF/WECARD	Conseil ouest et centre africain pour la recherche et le développement Agricoles/ West and Central African Council for Agricultural Research and Development
CRDI-CC	Centre de Recherche pour le Développement Internationale – Changement Climatique
CSO	Civil Society Organization
DRC	Democratic Republic of Congo
ECOWAS	Economic Community of West African States
ENRACCA	Enhancing the Resilience and Adaptive capacity to Climate Change
ETM	Element Traces Métalliques
FAO	United Nations Food and Agriculture Organization



GIMPA	Ghana Institute of Management and Public Administration
GIZ	German International Cooperation (Gesellschaft für Internationale Zusammenarbeit)
GRAG	Groupe de recherche et d'Actions pour le Développement
IAR4D	Integrated Agricultural Research for Development
ICRA	International Centre for Development oriented Research in Agricultural
IDLgroup	Consultancyfirm
IFPRI	International Food Policy Research Institute
INSAH	Institut du Sahel
IITA	International Institute of Tropical Agriculture
ILWAC	Integrated Land and Water Management for adaption to climate change
IRAM	Institute de Recherches et d'Application des Methodes de Développement
IRAD	Institut de Recherche Agricole pour le Développement
LARES	Laboratoire d'Analyse Régionale et d'Expertise Sociale
LFA	Livestock, Fisheries& Aquaculture
M&E	Monitoring and Evaluation
MDTF	Multi-Donor Trust Fund
MoU	Memorandum of Understanding
MINADER	Ministère de l'Agriculture et du Développement Rural
MINCOMMERCE	Ministère du Commerce
MINPMEESA	Ministère de Petites et Moyennes Entreprises de l'Economie Sociale et de l'Artisanat
MINPROFF	Ministère de la Promotion de la Femme et de la Famille
MINRESI	Ministère de la Recherche Scientifique et de l'Innovation
MINFOF	Ministère de la Forêt et de la Faune
NARS	National Agricultural Research System
NCoS	National Center of Specialization



NIMETA	Nigeria Meterology Agency
NTFPs	Non Timber Forest Products
NWFP	Non-Wood Forest products
OP	Operational Plan
PRAPS	Projet Régional d'Appui au Pastoralisme dans le Sahel (Regional Support Project to Pastoralism in the Sahel)
PROPAC	Plateforme Régionale des Organisations Paysannes d'Afrique Centrale
RBM	Le Réseau BillitalMarobé (RBM) ou Réseau des Organisations d'Eleveurs et Pasteurs du Sahel.
RMC	Regional Monitoring Committee
ROPFA	Réseau des organisations paysannes et de producteurs de l'Afrique de l'Ouest
STC	Scientific and Technical Committee
SME/SMI	Small and Medium Enterprise / Small and Medium Industry
SNV	Netherlands Development Organization
UCTF	Unité de Coordination Technique et Financière
WAWA	West African Women Association
WAEMU	West African Economic and Monetary Union
USAID	United States Agency for International Development
WA	West Africa
WASP	West Africa Seed Programme
WAAPP	West African Agricultural Productivity Programme



Quick Facts about CORAF/WECARD

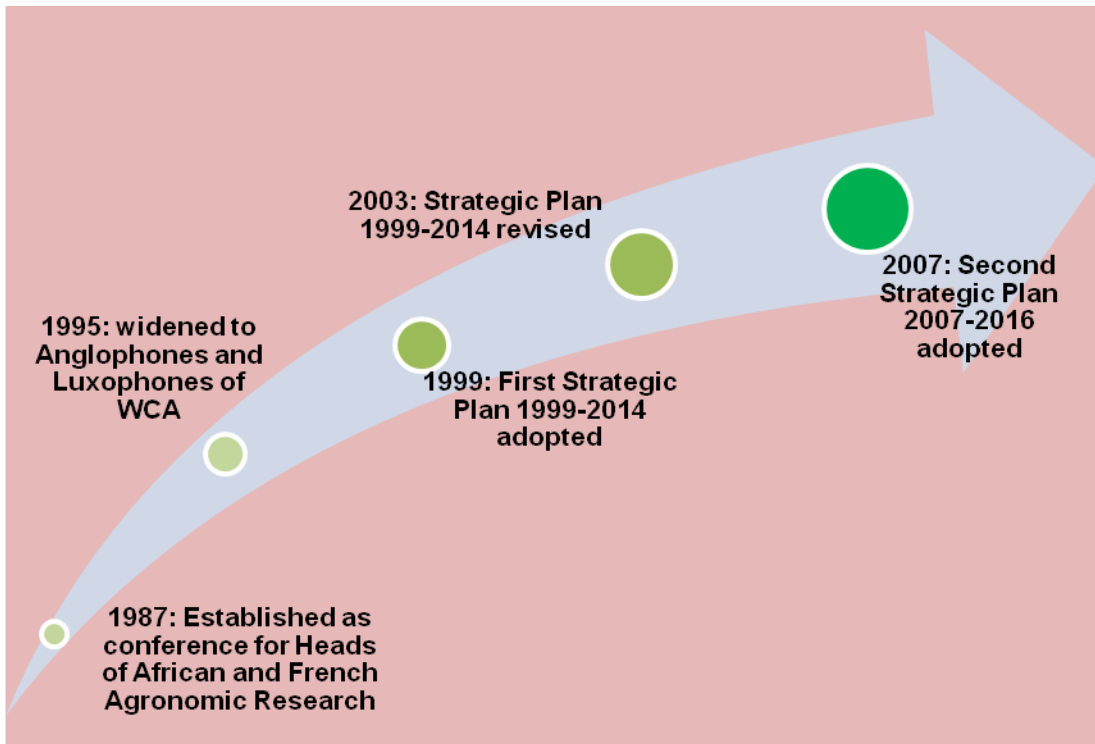
The delivery of the specific objectives of the CORAF/WECARD's Strategic Plan [2007-2016] was designed to be derived from the logical implementation of two consecutive Operational Plans - Operational Plan [2008-2013], and Operational Plan [2014-2018].

The Operational Plan [2014-2018] builds on the foundation and laudable milestones achieved during the implementation of the Operational Plan [2008-2013]. It consolidates on the principles of inclusiveness, the IAR4D and the Innovation Platforms that have been significantly contributory to the ongoing transformation of agriculture in the West and Central Africa region.

Following the development of the Operational Plan [2014-2018] for the implementation of phase two of its Strategy [2007-2016], CORAF/WECARD reviewed its Strategic Plan so as to ensure that the key elements of the Strategic Plan are aligned with current business environment and emerging trends in agricultural research for development. Therefore, an Addendum to the Strategic Plan [2007-2016] was developed. The Addendum brought changes in the domains of a) Policy; b) Implementation Approach; and c) Structure.

This report therefore rolls-over achievements from first phase to second phase implementation of the Strategic Plan (2007-2016), and demonstrates that the two Operational Plans are linked to the Strategy.





- Result Areas**
1. Technologies & Innovation
 2. Policy, Institutions & Markets
 3. Research system Strengthening & Coordination
 4. Knowledge management
 5. Effective management of delivery



Organizational Strengthening in Support of Operational Plan Implementation

The 2014-2018 Operational Plan also referred to as OP2, which commenced implementation in 2014, was designed to take CORAF/WECARD to the full realization of its specific strategic objective ‘...*Broad-based agricultural productivity, competitiveness and markets sustainably improved for target groups in West and Central Africa...*’ adopted in by the CORAF/WECARD stakeholders during the 2007 General Assembly.

Lessons learnt from the implementation of the initial Operational Plan (2008-2013), also referred to as OP1, constituted the foundation on which OP2 was built. One of the essential lessons was hinged on the need to enhance the delivery of outputs and outcomes so as to ensure a more

effective contribution of CORAF/WECARD toward the region’s goal of becoming self-sufficient in food production and nutrition security. In reaction to this CORAF/WECARD re-organized of the Directorate of Programs with the aim of achieving a better tracking of outcomes of CORAF/WECARD's contribution to the transformation of agriculture in the region.

This section of this report focuses essentially on the re-alignment of technology development and delivery assets, and on capacity strengthening aimed at optimizing productivity of regional Programs.

REGIONAL CENTERS OF EXCELLENCE (RCoE)

CORAF/WECARD, in collaboration with the ECOWAS mobilized stakeholders in 2014 towards the creation of enabling environment which should lead to the emergence of Centers of Excellence for the West African region. Such centers would serve as hubs in which development-oriented research would be commissioned for high quality outcomes. The Centers of Excellence when fully operational should be several steps ahead of the existing National Centers of

Specialization (NCoS) operated within the ambits of the West African Agricultural Productivity Program (WAAPP), and which are mostly commodity-based. The RCoE are expected to focus on the thematic priorities of OP2 and would adopt a holistic approach in the treatment of agricultural development trends in the CORAF/WECARD region.



CORAF/WECARD produced a blue-print which elucidated the structure and organizational characteristics of the future RCoEs. Such centers would be structurally organized by an aggregation of national institutions sharing similar priorities in research, innovation development, education and stakeholders' training. The entry points for each focal issue would be a collation of national agriculture development challenges from the participating countries. Research trials,

innovation development and deployment would be in sites in the various countries of the region. The emergence of the RCoE from the existing NCoS would thus provide a robust environment for the regional integration of research for development. By end of 2014, CORAF/WECARD initiated discussions with ECOWAS on the mechanisms to materialize these goals..

STRENGTHENING CAPACITY OF SMEs AND NGOs IN BRINGING INNOVATIONS TO MARKETS

The principles of inclusiveness remains central to achieving the strategic goal in the OP2. In order to ensure effectiveness in the participation of the SMEs and NGOs in contributing to the strategic goals of the OP2, CORAF/WECARD facilitated the formalization of a network of NGOs working on agriculture in West and Central Africa. A special session was dedicated to the new network during the 2014 General Assembly (GA) of CORAF/WECARD held in June, 2014 during which the governance structure of the network was ratified. The network resolved to work with CORAF/WECARD management in the training of its members aimed at strengthening their capacity to effectively contribute to AR4D in the region. The network is currently working with CORAF/WECARD management on the facilitation of access to enabling resources (funding, resource persons, information, etc.). This regional NGO would be best

suited in carrying out activities at the interface between the rural populations and other actors in the rural development sector. Therefore, the goal in getting the NGOs organized at the regional level revolves around enhancing the mobilization of agricultural technologies and other relevant assets for benefits of the rural producers, i.e. ensuring that innovative agricultural technologies reach value chain points where they are needed most.

The use of the Small and Medium enterprises (SME) instrument in bringing agricultural innovations to markets has been central to CORAF/WECARD. And in that regard, a representative of INTERFACE, the regional SME network, sits on the Board of CORAF/WECARD. The 2014 General Assembly was a new opportunity for SME network to hold consultations and propose new approaches, including the



creation of opportunities that encourage youth engagement in the agro-industry, and in the creations of more favorable

environment for enterprise creation and sustainable growth in “agri-preneurship”.



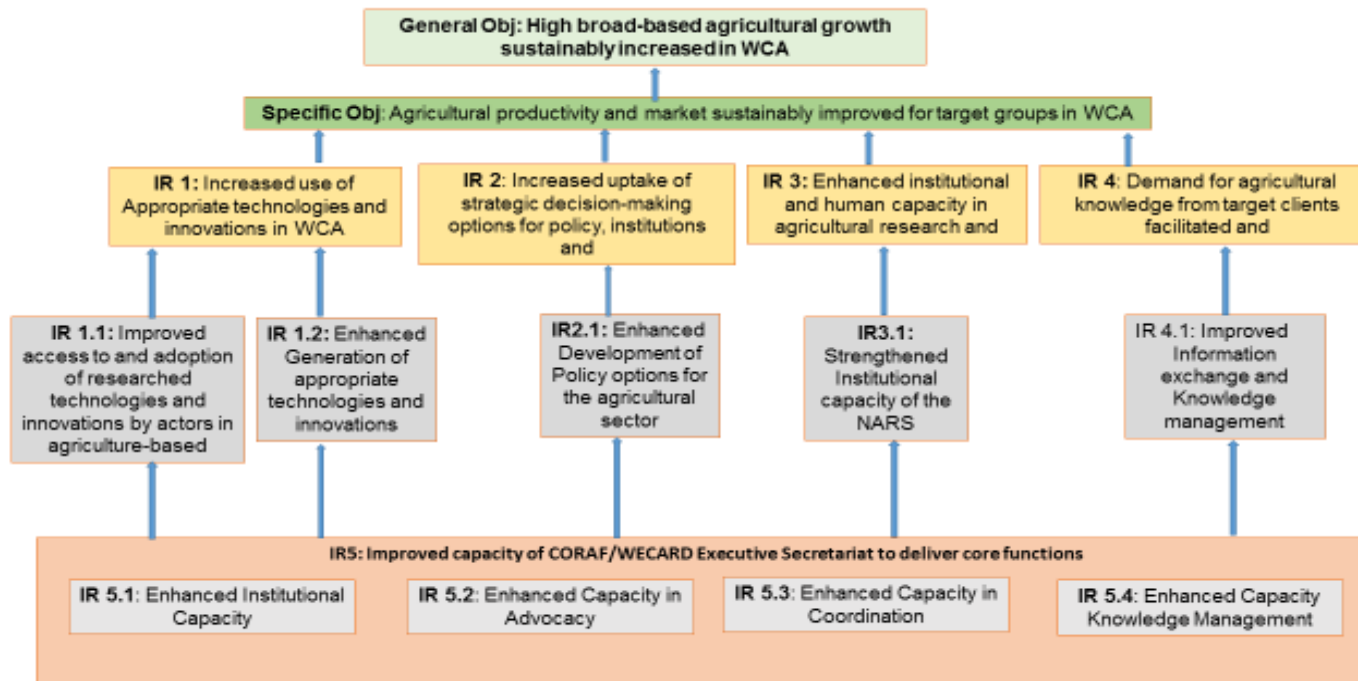
Members of Regional NGO group at 2014 CORAF/WECARD General Assembly

TRACKING OF DEVELOPMENT OUTCOMES – STRENGTHENED PLANNING, M&E MECHANISM

A new regional research for development monitoring and evaluation tool was launched by CORAF/WECARD in 2014 to serve as a reference document which provides guidelines and guidance for M&E functions in the measurement of project performance. This tool emphasizes methods and protocols for monitoring and evaluation functions under the program and provides step-by-step procedure and processes for data collection (data generation, monitoring, analysis, evaluation, reporting, and learning); and the metrics of success for the MDTF-results framework and performance indicators.

This newly launched tool has been effective in gathering, managing, analyzing and disseminating data and information for each performance indicator in a systematic and timely manner for effective implementation, tracking, assessment of outcomes and accountability to stakeholders. It has also been useful in identifying performance gaps, and in informing management decisions especially in undertaking remedial actions aimed at the achieving the goals of the CORAF/WECARD results framework.





Graphic presentation of CORAF/WECARD Results Framework

STRENGTHENED DIRECTORATE FOR TRACKABLE OUTCOME DELIVERY

In order to achieve its objectives, CORAF/WECARD first needs to deliver in the result areas indicated in the results framework. Under OP1 this was attempted through an approach which featured programs, described in the Strategic Plan. This had the potential for integrating and sharing skills, disciplines and knowledge as well as more systematic monitoring and learning. It was an approach that had several successes, including creating strong corporate identity and a centralized coherent approach, but it did not adequately fulfill the complete range of opportunities that the program structure promised.

The approach tended to encourage a commodity rather than a people-centered approach, with emphasis on technology and innovation delivery rather than technology and innovation use.

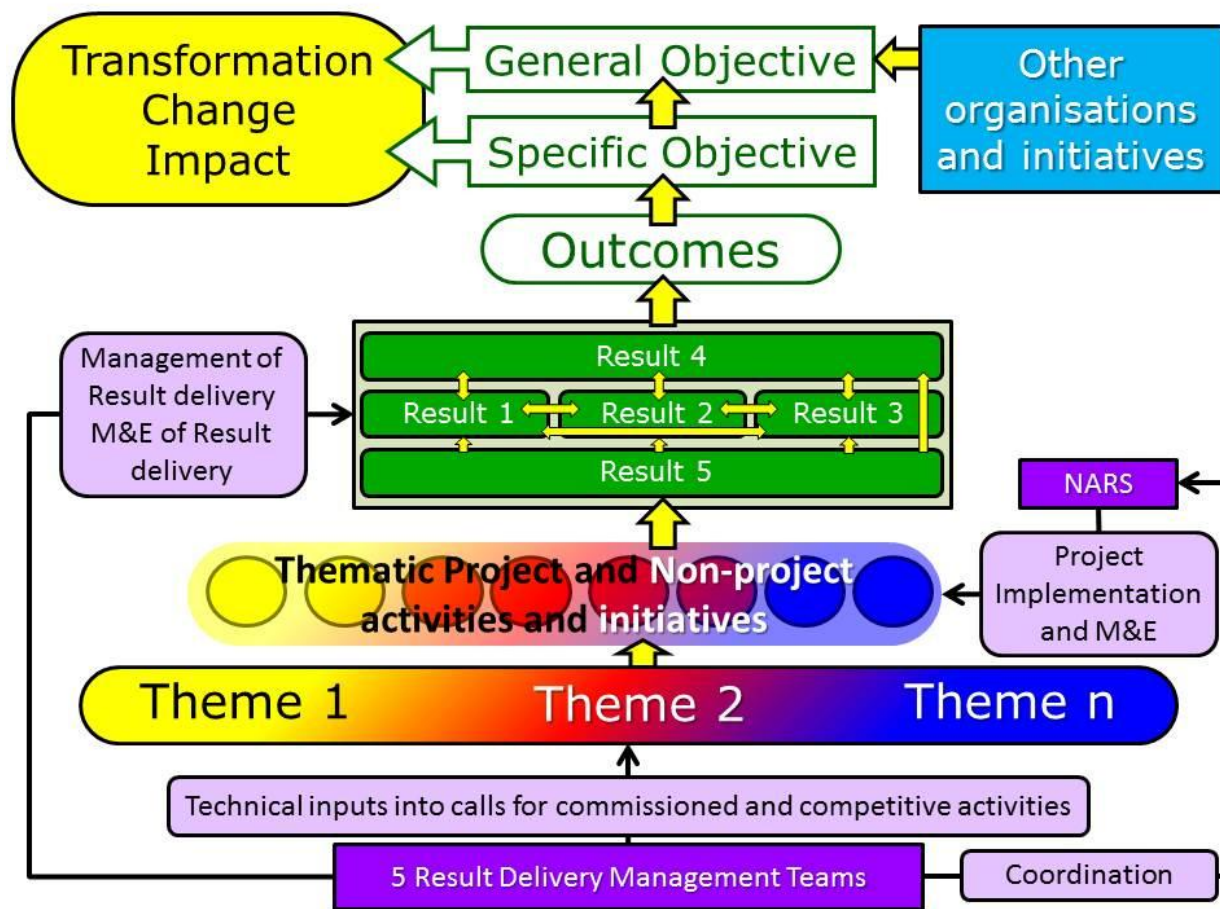
The new approach introduced and adopted in 2014 is more holistic and integrated and is based on lessons learned from analysis by stakeholders and external evaluations, and it focuses on **Result Delivery Management Teams [RDMT]** and offers several potential benefits. This approach moves the focus from programs to the delivery of Results with a new Directorate of Research and Innovation under the guidance and support of the Director for Research and Innovation [DRI], who is responsible for managing, amongst other things, the interconnections between the Results. The Directorate comprises five RDMT, each headed by a Result Delivery Team Manager. These new changes are reflected in the new organizational structure of CORAF/WECARD.

Potential Benefits of Result Delivery Management Teams

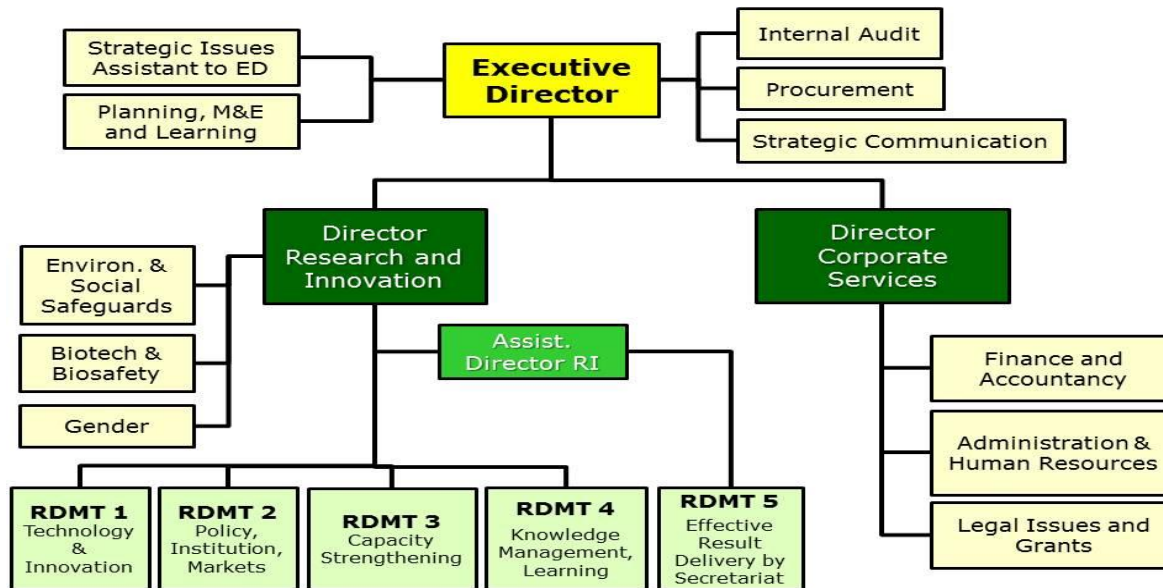
- *Excellent opportunities for inter-result linkages and planning*– centrally located Result Delivery Management Teams [RDMT] with opportunities to link, plan and build synergy.
- *More effective monitoring, evaluation and learning* – centrally managed Result delivery will enable the sharing of lessons learned and the adjustment of projects and activities to seize opportunities.
- *Simplified streams for knowledge and information*– RDMT can form the focal point for concentrating information and knowledge.
- *Independence from undue non-strategic influences* – the chances of standalone programs or super-projects will be reduced, as all activities will have to demonstrate relevance to Result delivery, ensuring better coherence with CORAF/WECARD's priorities.
- *Clear lines of accountability* – with clear management structure lines of accountability would be simplified and clear.
- *Strengthened corporate cohesion* – the importance of Result delivery as the necessary and sufficient *conditions for success* will be central to the OP2 approach emphasizing the importance of the Strategic and Operational Plans.
- *Ensuring that all work conducted is coherent with the Strategic Plan*– through nested logframes and broad-based ownership of the Strategic Plan, easier to develop calls for proposals linked to CORAF/WECARD's priorities and Strategy.







Result Delivery Pathway for CORAF/WECARD



New organizational structure for enhanced program delivery

STRENGTHENED GENDER INVOLVEMENT IN REGIONAL AGRICULTURAL RESEARCH FOR DEVELOPMENT

CORAF/WECARD newly introduced program on Gender in Agriculture peaked its activities in 2014 by setting in motion a dynamic system of awareness creation on the importance of accounting for gender needs right from the conceptualization of programs and projects, through their implementation and evaluation. The Gender Program has been working with a dynamic group of stakeholders to empower women and influence national and regional institutions, policies, and the Agricultural Research for Development agenda to ensure

gender is appropriately addressed at all levels, especially with issues linked to the changing and more variable climate. In 2014, the CORAF/WECARD Gender Program collaborated with CORAF/WECARD research programs in strengthening agricultural innovation to more directly benefit women research scientists, farmers and householders and enable effective access to knowledge, credit and sustainable and appropriate inputs and resources.





348 farmers including 203 females (58%) benefited directly from weather information and improved management practices

The CORAF/WECARD Gender program in collaboration with the Hub Rural launched some consultation aimed at establishing an inclusive West Africa regional Alliance on gender. The goal is to consolidate the holistic integration of

gender issues in R&D in the region. The Gender program plans to involve ECOWAS, UEMOA, CILSS, ROPPA, APSS, Hub Rural, USAID and GIZ in developing and implementing this Alliance.

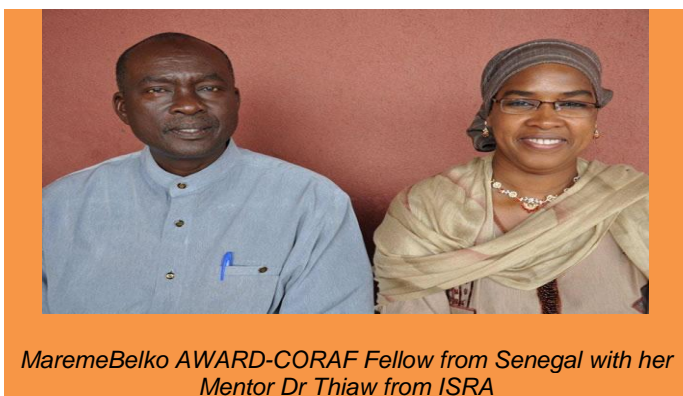


Training of Staff at the ES of CORAF/WECARD, February 2014



The increased awareness on gender is significantly impacting on the management of regional programs where more women are currently being more involved. Reports indicate an increased number of female-coordinated WAAPP projects in Senegal, Côte d'Ivoire and Mali. The new cadre of AWARD-mentored scientists and research managers have equally been actively involved in mentoring younger colleagues. AWARD (Africa Women in Agricultural research for Development) is a career-development program that equips top

Impact from the AWARD program: The Gender program's rapprochement with AWARD is significantly contributing to shifting the much needed emphasis on female leadership in agricultural research for development in the region.



Mareme Belko AWARD-CORAF Fellow from Senegal with her Mentor Dr Thiaw from ISRA

The five AWARD-CORAF/WECARD supported fellows who received leadership training under the AWARD Program had their capacities strengthened in scientific writing, leadership skills, and gender mainstreaming in agricultural programs and projects. Most of

women agricultural scientists across sub-Saharan Africa to accelerate agricultural gains by strengthening their research and leadership skills, through tailored fellowships. In 2014 CORAF/WECARD-sponsored AWARD scholars were strategically positioned to mentor fellow women scientists in Senegal, at CERAAS; in Côte d'Ivoire at CNRA; and in Cameroun at the University of Ngaoundéré.

the female AWARD-CORAF/WECARD fellows coordinate WAAPP projects in Senegal, Cote d'Ivoire and Mali. They are also supervising students in agricultural research. Spill-over effects of this program in NARS includes the decision taken by the DG of CNRA Côte d'Ivoire to organize workshops to share the AWARD training with CNRA and other female research staff of the institute.

In addition to the Cameroun Junior Researcher AWARD received in 2013, Dr Pauline Mounjouenpou was rewarded and promoted to the rank of Associate Professor and appointed Head of the Food Technology Laboratory in her research Institute-IRAD-Cameroun in February, 2014. Aissata Bama Nati fellow from Burkina Faso was decorated by the Burkinabe State with "chevalier dans l'ordre des Palmes académiques".

Three out of five of these fellows have been selected for a research fellowship program. Dr Pauline Moundjouenpou will be in Montpellier University, to conduct research on the development of a rapid detection method of Ochratoxin-A which is a carcinogenic mycotoxin in food, under the supervision of Prof Tachon-Fontana. Djedji Catherine will be in Montpellier CIRAD to conduct research on



cassava processing innovative mechanisms, under the supervision of Dr. Marc Valente; and MaremeBelko will conduct research in IRD on High throughput phenotyping of root traits for drought tolerance in pearl millet, under the supervision of Dr Laurent LAPLAZE.

During the 2nd year of the program the fellows will be identifying their mentees who will benefit from their coaching to be outstanding female agricultural scientists so as to ensure significant spillover effects of the program. Dr Codou Gueye CISSE a Geneticist from CERAAS-Senegal will be the mentee of MaremeBelko; FochivéOrnela from Ngaoundéré University-Cameroun will be for Dr Pauline Moundjouenpou; while Boko Chantal researcher from CNRA-Cote d'Ivoire will be the mentee of Djedji Catherine.

The AWARD program is thus delivering outstanding results and spillover effects in terms of contribution towards sustainable agricultural research and development in West and Centre Africa,

Design and implementation of a Regional Gender Alliance in West Africa: By December 2014 consultations were still on-going with the Hub Rural in a mutual effort aimed at establishing a Regional Gender Alliance in West Africa. This would serve as a platform to share experiences and create synergies which should improve and consolidate gender mainstreaming initiatives in AR&D in the region. To this end, a regional consultation was agreed on, and this would involve collaboration with ECOWAS, UEMOA, CILSS, ROPPA, RBM, APSS Hub Rural, WAWA, WILDAF, USAID, GIZ.

through scientific and leadership capacity building of female researchers.

Most countries implementing WAPPP have validated their Gender Actions Plans, which have been posted on CORAF/WECARD gender portal. Gender training and advisory services to stakeholders implementing the WAAPP was provided and focus was put on the contents of training materials and more importantly on guidelines for gender institutionalization. The target of 40% women as beneficiaries has been reached for the WAAPP. Ghana, Cote d'Ivoire, Gambia, Sierra Leone, and Liberia are above the 40% target, while Benin is at 35%, Togo and Niger at 34% Burkina Faso, Guinea, and Nigeria at 38%.

Initial actions will include agreements on the design of the Gender Alliance in West Africa, the conditions and modalities for its implementation, as well as mechanisms to make it operational and sustainable.

Establishment of international partnerships on gender: Collaborations between AfricaRice and CORAF/WECARD on gender mainstreaming tools with AfricaRice with the objective of strengthening partnership in this area.



STRENGTHENED RESEARCHER-USER PARTNERSHIPS FOR GROWTH IN AGRICULTURE

The IAR4D approach adopted by CORAF/WECARD has been a most rational approach being used in resolving a most challenging institutional issue confronting relationship between research scientist in the region and the various users of research outputs. The inclusiveness of extension, farmers, private sector and policy in the in the innovation process in the implementation of regional projects in 2014 continued to consolidate the place and usefulness of the Innovation Platforms in transforming agriculture in the region. The number and profile of such regional projects that CORAF/WECARD project coordinators are leading increased to 75 in 2014.



CORAF/WECARD regional projects and long-term studies in 2014

Program	OngoingProjects			CommissionedStudie s		Total
	MDTF	WAAPP	Others	WAAPP	Others	
Livestock, Fisheries and Aquaculture	4	0	3	2	1	10
StapleCrops	0	2	2	0	2	6
Non-StapleCrops	6	5	0	0	0	11
Natural Resources Management	3	4	5	0	16	28
Biotechnology& Biosafety	0	1	1	0	1	3
Policy, Markets& Trade	1	1	1	3	1	7
Knowledge Management/CapacityStrengthening	3	0	3	0	0	6
West AfricaSeed Program	-	1	2	-	0	3
EarthAudit	-		1	-	-	1
TOTAL	17	15	18	4	21	75

CORAF/WECARD introduced far-reaching restructuring of the ongoing projects in 2014 so as to ensure that outputs/outcomes from the projects could reach more beneficiaries than initially targeted. The restructuring of the projects was informed by additional scoping studies conducted with the aim of increasing the reach and spread of project outcomes to more smallholders without a significant change in

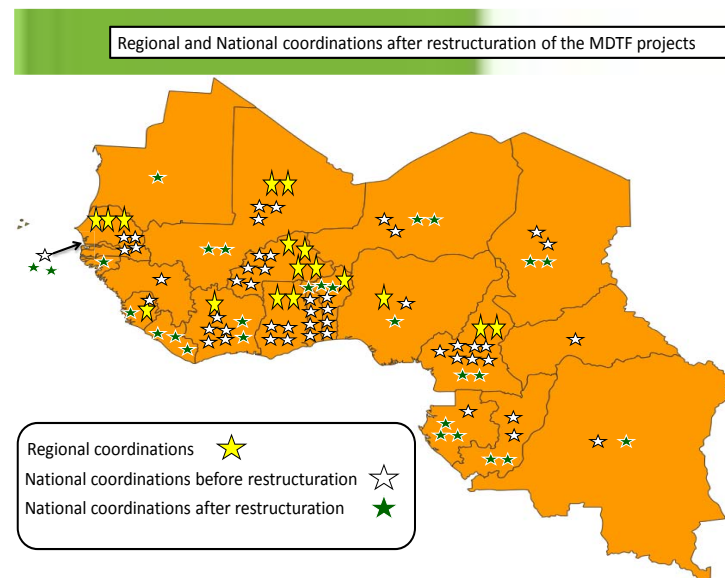
the resources needed to achieve that reach. Therefore the innovation processes adopted by the various projects were restructured in such a way not only concerned with how technologies could be transferred to the beneficiaries and used by the various actors, but also concerned with the diverse ways of getting innovations to respond to various market demands, and to social needs of the various strata of users



who were not initially targeted. The principle of widening of the scope of intervention is expected to concurrently increase the potential impact margin of the projects. Through the re-engineering of the regional projects, CORAF/WECARD enhanced the competencies and skills of rural households through the facilitation of networking and collaborative learning and inclusion of training activities for potential beneficiaries in countries which were not originally involved in the projects. Thus, many more beneficiaries were reached in 2014, and many more smallholders would be reached in the future as the implementation process of the projects progresses. The Innovation Platforms created to facilitate mutual learning and technology uptake are playing using significant outreach roles to beneficiaries. The restructuring of the various delivery mechanisms of the projects and programs also demonstrated more rationalization in funding distribution categorized as follows: direct support to projects, technical support to project beneficiaries facilitated by the CORAF/WECARD Secretariat, and governance and change management processes of the CORAF/WECARD Secretariat.

Within the framework of equally strengthening the research scientist-user partnerships, CORAF/WECARD intensified consultations with the policy makers in the humid central zone involving the following countries: Angola, Burundi, Cameroun, Central Africa Republic, Congo, Democratic Republic of

Congo, Gabon, Equatorial Guinea, Sao Tomé-and-Principe and Chad.



Therefore, on the sidelines of the CEEAC ministerial meeting on the adoption of a common agricultural policy, CORAF/WECARD worked with the policy makers to adopt two important recommendations aimed at launching the Central Africa Agricultural Productivity Program (CAAPP). The recommendations hinge on the Ministers contacting the management of their IDA funds both at the national and at the World Bank levels on a cohesive action aimed at launching the CAAPP.



STRENGTHENED PARTNERSHIP CAPACITY FOR RESEARCH AND DEVELOPMENT

Enhanced capacity of Innovation Platforms: Capacity strengthening remains one of the four core functions of CORAF/WECARD – the other three being Coordination, Knowledge Management and Advocacy. The new Operational Plan whose implementation commenced in 2014 re-organized CORAF/WECARD's capacity strengthening, especially with respect to capacity for development-oriented research.

In partnership with CSIRO of Australia, therefore, CORAF/WECARD restructured leadership training of actors of the Innovation Platforms initially funded by the Department of Foreign Affairs and Trade (DFAT, formerly UsAID). Within the partnership for capacity strengthening domain, therefore, 15 NARS scientists were awarded a CORAF/WECARD-led and DFAT supported study fellowships for Ph.D. degree aimed at strengthening the capacity of national centers to conduct research for development within the framework of a 'Converge to Innovate' (C2I). CSIRO vigorously supported technically the Innovation Platforms (IPs) during the period. A conceptual framework for Monitoring, Evaluation and Learning was developed to track performance of the IPs; and a company, the Grad Consortium was commissioned to mentor and coach the IP actors. A similar mentoring for actors in the WAAPP and MDTF projects has also been put in the pipeline.

One of the quick wins being achieved following the restructuring of the CORAF/WECARD-DFAT partnership is demonstrated by the team in the WECATiC project in which the

APESS innovation platforms are actively engaged in strengthening the capacity of smallholder ruminant livestock farmers in an integrated pest management involving acaricide use. Such collaboration which involves the *Association pour la Promotion de l'Élevage en Savane et en Sahel* (APESS), the largest livestock organization in the Sahel, enabled the WECATiC research team to efficiently scale up results delivered on work on integrated tick management.

Robust action plan for capacity building for agricultural transformation in WCA: In collaboration with AfricaLead Consortium, CORAF/WECARD developed a plan for building capacity for agricultural transformation within the framework of the Africa Lead Phase II project. Through the implementation of the plan it is expected that the effectiveness of key CORAF/WECARD stakeholders would be enhanced. The beneficiaries of this capacity building effort is especially the young professionals, Farmers' Based Organizations, NGOs, the SMEs, the Extension System, and the Universities. Capacities are especially being strengthened specifically in governance and strategic leadership; scientific and technical advisory roles; results based management; M&E; knowledge management, and in communication.

Nouvelle partnership experience with Latin America: Within the framework of the capacity strengthening action plan between CORAF/WECARD and EMBRAPA, CORAF/WECARD supported 56 young scientists from 13



WAAPP-implementing countries on a study tour to EMBRAPA's research centers in Brazil. EMBRAPA, a public company, provides feasible solutions for the sustainable development of the agricultural sector through knowledge and technology. The WAAPP actors benefited from the broad experience of EMBRAPA's network of research and service centers across Brazil in a huge variety of activities in agro-energy, agribusiness, food technology, biotechnology, nanotechnology, animal production and forestry. CORAF/WECARD considered this a perfect learning platform for the WAAPP actors. Some of the most interesting experiences gained by the WAAPP-target beneficiaries included taking products to markets.

Benefiting from the experience in Chinese agricultural transformation: CORAF/WECARD, CCARDESA and ASARECA joined high level World Bank delegations' which visited China to explore collaboration with the Chinese Academy of Agriculture Sciences (CAAS) and other agricultural institutions. During the tour a LoA with CAAS was concluded. CORAF/WECARD's delegation included 15 participants consisting of actors from WAAPP implementing countries (Mali, Sierra Leone (Benin, Côte d'Ivoire, Nigeria, Ghana, Senegal, Farmer Organization-ROPPA, CORAF/WECARD Secretariat and ECOWAS. The areas of interest for this tour included cereal (rice, maize) production, gene bank development and management, conservation agriculture and agricultural mechanization.



Trends in Scientific and Technical Cooperation

Sustained strategic partnerships and policy support:

Following the implementation of the 2007-2016 Strategic Plan in 2007, CORAF/WECARD introduced new trends in scientific and technical cooperation. The new cooperation path has been based on the view that collaborations should be comprehensive, including strengthened collaboration with regional policy and economic institutions such as ECOWAS, CEEAC, UEMOA, CEMAC, and with institutions from emerging economies from which resources and technologies could be leveraged for the regional vision on agricultural transformation. The partnership agreements between CORAF/WECARD and the RECs and institutions have remained fruitful to delivering positive change in the regional efforts to transform its agriculture. Several REC supported Programs – including Biotechnology and Biosafety, WASP, WAAPP, CAAPP, and many more are being implemented with tremendous support by the RECs. The new Operational Plan launched in 2014 was a new opportunity for CORAF/WECARD, the RECs and other partners to also renew collaborations in agricultural transformation.

Favorable environment for emergence of Regional Centers of Excellence:

Working in partnership with ECOWAS, CORAF/WECARD laid the foundations for the creation and or designation of regional centers of excellence as those structurally organized by national institutions sharing similar

priorities in R&D, innovation, education and training, and which are open to regional collaboration. The operating modalities of the proposed regional centers of excellence were finalized in 2014. The regional centers of excellence are expected to be able to deliver high-end research outputs that significantly contribute to agricultural transformation, which is the ultimate goal of ECOWAP and CAADP.

Consolidating partnerships with UEMOA:

A consolidated partnership action plan was developed with UEMOA to address sub-regional research and development in priority agricultural sectors notably maize, cotton, livestock, and aquaculture in the UEMOA sub-region. The implementation of this new plan aims at contributing to the modernization of agriculture and to improving its productivity and competitiveness of products both for export and local consumption. CORAF/WECARD is currently leading in the implementation of this plan.



Planning For Impact

The CORAF/WECARD Planning and Impact Orientation Unit has remained central to the result-based approach being widely adopted by all regional and national programs, projects and initiatives in the West and Central Africa region. This includes ensuring that robust systems for tracking project outputs, outcomes and also general project performance for evidence-based decision-making.

Key achievements include the production of a new M&E manual; development and deployment of a performance monitoring system involving creation of Performance Indicator Tracking system (PITT), participatory generation of targets.

In 2014 the Planning and Impact Orientation Unit commenced the integration of regional projects data information into a more general CORAF/WECARD electronic database. Highlights of the process include:

- The use of the M&E manual as a reference document in providing guidelines and guidance on M&E tasks under the projects in the collection and measurement of performance. Consequently, this serves as a tool to manage and track progress on interventions led by CORAF/WECARD. For each performance indicator, an indicator reference sheet has been developed to give information related to definition of the indicators, data collection method and quality, as well as recommended format for reporting.
- The creation of a performance monitoring system on all projects and programs. Excel-based Performance Indicator Tracking system (PITT) for each of the programs have been

developed which all link to CORAF/WECARD goals. This has been done with the perspective to streamline and systematize data collection and timely reporting on the various projects across the several intervention countries.

- Development of a participatory indicator targeting of the results framework.
- The Planning and Impact Orientation Unit played central role in the preparation of the CORAF/WECARD's 2nd Operational Plan (2014-2018), and in developing requisite instruments for its implementation; and in refreshing of the Strategic Plan (2007 – 2016). During the period the unit contributed to the identification of R&D issues and priority setting; assessment of constraints, opportunities and potentials in crops and livestock; development of agricultural R&D projects; and in capacity development in out-scaling and up-scaling of promising agricultural innovations.



Towards Achieving the CORAF/WECARD Strategic Results

Result 1: Appropriate technologies and innovations

Improved technology in livestock and fishery productivity

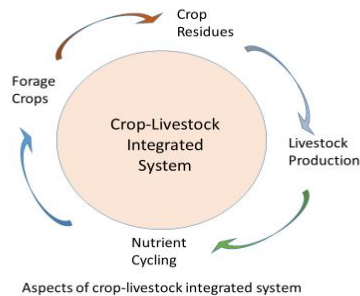
in the region: Artificial insemination trials conducted in CORAF/WECARD supported and NARS implemented regional projects reported some promising increases in success rates from 30% to 38% in Senegal and 33% in Niger. Although the trials are still ongoing, the results path indicate reasonable possibilities of improving livestock breeds in the region.

Trials involving the development and application of a supplementary ration to pregnant and milking cows during the first 3 months resulted in the reduction of the time between calving and the next oestrus from 180 days to 45-90 days. This innovation is expected to reduce inter-calving time and increase milk productivity for the farmer. Similarly, CORAF/WECARD supported project on feed development for dairy cow has produced promising preliminary results indicating a doubling in milk production from 2 liters/cow/day to 4 liters/cow/day in intensive production systems.

The development and promotion of low cost fish feed pellet which has floating characteristics comprises additional innovation being introduced by CORAF/WECARD. Most fish feed pellets in the market do not float, but rather sink out of the sight of the fish being fed, thus making such feeds unavailable to the fish, and encouraging microbial growth and eutrophication in the fish pond. Eutrophication in ponds increases costs for the farmer. The pellets developed and being promoted by CORAF/WECARD projects were produced from locally available agro-products. And since the pellets get completely consumed by the fish, given their availability to the fish, weekly weight gain has been reported to be steady in catfish.

The promotion of crop-livestock integrated systems by CORAF/WECARD has been aimed at preserving the natural resource base through prudent and efficient resource use. These integrated systems being promoted aim to achieve acceptable profits and high and sustained production levels, while minimizing the negative effects of intensive farming and preserving the environment.





Rice crop-poultry production integrated with aquaculture constituted a nouvelle dimension to classical production systems. The following integrated practices were being tried by CORAF/WECARD projects: The practices included a) 100% wastes utilization where egg production and rice field created directly inside the pond for space management; b) broiler production and rice field created directly inside the pond for space management; c) broiler production and rice field separated from the pond but designed to allow for maximum utilization of pond effluents by the rice field; d) wastes from poultry used for maggot production and pond fertilization and offal from processed fish used in fish meal and fish oil production; and e) wastes from rice processing used in production of rice bran which is an energy yielding feedstuff in fish and poultry feeds.



An experimental aquaculture pond integrated with rice-poultry in Nigeria

Preliminary results indicate that these new addition would be beneficial for fish, rice and poultry production for smallholders who almost always engage in the production of several commodities for household use and for markets. The smallholders are expected to benefit from enhanced natural biological processes above and below the soil since integrated systems constitute some winning combinations, when appropriately managed - they increase crop yields, soil biological activity and nutrient recycling. Integrated systems also support intensification of land use, and strengthen environmental sustainability.

A prototype of an energy-efficient charcoal-powered fish-smoking kiln was developed. This, coupled with packaging, has the potential of adding value to processed fish products and in increasing access to markets.

Enhancing the competitiveness of cash crops: Aflatoxin contamination has been the bane in the international marketing of groundnuts produced in the region. CORAF/WECARD supported regional research teams working with their international partners have identified groundnut varieties (ICGV 93305, ICGV 91317 and ICGV 91328) grown in Burkina Faso as possessing significant resistance to aflatoxin contamination, hence *Aspergillus* fungi growth. The team is therefore currently embarking on a large scale seed multiplication and promotion of these varieties to farmers. Another team also continued work on the identification of biochemical from aqueous extracts from wild plants which possess promising repulsive effects against pests of stored groundnut grains, and therefore reduction of aflatoxin production during storage. *Cassia nigricans* and *Hyptis spigerah* have so far been identified as being effective in repelling such pests.

CORAF/WECARD supported regional scientists have equally reported some preliminary results which indicate that spatial distribution of cocoa trees offering optimum shading might enhance productivity and biodiversity in farmers' cocoa plantations.



Training in nursery techniques for traditional vegetable production in Cameroun

The use of this best practice by farmers could enhance the productivity and income derived from non-timber products such as cocoa.

Result 2: Strategic decision-making options for policy and markets developed:

Strategic decision-making options for Non timber forest Products (NTFP):

Innovative policy options to manage NTFP based on knowledge generated on (i) the structure and organization of actors, (ii) state of policies, laws and rules of sustainable management of NTFP, (iii) products and sustainable management associated with their use, (iv) related institutional and regulatory framework, (v) economic recovery and control

of traceability product chain, were identified. These options are being fine-tuned and would be proposed to policy-makers. Key options identified for shea in particular include: (i) focusing on the sustainability of shea resource, (ii) promoting the collection of shea kernels, and (iii) strengthen the capacity of stakeholders and promoting communication to sustainably enhance shea resources, (iv) promoting the marketing of NTFP products through organization of the sector (creation of a cooperative of collectors for example), and strengthen capacity on effective crop techniques, (iv) developing and disseminating storage and processing techniques, (v) developing an operating system that preserves the resource through appropriate legislation that reflects the concern of small producers, (vi) promoting the creation of small and medium enterprises around the product.



In WCA Shea butter is primarily produced by women.

Result 3: Sub-regional agricultural research system strengthened and coordinated

Strengthened capacity of institutions and research scientists: Capacity of research institutions to conduct high quality research is often hampered by the limited availability of the necessary research infrastructure. The continued support provided by CORAF/WECARD for institutional strengthening has been in mainly on the governance systems of the institutions, and support in the acquisition of some basic research infrastructure. In these guise some research equipment was procured for in 2014 for one the regional research projects on rice-poultry-aquaculture integration involving University of Ibadan (Nigeria), University of Buea (Cameroun) and Njala University (Sierra Leone).

In 2014 CORAF/WECARD continued supporting fifteen (15) young research scientists for the pursuit of PhD and four (4) MSc programs within the framework of the DONATA project. Similarly, CORAF/WECARD launched a program in which Civil Society Organizations (CSOs) – comprising farmers' organization, NGOs and private sector organizations' capacities are being strengthened to cope with the demands of integrated agricultural research for development (IAR4D) and the Innovation Platforms (IPs). Capacity strengthen relative to the effectiveness of the IP was commissioned to consortium

comprising GRAD Consult, IITA and ICRA of Holland. The involvement of this consortium in mentoring and coaching of these actors continued to sharpen the focus and productivity of the IPs.

The capacity of 152 (25 women) dairy value chain actors including livestock farmers in Senegal, Niger and Burkina Faso, was strengthened in various themes related to milk productivity and competitiveness. Specifically these included best practices for milking, forage collection and storage, detection of natural oestrus. Immediate outcomes include (i) the adoption of innovations in forage collection and storage by 50% of the trainees and the stalling of dairy cows during the dry season. The potential impact is the change in the livestock farming system, from the current extensive and nomadic system to the semi-intensive and sedentary system, which is more productive and more environmentally and socially friendly. The new system also encourages preservation of natural resources and reduction in conflicts between crops and livestock farmers, (ii) The detection of efficiently natural oestrus, which increases the performance (rate of success: from 30% to 38%) in artificial insemination.

Training sessions were organized for over 200 fisher folks on value addition, and in packaging of smoked catfish fish for export markets.



Fish drying and packaging facility developed

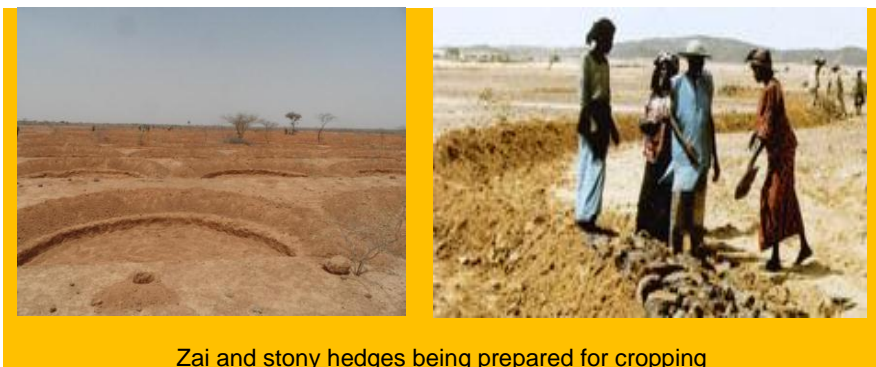
Innovation Platforms were established to address issues related to the improvement of the groundnut value chain in Mali. In 2014 the IPs identified relevant groundnut value chain actors - producers, processors, traders, transporters and consumers, who have functional links with the state extension services and NGOs, and with other government services. The IPs also identified the benefits, constraints and aspirations of each category of actors.

The Natural Resources Program developed, and is promoting the use of a manual on a new methodology which facilitates training especially of grass-root actors on the effective conduct in field data

collection, morphological characterization, and trypanosomiasis diagnosis in the field, as well as collection and handling of samples.

Enhancing resilience and adaptive capacity to climate change:

The capacity of actors was strengthened on the use of tools such as *climate analogous* approach aimed at managing farms of the future by ensuring resilience of farms and farmers to climate change in the region. In effect, 80 farmers, including 39 women, from 9 villages visited 13 other villages for onsite learning exchange of experience. During the study visits, farmers in reference sites shared and learnt from their counterparts on best practices for adaptation to the changing and the increasing variable climate. The technologies demonstrated included zai, septic durable composters, assisted natural regeneration, improved variety and seed multiplication, fish ponds, cereal banks.



In cooperation with Carnegie Institution for science of the USA, an Application Programming Interface was developed within the context of the EarthAudit project, and made available through a web application hosted at <http://earthaudit.herokuapp.com>. This application allows farmers to take decisions on crops that could be

grown within a given climatic context. This information could be accessed through the Application Programming Interface (API). The API is configured to communicate with a mobile application, which makes these projections available by SMS. Currently, CORAF/WECARD is supporting farmers' training on the use the system.

An Alliance for Seed Industry in West Africa (ASIWA): Significant progress was made in the process of establishing an Alliance for Seed Industry in West Africa (ASIWA). In 2014 country-level sensitization were held to facilitate country buy-into the Alliance. Processes were equally advanced to establish a West Africa Seed Committee (WASC/COASem) to coordinate National Seed Committees (NSCs) in the ECOWAS sub-region. A report and draft Action plan were validated by Directors of National Seed systems and seed regulation agencies from the 17 ECOWAS-UEMOA-CILSS member countries. The progress made so far on the establishment of the ASIWA and COASem, which were in response to the dual request made by ECOWAS are deemed remarkable milestones toward the achievement of the goal of the region's seed systems.

Burkina Faso and Senegal published the ECOWAS Seed Regulation in their official gazette, bringing the total number of Member States that have gazetted the Regulation to eight as at March 31, 2014. The CORAF/WECARD-led West Africa Seed Program (WASP) is continuing work with the other countries to facilitate the publication their seed regulations.

As of March 31, 2014, CORAF/WECARD supported Guinea in the final updating of its seed regulatory framework, bringing the number of Member States to three - Togo, Benin and Guinea – that have been supported to update their seed regulatory framework to



enhance the analysis, drafting and presentation of policy documents for public/stakeholder consultation. In order to facilitate dialogue for interstate seed trade, CORAF/WECARD supported Guinea's updating of its National Quarantine Pest List (NQPL), thus bringing to six the number of countries that have so updated their NQPL. The other countries are Benin, Côte d'Ivoire, Mali, Senegal, Togo and Guinea.



Integrated Pest & Production Management (IPPM) training in Burkina Faso on traditional vegetable demonstration farm

Production of breeder Seeds: In partnership with IITA, AfricaRice, ICRISAT, and country NARSs, the WASP produced breeder seeds of the region's essential staple crops, namely maize, sorghum/millet and rice to feed into production of foundation and certified seeds system. A total of 56.36 metric tons of breeder seeds (BS) comprising 10.00 metric tons of maize, 5.36 metric tons of sorghum, 39.0 metric tons of rice and 2 metric tons of cowpea were produced.



Traditional vegetable seeds distribution in Cameroun

These are expected to yield huge volumes of foundation and certified seeds after two levels of multiplication. These should also contribute to increased seed availability for farmer use and productivity increases in the sub-region.



A modeling tool to estimate production of required volumes of seed class was also developed. This model could be used in the estimation of the quantity of seeds required in each country. Using this model, two countries, Mali and Burkina Faso, organized a national-level seed planning program involving experts in the seed industries. A five-year roadmap on seed production requirements (breeder seed; foundation seed and certified seeds) have therefore been developed for Mali and Burkina Faso for key crops. This is guiding the Agriculture Ministries of these countries in the production of required seed volumes in the two countries.

Volume of foundation and Certified seeds after two levels of multiplication

Crops	Breeder Seed (tons)	Projected Foundation Seed (tons)	Projected Certified Seeds (tons)	Projected Area (ha) to cover on farmers' fields	Projected Grain Production (tons)
Maize	10	750	60,000	2, 400,000	4, 800,000
Sorghum	5.36	536	53,600	5, 360,000	5, 360,000
Rice	39	1,950	97,500	1, 950,000	4, 875,000
Cowpea	2	100	6,667	222,222	444,444

Strengthening the SME capacity in agribusiness: Development of Business plans for six seed sector SMEs in Niger were developed

with the support of the West Africa Seed Program (WASP). These plans have been geared towards facilitating access to financial support, which would stimulate production of quality foundation and certified seeds. These enterprises are in three key cities in Niger – Niamey, Maradi and Dosso. Seed production and distribution capacities acquired by these SMEs are expected to spillover to many farmers within the country, and beyond. Also in Niger, two multifunction seeds threshers, suitable for rice, sorghum, millet, wheat, maize, and cowpea have been delivered by the WASP to INRAN in Niamey and six private seed producers in the Maradi region, to enhance seed cleaning and processing for improved quality seeds.

An electronic platform developed under the program for seed marketing is expected to facilitate online transactions between seed suppliers and users. Tools for inputting market information, including types of seeds, seed origin, quantity, quality and price have been put on the WASP website and a users' training was launched to strengthen capacities of focal persons in 13 countries to feed information onto the website. Also, the development of a seed directory of established companies and SMEs at the regional level is in progress to enhance seed marketing and facilitate interaction of seed buyers and sellers

Gender Mainstreaming: Gender training was organized in 2 sessions in 2014 for programs managers, administration and finance officers, information and communication officers, associates Programs Fellows, interns, and drivers. A total of 41 participants who attended the training have been provided with gender tools to mainstream gender in their various activities. The training has led to behavioral changes with regard to their perception and commitment to gender considerations not only at work place, but also at home.



A total of 64 seed system actors, including NARS, policy agencies and regulators of the seed system, stakeholders in the private sector, and national specialists in seed, were trained in gender mainstreaming in the seed value chain. The training resulted in the identification of major inequalities between women and men in the seed sector, the elaboration of WASP Gender Actions Plan, and a road map to follow up its implementation.



Gender mainstreaming - WASP Stakeholders, 10-15 February 2014

CORAF/WECARD is currently providing gender technical assistance to the continental project, AfricaInteract– a platform enabling research and policy dialogue for adaptation to climate change in Africa.

Result 4: Demand for agricultural knowledge from target clients facilitated and met

CORAF/WECARD, leads West and Central Africa regional agricultural research and innovation in the service of technology development and use with and for the smallholder farmers in particular. CORAF/WECARD in partnership with a diversity of partners, generates, makes available, shares knowledge, technology and innovations that enhance agricultural productivity and profitability of farming systems, and natural resources. CORAF/WECARD research products are public goods meant to ensure the broadest possible impact from the outputs of its research. Therefore publication of results and freely making available agricultural productivity knowledge for wider dissemination are encouraged. In 2014 journal articles, books and book chapters, peer review papers, extension training manuals, reports and manuals were published (see list of publications). Also films and web sites were developed during that period.



Smallholder vegetable farmers shared their knowledge about vegetable nursery and transplanting techniques with Peace Corps volunteers (Cameroon)



Informing and communicating with stakeholders:

Communicating and sharing of scientific information on research results constitute a core function of CORAF/WECARD. This core function ensures the visibility of the research outputs in the transformation of agriculture in the region. In 2014, the following achievements were recorded:

- The major mailing lists (coraf-community@coraf.org) and (waapp@coraf.org) were updated and the total number of participants increased from 3700 to 3850, between December, 2013, and May, 2014.
 - 150 new requests for agricultural technology information from actors and partners (producers, researchers and students...) were met at regional level.
 - A video conferencing system has been set up at CORAF/WECARD Executive Secretariat to facilitate exchanges with partners, thus enhancing efficiency in resource utilization especially with respect to reduction in the frequency of face-to-face meetings. Daily updates of partner portals and the web sites (WASP, DFADT); development of a new regional website for WAAPP (www.waapp-ppaao.org). Increase of the number of visitors from 12000 in January to 18 000 in May 2014. Updating the new “window on market for innovations and agricultural technology (MITA)” with 1153 technologies collected from Senegal, Mali and Ghana, with 300 research expertise from the three 3 countries.
 - Eleven out of the 13 countries implementing WAAPP have a Website; Senegal and Burkina Faso are finalizing their websites
- Five (5) brochures, leaflets, fact sheets of various documents on projects and programs published;
 - Four (4) issues of the monthly newsletter CORAF ECHO published;
 - Five (5) issues of the quarterly newsletter, Coraf Action published;
 - 23 articles published in the public media on CORAF/WECARD in West and Central Africa between January 2014 to May 2014;
 - Regularly updating and facilitating of exchanges of CORAF/WECARD on the social media (Facebook; twitter and YouTube);
 - Two (2) short films (5mn) on CORAF/WECARD results developed and published through YOUTUBE;
 - The blog on CORAF/WECARD regularly updated;
 - The coraf.org web site occupies the 100 best positions on Google;
 - Visibility of CORAF/WECARD strengthened with its participation in the International Fair for Agriculture in Paris (SIA 2014) from 22nd to 26th January 2014; the Niger Agribusiness Fair in Niamey from 6th to 9th March 2014, and the international agribusiness Fair of Cape Verde from 2nd to 4th May 2014 in Praia.



Zoom 2014

WASP - Seeds for Agricultural Transformation

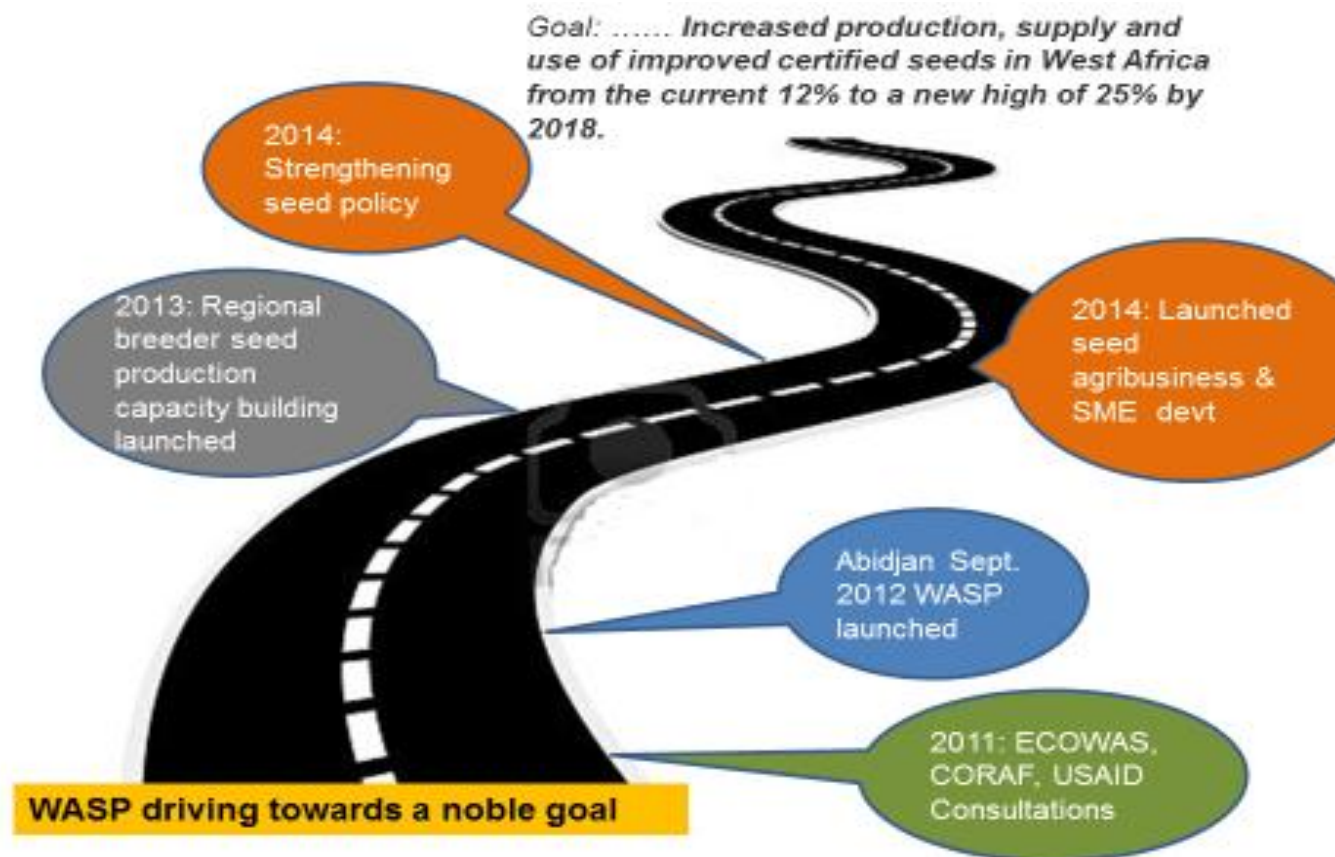
The West Africa Seed Program (WASP), a five-year program funded by USAID/West Africa under the United States Government's Feed-the-Future (FtF) initiative in support of the CAADP, ECOWAS Agricultural Policy (ECOWAP), and the ECOWAS Seed Regulation C/REG.3/05/2008, aims to contribute significantly to sustainable improvement of agricultural productivity in the West Africa sub-region. The goal of WASP is "Increased production, supply and use of improved certified seeds in West Africa from the current 12% to a new high of 25% by 2018". WASP has embraced an all-inclusive alliance, relying on broad and combined expertise of a wide range of stakeholders to optimize resource use and to create synergies with existing initiatives. Whereas the geographical scope of WASP main field activities covers Benin, Burkina Faso, Ghana, Mali, Niger, Nigeria and Senegal, the seed policy and regulations aspects engage all the 15 ECOWAS member states, plus Mauritania and Chad.

Partnerships in 2014 for the implementation of WASP were improved through dialogue and participation in partner consultative meetings. WASP facilitated the development of a seed project currently being supported by the Syngenta Foundation for the Farmer Based Organization, ROPPA. This project is also leveraging resources from WAAPP to support aspects of the project. In partnership with the UEMOA Commission an agreement on implementation of a common harmonized regional regulation is currently ongoing. Collaborative actions to create synergy were undertaken in 2014 with sister programs including the G8-USAID-AGRA SSTP, IFDC-WAFP and INSAH/CILSS. Collaborations with Iowa State University and the University of Ghana – West Africa Centre for Crop Improvement (WACCII) in building capacity in plant breeding, seed technology and catalogue development were advanced.

Draft Action Plans for the implementation of the Alliance for Seed Industry for West Africa (ASIWA) and the West Africa Seed Committee (WASC/COASem) have been finalized and validated. Additionally, a study to develop a communication strategy for WASP has been completed and plan for implementation of the outcomes were finalized. In 2014 capacity was strengthened to mainstream gender into the sub-regional seed



system. Environmental policy and safeguard were complied with the implementation of actions in the PERSUAP and a training of the WASP National Seed Specialists in Environmental Safeguard and



Compliance.

On seed policy, the WASP pursued efforts with 11 Member States of ECOWAS to publish the ECOWAS Seed Regulation in their official gazettes. Official notifications, coupled with sensitization, advocacy and capacity strengthening missions, resulted in having four additional Member States (out of six targeted) gazette their regulations, bringing to a total of ten, countries that have published the Regulation in their



official gazettes as at September 30, 2014. The capacity of 273 policy and regulatory experts was also enhanced through trainings in various technical areas of the ECOWAS Seed Regulation including variety release, seed quality control and certification, and phytosanitary certification.

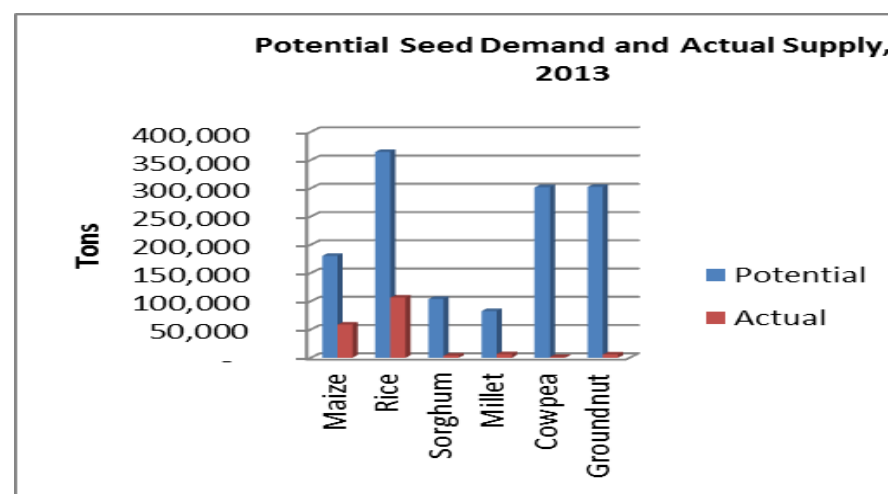
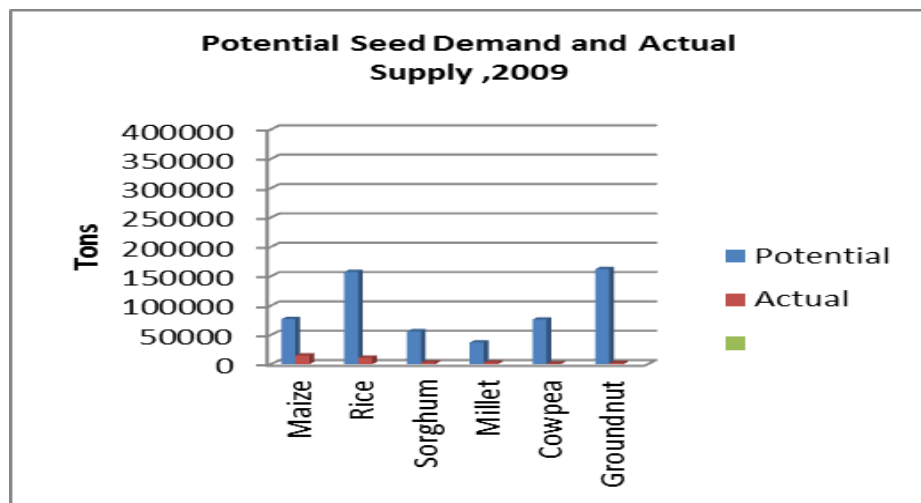
Breeder seed production which was launched in 2013 continued in 2014. A modeling tool to estimate the amount of seed class to be produced from breeder seed to certified seed was developed to aid the determination of the categories of seed required. The tool includes quality indications for seed production of targeted crops in Mali, Burkina Faso, Nigeria and Senegal. These countries are currently using this model in national seed coordination and planning. The capacities and skills of 362 NARS Seed Units personnel in five countries – Senegal, Ghana, Nigeria, Benin and Mali – were strengthened in different technical aspects of breeder seed production through structured and focused trainings. Overall, a total of 54.59 metric tons (mt) of breeder seeds comprising 9.55 mt of maize, 4.30 mt of sorghum/millet, 38.74 mt of rice and 2 mt of cowpea were produced. The seeds have been deployed through contractual agreements with seed producers, farmer based organizations and seed companies across the region for multiplication into foundations seeds.



Regional training session on seed electronic platform in Abidjan, May, 2014

On agribusiness, the WASP provided assistance for the development of business plans to 21 seed enterprises and farmer-based organizations to facilitate access to loans from financial institutions and to guide their business operations. The selection of these enterprises took account of fair geographical spread, and is expected that improvements in these business enterprises will generate appreciable spill-over effects to a wide range of farmers. Agreements are to be signed with these seed enterprises to multiply breeder seeds produced by research institutions into

foundation and certified seeds. Part of the breeder seeds of 54.49 mt produced this year was already deployed to some of these enterprises. Overtime, these enterprises are expected to be strengthened and linked directly to research institutions for direct and continued supply of breeder seeds. Most of these enterprises are also members of National Seed Trade Associations with which the WASP has signed MoUs for capacity strengthening on business management and a wide range of business management tools.



Potential seed demand and actual seed supply between 2009 and 2013

Intense capacity strengthening efforts in agribusiness involving training of 304 high-profile experts has continued to enhance governance, organizational development and business approaches of the seed private sector in the region. There is an upsurge in knowledge and skills, as well as better understanding of seed system actors in seed multiplication and business management approaches. An Electronic Platform on seeds and a regional seed private sector directory being developed by the WASP have shown initial signs in information exchanges, linkages and transactions among seed system actors. Public-private partnership arrangements involving National Seed Trade Associations are resulting in strengthening of foundation seed trade and development of the regional seed industry and private sector access to new genetic material. Evidently, there is creation of pull effects on breeder seeds produced by national research institutions which increases in access to seeds by



users. These are indications of 'WASP's seeding' for agricultural transformation. These constitute significant contributions to the seed industry and gradual strengthening of the private seed enterprises and companies in the region. Results-based mechanisms have been strengthened through integration of M&E approaches in the implementation of the WASP. In 2014 WASP adopted clear performance management approaches to track progress in the countries and at regional level. The M&E system involves the use of the PMP, the data collection tools and the performance indicator tracking templates (PITT). Generally, M&E functions have improved the quality of reporting from the national systems. Indicator targets in the 2014 Work-plan were monitored over the period to track progress in the achievement of all four results areas of the WASP.



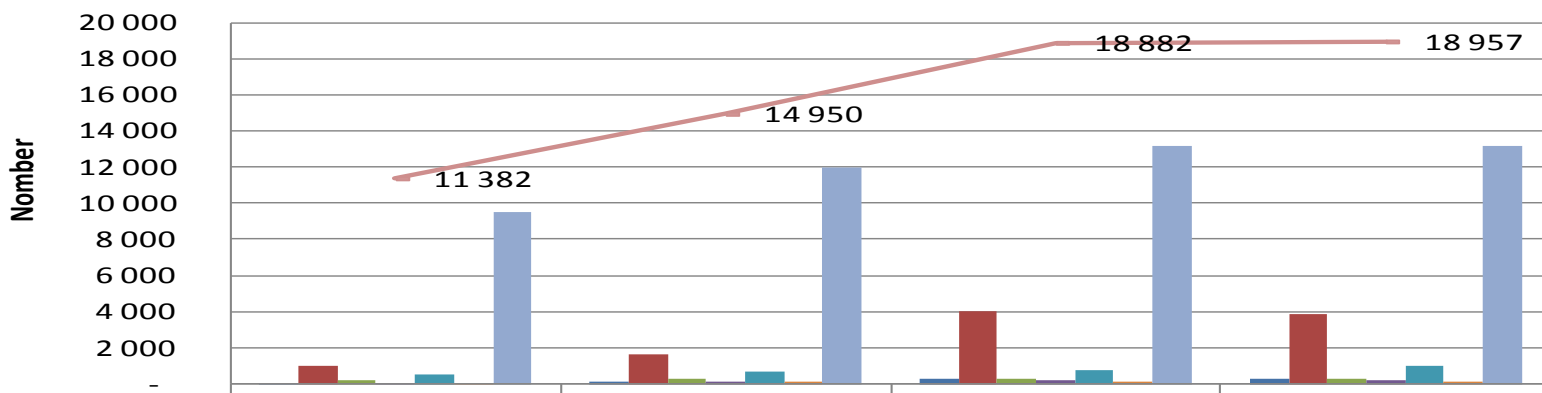
NERICA 4 Breeder Seed Field, AfricaRice, Cote D'Ivoire



Cowpea Breeder Seed Fields, CSIR-CRI, Ghana



Seed private registered SMEs trends in West Africa



	2010	2011	2012	2013
NSTA - Benin	35	100	250	250
NSTA - Burkina Faso	967	1 612	4 007	3 827
NSTA - Ghana	228	300	315	315
NSTA - Mali	70	150	210	240
NSTA - Niger	500	700	800	1 000
NSTA - Nigeria	82	88	100	125
ASPRODEB coop. - Senegal	9 500	12 000	13 200	13 200
Total	11 382	14 950	18 882	18 957



WASP Targets and Results

Results/Performance Indicator	FTF/Customer	Indicator Type	2014			Out year Targets		
			Target	Result	% achieved	2015	2016	2017
GOAL: Improved Sustainable Agricultural Productivity								
Yield per hectare of targeted crops in USG assisted areas: Cereals (focus crops covers maize, millet, rice, and sorghum)	USAID Custom	Impact						
OBJECTIVE: Expanded availability of quality seeds from the current 12 percent to 25 percent								
SO 1: Amount of improved seed produced in USG-assisted countries:	USAID Custom	Outcome	88	54.59	62%	80	96	105
<i>Maize</i>			21	9.55	45%	10	12	13
<i>Sorghum/Millet</i>			14	4.30	31%	7	8.4	9
<i>Rice</i>			53	38.74	73%	63	75.6	83
<i>Cowpea</i>			0	2.0	<i>infinity</i>			
SO 2: Number of hectares under improved technologies or management practices as a result USG assistance:	FTF 4.5.2 -2	Outcome	49	81.65	167%	85	88.8	98
<i>Maize</i>			14	29.8	213%	20	24	26
<i>Sorghum/Millet</i>			14	18.7	134%	14	16.8	19
<i>Rice</i>			21	31.15	148%	40	48	53
<i>Cowpea</i>			0.0	2.00	<i>infinity</i>			
IR 1: Alliance for Seed industry in WA for effective coordination sustained								
IR 2: ECOWAS Seed Regulation implemented								
2.1: Numbers of Policies/ Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case	FTF 4.5.1-24	Outcome	Per the agreement, CILSS is required to report on this indicator					
Stage 1: Analysed								
Stage 2: Drafted								



Results/Performance Indicator	FTF/Customer	Indicator Type	2014			Out year Targets		
			Target	Result	% achieved	2015	2016	2017
Stage 3: Presented for legislation								
Stage 4: Passed/Approved								
Stage 5: Implemented								
2.2: Number of individuals who have received USG supported short-term agricultural sector productivity or food security trainings – Policy Implementation	FTF 4.5.2-7	Output	260	300	115%	360	432	518
Male			205	267	130%	320	384	460
Female			55	33	60%	40	48	58
IR 3: Supply of quality breeder seeds increased								
3.1: Number of individuals who have received USG supported short-term agricultural sector productivity or food security trainings – Breeder Seed Production	FTF 4.5.2-7	Output	221	362	164%	290	232	186
Male	FTF 4.5.2-7		155	291	188%	232	186	149
Female	FTF 4.5.2-7		66	71	108%	58	46	37
IR 4.: Supply of quality foundation and certified seeds by the private sector increased								
4.1: Number of individuals who have received USG supported short-term agricultural sector productivity or food security training - Agribusiness	FTF 4.5.2-7	Output	120	304	253%	365	438	526
Male	FTF 4.5.2-7		86	262	305%	315	378	454
Female	FTF 4.5.2-7		34	42	124%	50	60	72
4.2: Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance	FTF 4.5.2-11	Output	7	77	1100%	72	86	105
4.3: Number of MSMEs receiving business development services from USG assisted sources	FTF 4.5.2-37	Outcome	35	21	60%	35	42	46
4.4: Number of MSMEs receiving US assistance to access bank loans	FTF 4.5.2-30	Outcome	21	3	14%	14	17	19
4.5: Number of public-private partnerships formed as a result of FTF assistance	FTF 4.5.2-12	Outcome	3	15	500%	35	42	46



Financial Overview

i) CORAF/WECARD's financial Statements

1. Balance sheets for years ended 31 December 2014 and 2013 (F CFA thousands)

	2014	2013
Assets		
Intangible assets	899	4,375
Fixed assets	223,455	218,708
Financial Assets	7,244	8,306
Receivable and similar assets	4,881,270	6,470,316
Cash Assets	3,417,666	3,699,510
Total assets	8,530,534	10,401,215
Liabilities and net assets		
Capital grant	-290,636	3,283,053
Financial liabilities	1,108,181	802,184

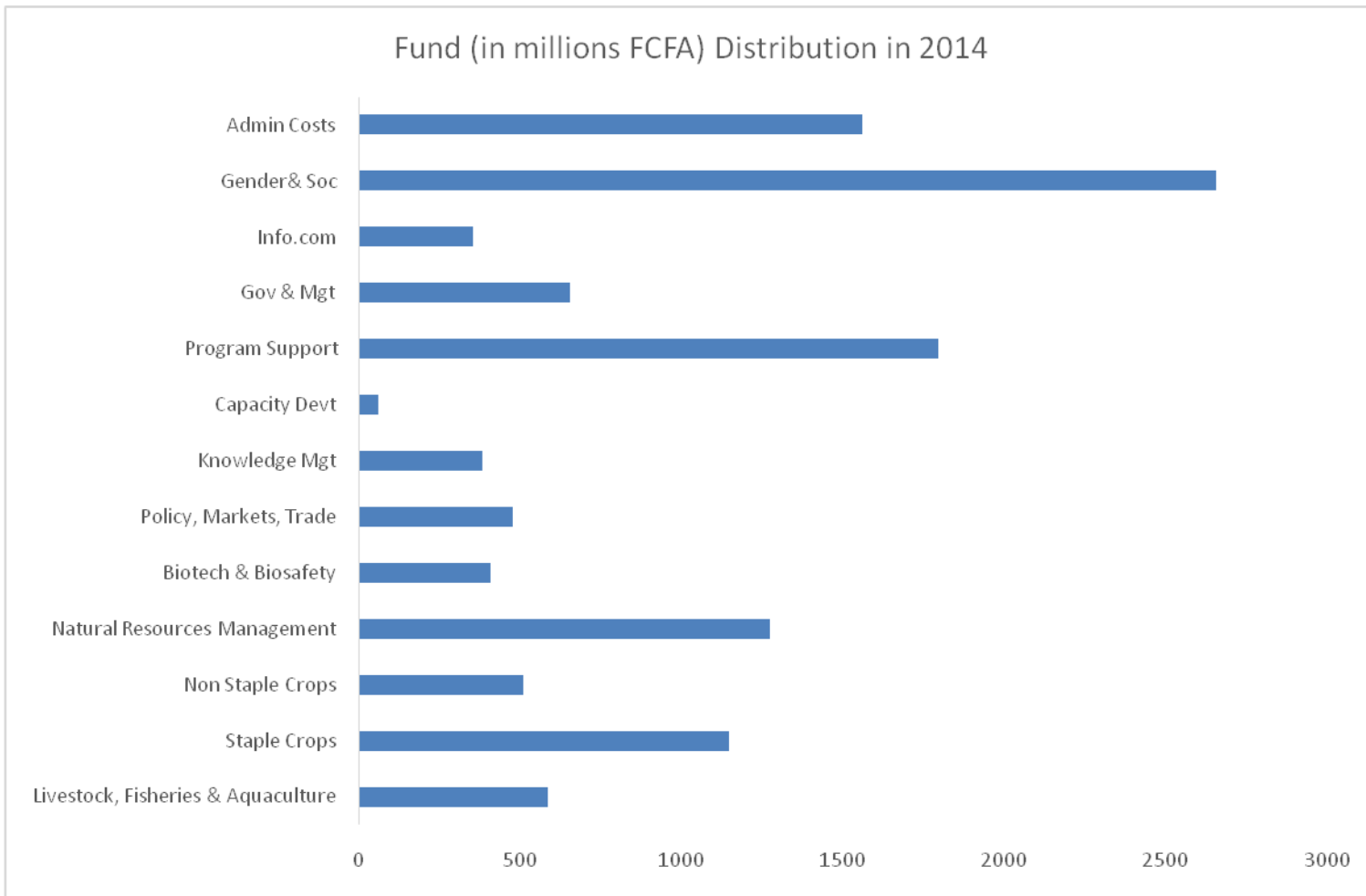


Current liabilities	7,595,243	6,306,633
Cash liabilities	117,746	9,345
Total liabilities and net assets	8,530,534	10,401,215

2. Statements of revenue and expenses 2014 and 2013 (F CFA thousands)

	2014	2013
Revenue		
Donor grants	9,271,848	5,344,695
Restricted grants	9,271,848	5,344,695
Unrestricted grants		
Other grants	617,809	257,455
Interest and miscellaneous		
Total revenue	9,889,657	5,602,150
Expenses		
Program related expenses	7,812,886	3,920,772
Management / governance	2,243,590	2,016,730
Total Expenses	10,056,476	5,937,502
(Deficit) surplus	-166,819	-335,352





List of Projects carried forward to second OP (2014 – 2018)

N°	Program	Project Titles	Countries Involved	Source of funding
1	Livestock, Fisheries & Aquaculture	Appui à l'amélioration durable de la productivité et de la compétitivité des filières laitières en Afrique de l'Ouest et du Centre -AMPROLAI	Senegal, Burkina Faso, Cameroon, Niger, Chad	MDTF
2		Intensification écologique des systèmes piscicoles extensifs familiaux en Afrique de l'Ouest et Centrale à partir d'une analyse des processus d'innovation - SyPiEx	Cameroon, Benin, Côte d'Ivoire	MDTF
3		Sustainable Integrated pond based aquaculture with rice and poultry production: Economic, social and environmental assessment – SIARP-ESEA	Nigeria, Cameroon, Sierra Leone	MDTF
4		Poverty Eradication and Grassroots Empowerment through Sustainable Integrated Aquaculture Development: Fish cum rice and Piggery production – SIAD-RP	Sierra Leone, Cameroon, Nigeria	MDTF
5		Contrôle intégré des tiques et maladies transmises émergentes en Afrique de l'Ouest et du Centre - WECATiC	Burkina Faso, Bénin, Cameroun	DFAT
6		Sustainable improvement of the productivity of meat value chain for food security in West Africa -SIMPROMEAT	Burkina Faso, Bénin, Niger, Nigeria	USAID
7		Improving milk productivity and value addition to enhance food security in West Africa - IMPROMILK	Sénégal, Bénin, Mali, Togo	USAID
8	Staple Crops	Strengthening Seed Systems Research and Development	MALI, BURKINA FASO, CAMEROUN, GHANA,	DFAT
9		Upscaling the Nigerian Flash Drying Experience for Sustainable Regional Trade and Income generation in West Africa [UDESWA]	Sierra Leone, Ghana, Benin, Nigeria	WAAPP
10		Improvement and scaling up the System of Rice Intensification (SRI) in West Africa	MALI, SENEGAL, GHANA, BURKINA FASO, CÔTE D'IVOIRE, NIGERIA, BENIN, SIERRA LEONE, LIBERIA, GAMBIE, TOGO, NIGER, GUINEE-CONAKRY	WAAPP
11		IRRIWEST: ICT tools for the enhancement of irrigation efficiency in West Africa	SENGAL, GHANA	UA/UE
12		IMPROMAIZE : Improving the productivity of maize production systems in the West African savannas through the deployment and dissemination of improved production technologies	NIGERIA, BENIN, BURKINA FASO, GHANA, SENEGAL,	USAID
13		2- IRiVaCc : Improve Rice Value Chain Competitiveness (IRiVaCC) for Food Security in West Africa	CÔTE D'IVOIRE, BURKINA FASO, GHANA, NIGER, NIGERIA, SIERRA LEONE	USAID
14		3- ISoVaC : Improving competitiveness of Sorghum Value Chain for Food Security in West Africa (ISoVaC)	MALI, SENEGAL, BURKINA FASO, NIGER,	USAID
15	Non Staple Crops	Fruit flies control technologies dissemination and capacity building of West African fruit value chains stakeholders	Benin, Ghana, Guinée, Mali, Senegal, Burkina Faso	WAAPP



N°	Program	Project Titles	Countries Involved	Source of funding
16		Facilitating sustainable intensification of smallholder cacao farming systems in West and Central Africa	Cameroon, Ghana, Côte d'Ivoire ,Togo	MDTF
17		Amélioration de la sécurité alimentaire de la qualité des aliments et des revenus des actrices et acteurs pauvres de la chaîne de valeurs de l'arachide en Afrique de l'Ouest (GestAflAr)	Ghana, Mali, Burkina Faso, Senegal	MDTF
18		Gestion intégrée des ravageurs par les traitements sur seuil et le fractionnement des récoltes pour une production cotonnière durable en Afrique de l'Ouest	Benin, Burkina Faso, Côte d'Ivoire, Mali, Senegal, Togo	MDTF
19		Femmes, adaptation génétique et maîtrise technique de la production à la commercialisation dans la diversification des cultures non vivrières en zones cotonnières (FAM&COMM)	Benin, Burkina Faso, Togo	MDTF
20		Gestion intégrée de Ralstoniasolanacearum dans le contexte de l'augmentation des risques phytosanitaires liés aux changements climatiques	Burkina Faso, Guinée, Mali, Senegal	MDTF
21		Enhancing productivity, competitiveness and marketing of traditional African (leafy) vegetables for improved income and nutrition in West and Central Africa	Burkina Faso, Cameroon,Ghana,Mali	MDTF
22		Amélioration de la productivité agricole des exploitations familiales avec l'utilisation de matériels agricoles adaptés aux conditions de culture dans les différentes zones agro-écologiques de l'Afrique de l'Ouest : Evaluation du parc de matériels agricoles, organisation et renforcement de capacités des acteurs	SENEGAL, TOGO, BURKINA FASO	WAAPP
23		Mise en œuvre d'une stratégie de diffusion à grande échelle de la technologie de l'inoculation des plantes en Afrique de l'Ouest	SENEGAL, BENIN, BURKINA FASO, CÔTE D'IVOIRE, GHANA, NIGER, TOGO	WAAPP
24		Expérimentation et Vulgarisation du système d'irrigation semi californien en Afrique de l'Ouest- Composante régionale	BURKINA FASO, BENIN, COTE D'IVOIRE, GHANA, GUINÉE-CONAKRY, TOGO	WAAPP
25		Africa cashew Initiative - Capacity Development of cashew value chains actors in west africa (ACI-CD)	GHANA, SENEGAL, COTE D'IVOIRE, BÉNIN, BURKINA FASO	WAAPP
26	NaruralReso urces Management	An integrated cereal-livestock-tree for the sustainable use of land and improved living conditions of small farmers in the Sahel (CerLiveTreeS)	Mali, Niger , Burkina Faso, Senegal, Cameroon	DFAT
27		Intensification durable des systèmes intégrés agriculture-élevage en vue d'accroître la productivité agropastorale et la sécurité alimentaire en Afrique de l'Ouest et du Centre (ISIAE)	Tchad, Senegal, Cameroon, Burkina Faso	DFAT
28		Options d'intensification écologique et gestions des risques dans les systèmes intégrés agro-sylvo-pastoraux en Afrique de l'Ouest pour renforcer la sécurité alimentaire	Niger, Senegal, Mali, Burkina Faso	DFAT
29		Intensification of Integrated Crop-Small Ruminant Production Systems in West Africa (SIIC-SR)	Mali, Gambie, Benin, Ghana	DFAT
30		Platform for Exchange between Researchers and Policy-makers for Adaptation to Climate Change in Africa	3 SRO CR : CORAF	CRDI
31		Externalités négatives de l'intensification des sols cultivées : méthodes et outils d'évaluation et pratiques alternatives	Togo,Congo Brazzaville, Senegal,Burkina Faso	MDTF
32		Optimizing productivity and perenial intercrop diversity tradeoffs in West and Central Africa cocoa farms	Ghana, Côte d'Ivoire, Cameroon	MDTF



N°	Program	Project Titles	Countries Involved	Source of funding
33		Introgression of Sahelian zebu cattle into trypanotolerant Boss taurus population of West Africa	Benin, Mali, Burkina Faso	MDTF
34		Enhancing the resilience and adaptive capacity to climate change through integrated land, water, and nutrient management in semi-arid West Africa – “ENRACCA-WA”	Ghana, Mali, Senegal	WAAPP
35		Amélioration de la résilience aux changements climatiques des écosystèmes agricoles le long des bassins-versants par le développement participatif de systèmes agroforestiers anti-érosifs et fertilisants dans six pays ouest africains (AmREACCAF)	Mali, Burkina Faso, Guinée, Benin, Côte d'Ivoire, Niger	WAAPP
36		Développement et promotion de la gestion intégrée de la fertilité des sols à travers un système amélioré de production adapté pour accroître la productivité des principales cultures vivrières du Bénin, du Togo et du Burkina Faso	Benin, Togo, Burkina Faso	WAAPP
37		Sustainable soil-water-nutrient management under increasing climatic change and variability	NIGERIA, Burkina Faso, Côte d'Ivoire	WAAPP
38	Biotech& Biosafety	DALIMA - Diffusion of Integrated Management Approaches to control Major Cassava Pests and Diseases in West Africa (OCT 2013 - OCT 2014)	GHANA, BENIN, CÔTE D'IVOIRE, TOGO, NIGER, SIERRA LEONE, LIBERIA	WAAPP
39		Outreach for Biotechnology Adoption and safe Management in West Africa	BURKINA FASO, CÔTE D'IVOIRE, MALI, SENEGAL, TOGO, BENIN	USAID
40	Policy, Markets, Trade	Amélioration des politiques de gestion durable des ressources naturelles basées sur les produits forestiers non ligneux en Afrique de l'ouest et du centre	Burkina Faso, Cameroon, Senegal, RDC, Gabon	MDTF
41		Identification d'options politiques et stratégiques pour une meilleure adoption des résultats de la recherche par les exploitations agricoles familiales en Afrique de l'Ouest	Senegal, Benin, Mali, Togo, Burkina Faso, Niger	WAAPP
42	CapacityStrengthening&Knowledge Management	Promotion of Science & Technology for Agricultural Development Project - Composante DONATA	Burkina Faso, Côte d'Ivoire, Cameroon, Congo Brazzaville, Mali, Sierra leonne, Senegal, Liberia, Benin, Gambie, Ghana, Togo, Chad, Guinée, Mauritanie, Guinée Bissau, Niger	AFDB
43		UniBRAIN (inceptionimplementation)	Benin, Burkina Faso, Mali, Ghana	DANIDA
44		Strengthened governance, leadership and change management skills of FBOs; demonstrated by improvement of the marketability and competitiveness of their food products	Ghana, Gambia, Central Africa, Cameroon, Congo Brazzaville, Chad, Burkina Faso, Benin, Mali, Niger, Guinée, Sierra Leone, Côte d'Ivoire, Senegal	MDTF
45		Projet pilote d'Appui au développement et à la compétitivité des entreprises de transformation de produits alimentaires locaux - PADEC/ETA-	Burkina Faso, Mali, Côte d'Ivoire	MDTF
46		Partenariat entre la recherche et les organisations de producteurs pour une amélioration de la qualité, une labellisation et une meilleure mise en marché des produits transformés des filières agricoles prioritaires au Sénégal, au Togo, au Niger et au Bénin (PROPAQ)	Sénégal, Togo, Niger, Benin	MDTF
47		Connaissance pour l'emploi basée sur l'Internet	SENEGAL, MALI, NIGER, NIGERIA, GHANA, SIERA LEONE, BENIN, CÔTE D'IVOIRE, BURKINA FASO	IDB/ WAAPP
48	West	West AfricanSeed Program	BURKINA FASO, BENIN, NIGER,	USAID



N°	Program	Project Titles	Countries Involved	Source of funding
	AfricaSeedProgram		SENEGAL, NIGERIA, GHANA, MALI	
49		Appui à la production et à la diffusion durable de semences certifiées	Sénégal , Niger, Mali, Liberia, Gambia, Bénin, Burkina Faso	WAAP
50	EARTH AUDIT	Agricultural yield Pilot Project	SENEGAL, MALI, NIGER, NIGERIA, GHANA, MAURITANIE, CÔTE D'IVOIRE, BURKINA FASO	WB



Executive Secretariat Staff

N°	Name	Position
Executive Director's Office		
1.	Dr Harold ROY-MACAULEY	Executive Director
2.	Ms Awa Cissé DIONE	Controller of Finance
3.	Mr. Maguette SY	Procurement Specialist
4.	Ms Arame Diattara NDIAYE	Personal Assistant to Executive Director
5.	Mr. Mamadou Djigo TANDJIGORA	Executive Director's
Program Directorate		
6.	Dr Aboubakar NJOYA	Director of Programs
7.	Dr Mbène Dièye FAYE	Program Manager, Policy Markets and Trade
8.	Prof. Abdourahamane SANGARE	Program Manager Biotechnology & Biosafety
9.	Dr Hamadé KAGONE	Program Manager Livestock, Fisheries & Aquaculture
10.	Dr Abdulai JALLOH	Program Manager, Natural Resources Management

- | | | |
|-----|-------------------------------------|--|
| 11. | Dr Ousmane NDOYE | Program Manager Staple and Non-Staple Crops |
| | | Program Manager, Capacity Strengthening & Knowledge Management |
| 12. | Dr Sidi SANYANG | Left in June 2014 |
| 13. | Dr Vincent Joseph MAMA | Research Results Uptake Officer |
| 14. | Dr George Achu MULUH | Planning Officer |
| 15. | Dr Mariame MAIGA | Gender & Social Development Officer |
| 16. | Dr Abdourhamane ISSOUFOU KOLLO | Department of Foreign Affairs & Trades (DFAT) Program Officer |
| 17. | Dr Niéyidouba LAMIEN | WAAPP Program Officer |
| 18. | Mr. Sheik Ahmed Tejan ROGERS | Monitoring & Evaluation Officer |
| 19. | Ms Julienne KUISEU | Program Assistant |
| 20. | Mr. Jérôme Konan KOUAME | Program Assistant |
| 21. | Mr. Mika NDONGO | Program Assistant |
| 22. | Ms Soukeyna CISSE | Bilingual Assistant |
| 23. | Ms Isabelle CABRAL-GRUNITZKY | Bilingual Assistant |

WASP

- | | | |
|-----|----------------------------|-------------------------------------|
| 24. | Dr Ernest Assah ASIEDU | Coordinators of WASP |
| 25. | Mr. Folarin Sunday OKELOLA | Seed Production Specialist |
| 26. | Mr. Yacouba DIALLO | Agribusiness & Marketing Specialist |

- | | | |
|-----|----------------------------|------------------------------------|
| 27. | Mr. Francis Ofoe KONU | Monitoring & Evaluation Specialist |
| 28. | MsCécile Edith Ndiaye SARR | Bilingual Assistant |

Directorate of Administration & Finance

- | | | |
|-----|--------------------------------------|---------------------------------|
| 29. | Ms Safouratou ADARIPARE
AKOSSONGO | Director Administration&Finance |
| 30. | Ms Ndèye Sophie BinetouBadji GUEYE | Financial management Specialist |
| 31. | M. Abdou Niang GUISSÉ | Chief Accountant |
| 32. | MsSophie Yandé Ngning KAMONY | Human Resources Assistant |
| 33. | Mr. Cheikh Tidiane GUEYE | Accountant |
| 34. | Ms Monique NGOM | Accountant |
| 35. | Ms. Justin Nama KOUAME | Accountant |
| 36. | MsNakaniGadiaga GNINGUE | Accountant for WASP grants |
| 37. | Ms Marianne Soumaré SECK | AssistantAccountant |
| 38. | Ms Nina Téning Faye | SecretarialAssistant |
| 39. | Ms Khady NDIAYE | Bilingual Assistant |
| 40. | Mr. Issa GUEYE | Driver |
| 41. | Mr. Joseph Barthélémy COLY | Multi-purpose staff |
| 42. | Mr. Marc Ramiro GOMIS | Watchman |

Information & Communication Management Unit

- | | | |
|-----|---------------------------|---|
| 43. | Dr Anatole Yékéminan KONE | Manager Information & Communication |
| 44. | Mr. Gorgui Alioune MBOW | Information & Communication TechnologyAssistant |
| 45. | Ms NdèyeOulèye ANNE | Data base Assistante |
| 46. | MsNdèye Khady Lô BA | Scientific Communications Assistant |
| 47. | Mr. Alassane DIA | Infographist |

List of Publications– 2013/2014

[Work produced with support from CORAF/WECARD and done in member Institutions]

Journal Papers

Aba Toumnou Lucie, Seck Dogo, Lakouetene Didier Ponel Béranger, Bolevane Ouantinam Serge Florent, Gueye Momar Talla, Traoré Anna, Namkosséréna Salomon, Noba Kandiouara, Sembène Mbacké and Syssa-Magalé Jean-Laurent (2013). Chemical Characterization and Insecticidal Activity of Ethyl Acetate and Dichloromethane Extracts of *Drypetesgossweileri* against *Sitophilus zeamais*, *Triboliumcastaneum* and *Rhyzoperthadominica*. *Journal of Life Sciences*, 7 (10) : 1030-1040 ISSN 1934-7391, USA

Adakal H., Biguezoton A., Zoungrana S., Courtin F., De Clercq E. M. and Madder M. (2013). Alarming spread of the Asian cattle tick *Rhipicephalusmicrolopus* in West Africa-another three countries are affected : Burkina Faso, Mali and Togo. *Experimental and Applied Acarology*, 61 (3): 383-386.

Bouet A., Amoncho A. N., Kouassi and Aanguete K. (2013). Comportement de nouvelles lignées isogéniques de riz dotées du gène de résistance (rymv1) au RYMV en Afrique de l'Ouest : situation en Côte d'Ivoire. *International Journal of Biological and Chemical Sciences* 7(3): 1221-1233.

ClavelD,daSylvaA,NdoyeO,MayeuxA,2013. Améliorationdelaqualité sanitaire del'arachide au Sénégal: un challenge pour une opération de recherche-développement participative. *CahAgric* 22:174-81

Guèye M. T., Diallo A., Diallo Y., Seck D., Vercammen J. and Lognay G.(2013). Effects of MITC Released from *Boscia Senegalensis* as Biopesticide in Senegalese Seeds with Special Attention to Cowpea: Detection of Residues. *Journal of Environment and Ecology*, 4 (1): 29-39.

Guèye M. T., Diallo A., Hell K., Ndiaye S., Brostaux Y., Alabi T., Seck D., Lognay G. (2013). Efficacy of *Bosciasenegalensis* against cereal and legume insect pests: an integrated pest management approach to seed protection. *Journal of Insect Science (In press)*.

Guèye M. T., Goergen, G., Ndiaye S., Asiedu E. A., Lognay G. and Seck D. (2013). Efficiency of traditional maize storage and control methods in rural grain granaries: a case study from Senegal. *Tropicultura* 31 (2): 129-136.

Guèye M. T., Seck D., Diallo A., Trisman D., Fischer C., Barthélémy J-P., Wathelet J-P. and Lognay G., 2013. Development of a performant method for glucocapparin determination in *Boscia senegalensis* Lam Ex. Poir.: a study of the variability. *American Journal of Analytical Chemistry* 4: 104-110.

Gueye, M. T., Seck, D. Diallo A., Trisman D., Fischer, C., Barthelemy, J.-P., Wathelet, J.-P. Lognay, G. (2013). Development of a Performant Method for Glucocapparin Determination in

58

Bosciasenegalensis Lam Ex. Poir.: A Study of the Variability. *American Journal of Analytical Chemistry*, 4, 104-110

Hofs, J.L., Goze, E., Cene, B., Kioye, S., Adakal, A. (2013). Assessing the indirect impact of Cry1Ac and Cry2Ab expressing cotton (*Gossypiumhirsutum* L.) on hemipteran pest populations in Burkina Faso (West Africa). *GMOs in Integrated Plant Production; IOBC-WPRS Bulletin 97: 49-54.*

Osei K., Mintah P., Dzomeku B. M., Braimah H., Adomako J., Mochiah M. B., Asiedu E., Darkey S. and DansoY. (2013). Nematode pests of plantain: A case study of Ashanti and BrongAhafo regions of

Ghana, *Journal of Soil Science and Environmental Management*, 4 (1):6-10.

OseiK.,OtooE.,AsieduE.,AsieduR.,DansoY.,AdomakoJ.'Appiah-DanquahP. (2013). Reaction of *Dioscoreaalata* clones to plant parasitic nematodes infection. *International Journal of Research in Bio Sciences* 2 (3) : 60-65

Sanyang S., Ly, S., Kuiseu J., Ennin S.A., Jobe L., Diarra L., and Bantaba P. (2013). Employment and performance of agricultural graduates: Who are we training for?. *Sociology Study*. 3 (5): 341-353.

Books and book Chapters

CoS-SIS (Convergence of Sciences) 2014: One finger cannot lift a rock, Facilitating Innovation Platforms to Trigger Institutional Change in West Africa, 144p

Sanyang, S. Pyburn, S., Remco, M., & Audet-Belanger, G. (2014). Against the Grain and to the Roots: Maize and cassava innovation platforms in West and central Africa. Draft of the Book on the experience of DONATA in West and Central Africa is undergoing review. A Joint CORAF/WECARD & KIT publication 295p

Ahossane, K., A. Jalloh, G.C. Nelson, and T.S. Thomas. (2013). Cote d'Ivoire. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food

Policy Research Institute, Washington, DC 20006-1002, USA, pp. 111 – 140

Conde, S., A. Jalloh, G.C. Nelson and T.S. Thomas. (2013). Guinea. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 173 – 202.

Hassan, S.H., C.E. Ikuenobe, A. Jalloh, G.C. Nelson and T.S. Thomas. (2013). Nigeria. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 259 – 290

Jalloh, A., M.D. Faye, H. Roy-Macauley, P. Sereme, R. Zougmore, T.S. Thomas and G.C. Nelson. (2013). Overview. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 1 – 52.

Jalloh, A., M.D. Faye, H. Roy-Macauley, P. Sereme, R. Zougmore, T.S. Thomas and G.C. Nelson.(2013). Summary and Conclusions. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 383 – 393.

Johnson, R.G., M. Kandeh A. Jalloh, G.C. Nelson and T.S. Thomas. (2013). Sierra Leone. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley(Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 323 – 352

Karmorh Jr. B.S., A. Jalloh, G.C. Nelson and T.S. Thomas. (2013). Liberia. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 203 – 232

Khouma, M., A. Jalloh, G.C. Nelson and T.S. Thomas. (2013). Senegal. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and*

Climate Change: A Comprehensive Analysis. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 291 – 322

Lawin, A.E., P.B. IrenkatatcheAponikpe, A. Jalloh, G. C. Nelson and T.S. Thomas. (2013). Benin. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmoreand H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 53 – 78.

Lawin, A.E., P.B. IrenkatatcheAponikpe, A. Jalloh, G. C. Nelson and T.S. Thomas. (2013). Benin. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 1 – 52.

Nutsukpo, D.K., A. Jalloh, R. Zougmore, G.C. Nelson and T.S. Thomas. (2013). Ghana. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 141 – 172

Some, L., A. Jalloh, R. Zougmore, G.C. Nelson and T.S. Thomas. (2013). Burkina Faso. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), *West African Agriculture and Climate Change: A Comprehensive Analysis*. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 79 – 110

Tchinguilou, A., A. Jalloh, T.S. Thomas and G.C. Nelson. (2013). Sierra Leone. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), West African Agriculture and Climate Change: A Comprehensive Analysis. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 353 – 382

Peer Review Papers

Edward R. Rhodes, AbdulaiJalloh and AliouDiouf (2014). Review of research and policies for climate change adaptation in the agriculture sector in West Africa. Fac Working paper 090, Brighton, UK : Future Agricultures Consortium, 52p.

MarufSanni, AbdulaiJalloh and AliouDiouf(2014).Review of research and policies for climate change adaptation in urban areas of West Africa. Fac Working paper 089, Brighton, UK : Future Agricultures Consortium, 44p.

Extension & Training Materials

Ali & Dao B. (2013). Piment blanc PP9955 - 15: bonnes pratiques de culture au Togo ; 7 P.

Arinloye, D.D., Coulibaly, O., Sounkoura, A., and Sanyang S. (2013). Value chain approach-based platforms: Innovation platforms for technology adoption in Africa. *MEAS Case Studies Series on Human Resource Development in Agricultural Extension*.7pp.

Boukary H., Moustapha A. ; Kindo O. &Wanzeido P. D. (2013). Promotion de la technique de compostage aérien au niveau de l'exploitation maraîchère.

Yaye, H., A. Danguioua, A. Jalloh, R. Zougmore, G.C. Nelson and T.S. Thomas. (2013). Niger. In: Jalloh, A., G.C. Nelson, T.S. Thomas, R. Zougmore and H. Roy-Macauley (Eds.), West African Agriculture and Climate Change: A Comprehensive Analysis. International Food Policy Research Institute, Washington, DC 20006-1002, USA, pp. 233 – 258.

Sanyang, S., Taonda, S. J. B., Kuiseu, J. and Kafando, A. (2014). Innovation platforms for smallholders in maize and value chains: DONATA's experience in West and central Africa. A paper under review for the CTA-University of Wageningen Proceedings

SeydouDoumbia, AbdulaiJalloh and AliouDiouf (2014).Review of research and policies for climate change adaptation in the health sector in West Africa. Fac Working paper 088, Brighton, UK : Future Agricultures Consortium, 29p.

COARAF/WECARD (2013) POLITIQUE DE PUBLICATION DU CORAF/WECARD, version révisée, 22p

Defly A. & Dao B. (2013). Produire du fourrage dans un système de culture associant le pois d'angole au maïs ; 4 p.

Nyaku A. & Dao B. (2013). Comment produire du fromage *wangash* de qualité 5 P.

Reports and Manuals

CORAF/WECARD (2013). Rapport d'étape technique n°8 du projet PLM, 12p.

Ly A. A. (2013). Appui à la valorisation des acquis du projet « Renforcer la résilience des moyens de subsistance en vue de réduire la

Films and Web Site

West Africa Seed Program as one of the eight innovations in Africa – Rockefeller Foundation Commissioned Assessment of over 200 programs/projects
<http://centennial.rockefellerfoundation.org/events/entry/realizing-the-potential-of-african-agriculture-catalytic-innovations-f>

POST RECOLTE MALI - CORAF/WECARD - USAID

POST-RECOLTE TOGO CORAF/WECARD - USAID

Students Thesis under support of CORAF/WECARD as of 2014

Kodjo Kondo (Togo). 2014. Investigate technology dissemination mechanisms with high impact on improved varieties and technologies adoption for increased crop productivity and farmers' income in West Africa. PhD, UNE, Armidale

TchamiSeuga K. T. (2014). Analyse de la chaîne de valeur poisson des petits pisciculteurs familiaux en région centre Cameroun.

CORAF/WECARD

pauvreté dans les zones semi-arides de l'Afrique de l'Ouest, 41 P.

POST RECOLTE NIGER - CORAF/WECARD - USAID

Reportage Piment blanc. <http://www.youtube.com/watch>

Fabrication du fromage « wangash » au Togo.
<http://www.youtube.com/watch>

Togo : vente du fromage « wangash » au marché.
<http://www.youtube.com/watch>

Mémoire de Master of ingenneers, spécialité agroéconomiste, Université de Dschang (Cameroun).

Adehan S. 2013. *Rhipicephalus (Boophilus) microplus* au Bénin : distribution, résistance aux acaricides, hémoparasites transmis et moyens de lutte. *Thèse en cours*, Université d'bomey-Calavi (Bénin).

ADEHAN Safiou (Benin) 2013. *Rhipicephalus (Boophilus) microplus* au Bénin : distribution, résistance aux acaricides, hémoparasites transmis et moyens de lutte. PhD, Université d'Abomey-Calavi

BIGUEZOTON A. 2013. Caractérisation de l'invasion de l'Afrique de l'Ouest par la tique du bétail *Rhipicephalus (Boophilus) microplus* et évaluation des menaces associées pour les élevages. *Thèse en cours*, Université d'Abomey-Calavi (Bénin) et Université de Montpellier 2 (France).

BIGUEZOTON Abel.2013. Caractérisation de l'invasion de l'Afrique de l'Ouest par la tique du bétail *Rhipicephalus (Boophilus) microplus* et évaluation des menaces associées pour les élevages. PhD, Université d'Abomey-Calavi

BlamaYakouba (Cameroon). Elaboration des rations économiques, équilibrées et efficaces pour bovins viandes et leur influence sur la qualité de la viande et l'émission des gaz à effet de serre dans les régions septentrionales du Cameroun". PhD, Université de Maroua

Dao Arguita (BF). Interactions between field crops and trees, carbon sequestration in parks of anacardium (*Anacardium*). PhD University of Ouagadougou

Delma JETHRO (BF). Design of innovative systems in Burkina Faso, PhD, UPB Burkina

KindoDjibo O. (2013). Caractérisation de la chaîne de valeur du lait et produits laitiers des producteurs cas de la commune V de Niamey. *Mémoire de DESS*, Université Abdou Moumouni de Niamey (Niger), 81p.

Ko Awono (Cameroon). Les déterminants de la productivité des zébus Goudali et Mbororo en zone septentrionale du Cameroun, PhD, Université de Ngaoundéré, Cameroon

KoutouMahamadou (BF). Contribution to the development of sustainable intensification options in the multiple crops-livestock production system in Western Burkina Faso : case of the villages of Koumbia and Gombeledougou. PhD, UniAbomey-Calavi

Malam Abdou Mahamadou (Niger).2013. Contribution of forage crops to the sustainable intensification of the mixed crop-livestock production system. PhD, Université Cheick Anta Diop

Mariama Boubou Diallo Oumarou (Niger). Yield Improvement of Pearl millet under a forestry Parkland in the Sahelian zone. PhD University of Abomey-Calavi

Mbila S. R. (2013) –Evaluation agronomique en pépinière et au champ des plants de plantain (*Musa sp*) issus de vitroplants de quelques variétés améliorées et des plants issus de fragments d'une variété locale. *Mémoire de Master 2, Université Marien Ngouabi, École Nationale Supérieure d'Agronomie et de Foresterie (ENSAF), 53p. + Annexes.*

NIGNAN Man (BF). Influence of the composition of and duration of feed ration and animal age on the uptake of feed and growth. PhD, UPB Burkina

SAWADOGO Boukare (BF). Use of the value chain approach in the process of intensifying the integrated crop-livestock in the North-Soudanian area of the Burkina Faso in order to increase food security and improve the actors income : case of the sorghum and livestock/meat value chains. PhD, Université OUAGA II

ZERBO Lamine (BF). Analysis of the spatio-temporal dynamic of the eroded lateritic and ferruginous soils and their influence on soil fertility in Burkina Faso : case of the rural commune of Korsimoro. PhD, UPB Burkina

List of CORAF/WECARD Donors in 2013

CORAF/WECARD gratefully acknowledges the continued support received from the following in 2013:

A. CORAF/WECARD member countries

1. Benin
2. Burkina Faso
3. Cameroun
4. Cape Verde
5. Central African Republic
6. Chad
7. Congo
8. Côte d'Ivoire
9. Democratic Republic of Congo
10. Gabon
11. Gambia
12. Ghana
13. Guinea Bissau
14. Guinea Conakry
15. Liberia
16. Mali
17. Mauritania
18. Niger
19. Nigeria
20. Senegal
21. Sierra Leone
22. Togo

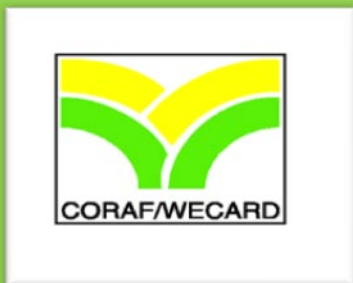
B. Regional Economic Communities

1. ECOWAS
2. UEMOA

C. Development Partners

1. Australia
2. Canada
3. Denmark
4. European Commission
5. Spain
6. United Kingdom
7. United States
8. World Bank

About CORAF/WECARD



CORAF/WECARD is the Conseil Ouest et Centre africain pour la recherche et le développement agricoles/West and Central African Council for Agricultural Research and Development, the apex regional agricultural research for development coordinating organ.

CORAF/WECARD is the technical arm of the Regional Economic Communities (ECOWAS, ECCAS, UEMOA and CEMAC) for the implementation of the regional agricultural research policy anchored in the CAADP pillar IV. CORAF/WECARD is one of the three SRO's founding organizations of the Forum for Agricultural Research in Africa (FARA).

CORAF/WECARD membership includes the NARS of the following 22 countries of the region: Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Congo Côte d'Ivoire, Chad, Democratic Republic of Congo, Gabon, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, The Gambia, and Togo.

CORAF/WECARD strategic statements

Vision statement: '.... A sustainable reduction in poverty and food insecurity in WCA through an increase in agricultural-led economic growth and sustainable improvement of key aspects of the agricultural research system...'

Mission statement: "...Sustainable improvements to the competitiveness, productivity and markets of the agricultural system in West and Central Africa by meeting the key demands of the sub-regional research system as expressed by target groups..."

Specific objective: 'Broad-based agricultural productivity, competitiveness and markets sustainably improved for targeted groups in West and Central Africa'

CORAF/WECARD Four Result Areas

1. Appropriate technologies and innovations developed
2. Strategic decision-making options for policy, institutions and markets developed
3. Sub-regional agricultural research system strengthened and coordinated
4. Demand for agricultural knowledge from targeted clients facilitated and met