

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



West and Central African Council for  
Agricultural Research and  
Development

## **STAPLE CROPS PROGRAM**

*Validation of constraint and need identification survey  
outcomes for planning a five-year Action Plan*

### *Technical Report*



**Africa Rice Centre  
Cotonou, Benin**

*June 26-28, 2008*

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## Acronyms

AU	African Union
CAADP	Comprehensive Africa Agriculture Development Programme
CG	Consultative Group
CGIAR	Consultative Group on International Agricultural Research
CIRAD	Centre de Coopération en Recherche Agronomique pour le Développement
CNRA	Centre National de Recherche Agronomique
CORAF/WECARD	Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles/ West and Central African Council for Agricultural Research and Development
DG	Director General
DDG	Deputy Director General
FAAP	Framework for African Agricultural Productivity
FBOs	Farmer Based Organization
GA	General Assembly
GAPs	Good Agricultural Practices
IEHA	Initiative to End Hunger in Africa
IFDC	International Center for Soil Fertility and Agricultural Development
IFPRI	International Food Policy Research Institute
INERA	Institut l'Environnement et de Recherche Agricole
INRAB	Institut National de Recherche Agricole du Benin
IRAD	Institut de Recherche Agricole pour le Développement
IRAF	Institut de Recherche Agronomique et Forestière
ISRA	Institut Sénégalais de Recherches Agricoles
NARCC	National Agricultural Research Coordinating Council
NARS	National Agricultural Research System or Systems
NEPAD	New Partnership for Africa's Development
NGO	Non-government Organization
RECs	Regional Economic Community or Communities
SWOT	Strength, Weakness, Opportunity and Threat
USAID	United States Agency for International Development
WARP	West Africa Regional Program
WARDA	African Rice Centre (West African Rice Development Association)

## Executive Summary

The three-day workshop to validate the findings of a consultative survey and to identify priority projects and catalytic activities for immediate implementation, brought together thirty-three representatives from key private and public sector organizations. These included producers, traders, agricultural input dealers, agro-processors, other private, NGOs, agricultural extension, as well as the international and national agricultural research centres, development partners and CORAF/WECARD Secretariat. In all, participants came from 10 CORAF/WECARD member countries, representing approximately half of CORAF/WECARD membership, as well as the three agro-ecological zones and the entire value-chain continuum. In addition, CORAF/WECARD staff, USAID - WARP Senior Advisor, the International Scientific Exchange Delegate of CIRAD, France and the Technical Advisor of *Cooperation Française* (French Cooperation) in Benin participated. The outcome of these processes is expected to be shared with all the 21 constituent NARS of CORAF/WECARD.

The workshop was facilitated by Dr. Constant Danbgegnon from IFDC. Day 1 was devoted to the opening, presentations, discussions and breakout sessions to identify project themes. Day 2 was devoted to recap of day 1 activities, breakout session to fine-tune project themes and to further develop activities; this was followed by a visit to WARDA biotechnology and plant physiology laboratories, seed bank and seed multiplication fields. In the morning of Day 3, a recap for day 2 activities was presented followed by a presentation on a proposed partnership arrangement, after which participants proceeded to the SONGHAI Centre at Porto Novo for a visit. The workshop ended at the Centre with regrouping to refresh and recap on observations and to conclude on workshop proceedings in general.

The opening session on Day 1 was marked by addresses from Dr. Marcel Nwalozie, CORAF/WECARD Director of Programs and Representative of the CORAF/WECARD Executive Director. This was followed by the address of Dr. Marco Wopereis, the WARDA Deputy Director General (DDG) in charge of research, who represented the WARDA Director General (DG). The address of Dr. Robert Kagbo USAID – WARP Senior Advisor followed after which Dr. Narcisse Djègui, DG INRAB officially welcomed participants and declared the workshop officially opened. All the addresses pointed to the global food crises, which Africa is the most hit vis-à-vis the relevance of the workshop in addressing constraints at this crucial time. The need to critically look at the survey report, as well as the need to exploit opportunities offered by global and sub-regional initiatives to achieve food security was highlighted.

Presentations on the CORAF/WECARD Strategic and Operational Plans, as well as on the report on the participatory survey that identified the constraints and needs of value chain actors were made by Drs. George Muluh and Ernest Asiedu respectively. These presentations, particularly on the survey report were exhaustively discussed to clarify participants understanding of the report and to offer them the opportunity to enrich the information with their experiences.

Breakout sessions allowed participants in two groups, each comprising a mixture of stakeholders, identify and prioritize key projects and activities, which can propel growth in the staple crops sub-sector. It also offered stakeholders opportunity to know major public and private sector actors for integrated partnership during project implementation. Field visits to WARDA laboratories and fields, as well as to the SONGHAI Centre deepened participants' understanding and appreciation of modern crop improvement tools, seed multiplication and conservation systems and integrated value chain approaches. This also enlightened participants on the opportunities that these two centres offer in strengthening scientific and technical capacities of stakeholders in staple crops. Research and

development themes identified for implementation during the next five years are outlined as follows:

- Theme 1: Agricultural productivity enhancement
- Theme 2: Agricultural inputs usage enhancement
- Theme 3: Promotion of post harvest technologies
- Theme 4: Strengthening capacities of value chain actors
- Theme 5: Accelerated promotion of regional integration systems
- Theme 6: Strengthening sub-regional agricultural research systems

The themes identified together with key activities comprised innovations and/or technologies which stemmed from the participatory study and the follow-up validation and planning workshop. These are expected to be implemented by developing and/or up-scaling and transferring technologies and innovations regionally in the near-term, with the provision of appropriate support (financial, capacity enhancement, etc.) to achieve significant results and impact. These results should capture and contribute significantly to CAADP's 6 percent target growth in agriculture by harnessing approximately \$20 billion potential trade in staple crops within the sub-region. At the end of the workshop, various conclusions and recommendations were made as follows:

- Proposals be developed from the outcomes of the survey and the workshop for submission to development partners for support in implementing the projects identified.
- Issues on plantain research during project implementation should be clearly separated from banana and adequately addressed.
- Policy issues in relation to producers should be given a high priority during project implementation, with the involvement of producers.
- The outcomes of the participatory survey and the workshop should be extensively shared with the constituent countries and stakeholders of CORAF/WECARD to bring them to a common understanding on the objectives of the Staple Crops Programme and to get them involved in future activities.
- The identified projects should be widely advertised in the sub-region through various means to enable all eligible candidates get equal access in applying.
- Considering the existence of excellent centres and institutions available in the sub-region, it was agreed that these must be adequately exploited for research and capacity strengthening activities during implementation of projects.

## 1. Context and background of the workshop

In the process of implementing its Strategic Plan (2007-2011) and Operational Plan (2007-2016) to achieve the objectives of CAADP ***Pillar IV (Improving agriculture research, technology dissemination and adoption)***, CORAF/WECARD Staple Crops Programme, validated findings of a consultative survey conducted to identify some constraining elements and needs in the staple crops value-chain. Addressing these challenges sub-regionally is expected to add value to food security and improve livelihoods of smallholder farmers and agro-based industries. In effect this will contribute to the realization of CAADP target of 6% growth in agricultural productivity by 2016.

During the thirty-day survey, key partners were consulted, including private sector (agro-enterprises, processors, marketing groups and FBOs), public sector (CG and Base

centres, NARS and Extension) and NGOs. Some constraints and needs of end-users as well as opportunities and gaps were identified. These were to form the bases for determining priority areas for investments during the next five years with respect to staple crops. The results of this, together with an earlier IFPRI study are expected to add value to national programmes. The study equally identified possible partnership arrangements for the implementation of the different activities and proposed operational mechanisms to link the different actors for effective collaboration in the implementation of activities. The survey therefore provided an opportunity to interact with value-chain actors in their communities, centres and locations.

The outcomes of this study served as inputs to develop a 5-year Action Plan (Roadmap) that will help direct research investments in the sub-regional staple crops sub-sector. At the end of the five-year period, the following four results are expected to be achieved: (i) appropriate technologies and innovations developed; (ii) strategic decision-making options for policy, institutions and markets developed; (iii) sub-regional agricultural research system strengthened and coordinated; and (iv) demand for agricultural knowledge from clients facilitated and met.

Hence, through a sector approach and matrix process, the Staple Crops Program aims to create conducive environment for cooperation between all the stakeholders working on the major staple crops in view of: (a) capitalizing on about 70% yield gap and 30% post-harvest losses to increase sustainable food production and income generation in West and Central Africa, (b) facilitating access to agricultural inputs (particularly, seed and fertilizer) and to the output market by producers (c) modernizing the sector through the promotion of the development and dissemination of appropriate technologies and innovations adapted to the needs of target groups and (4) strengthening capacities of value chain actors.

The objectives of the workshop were to:

- (a) Validate with key stakeholders, the outcomes of the survey
- (a) Develop with key stakeholders priority projects and activities for the *Staple Crops Programme*, and reach a consensus on the broad principles and approach, ensuring it's coherence with delivery of CORAF/WECARD objective and CAADP Pillar IV.
- (b) Offer the opportunity to update and validate proposed operational mechanism and organizational and institutional arrangements in the implementation of the Staple Crops Program,
- (c) To use survey and workshop outcomes to develop an Action Plan for the next five years that will drive the implementation of the sub-regional program on staple crops.

Thus, an anticipated output of the workshop was a detailed Operational Plan on Staple Crops, containing activity work-plans, monitoring and evaluation system and budgets for the implementation of the CORAF/WECARD Staple Crop Program in the sub-region. The workshop took place at the African Rice Centre (WARDA), Cotonou, Benin from 26<sup>th</sup> to 28<sup>th</sup> June, 2008. Principal target stakeholders were the key private and public sector actors working on Staple Crops. These included: 1. Agri-businesses organizations (Agri-Input Organizations, Processing and Marketing Enterprises and FBOs), 2. Technology transfer agents (NGOs, Extension Services) and 3. Research organizations (NARIS, CG and Base Centres)

## 2. Workshop opening and introduction

The Director of Programs of CORAF/WECARD, Dr. Marcel Nwalozie, who representative the CORAF/WECARD Executive Director was the first to present his address at the opening of the workshop. He explained the processes followed since the fourth quarter of 2007 in planning and executing the participatory survey, which was followed by an elaboration of a report, and validation. He stressed that the study was conducted to identify constraints and needs of value chain actors and the output, which was the draft report was ready for validation at workshop. The outcomes of the survey were to be used to develop project themes that would form the bases for launching competitive grant and commissioned projects to address constraints identified. He commended the USAID for the relentless support given to CORAF/WECARD, particularly for the implementation of the Staple Crops and the Biotechnology and Bio-safety programs. He further stressed that the Staple Crops Program is even more important now in the light of the current food crises. He thanked the Director General of WARDA for accepting to host the workshop and nominating a Scientist to represent the centre. He further expressed his gratitude to the people and the government of the Republic of Benin for their hospitality and to the Director General of INRAB for his support to CORAF/WECARD activities and to the organization of the workshop. He concluded that the workshop will examine the outcomes of the study which will serve as inputs to develop a five year action plan.

The Deputy Director General of WARDA, in charge of research Dr. Marco Wopereis, who representative the Director General of WARDA enlightened participants on the magnitude of the global food crises, which are receiving headlines worldwide with various conferences being held to find solutions. These are also sparking disturbances and unrests in certain countries. He stressed that high population growth, high fuel prices, high consumption of meat, and biofuel are some of the challenges that currently face the staple crops sub-sector. According to Dr. Wopereis, there had been a downward investment in research in the past; however in recent times, there have been improvements in research funding. He was glad that WARDA contributed to the staple crops studies which covered major commodities and added that WARDA found the report very impressive. He affirmed continuous support of WARDA and sister CG centers to CORAF/WECARD activities in the sub-region.

The USAID – West Africa Regional Program's (USAID-WARP) Senior Advisor WARP Dr. Robert Kagbo informed participants that USAID – WARP work with 21 countries in West and Central Africa, which happen to be the member countries CORAF/WECARD. In that respect the Agency supports CORAF/WECARD and CAADP initiatives through its Initiative to End Hunger in Africa (IEHA) Program. He pointed out that high percentage of Africa's population is malnourished and the recent global food crises are worsening the situation. This calls for the need to give urgent attention to address constraints in staple crops in order to achieve food security in the sub-region. He explained the 4 pillars of CAADP of which CORAF/WECARD is implementing pillar 4 (agricultural research and technology dissemination and adoption) and the processes followed to develop a 10 year-strategic plan and a 5-years operational plan. Through these plans, 8 programs have been formulated for implementation to achieve the CAADP objectives.

He added that the planning processes have now moved from a high level to a low level of implementation, which was the reason for bringing a cross-section of value chain actors to look at the staple crops survey outcomes and to come up with priority project themes to move technologies to end-users. The reason why he suggested Benin as the venue for the workshop was to allow participants see the Songhai centre to understand the value chain

continuum. He mentioned two initiatives being funded by USAID. The first to mention was the West African Seed Alliance (WASA) with a value of 61 millions dollars, which involves the Alliance for Green Revolution in Africa (AGRA) and private sector seed companies. The second initiative is an Agri-Business Trade project.

The Director General INRAB Dr. Narcisse Djègui, welcomed participants on behalf of the people and the government of Republic of Benin. In his welcome address, he highlighted the following:

- Appreciation for the consultative nature of the field survey that identified constraints and needs of value chain actors and commended CORAF/WECARD for such an initiative
- Food security as a priority for most national governments
- The importance of staple crops, particularly the cereals
- The drastic increases in food prices by about 36% indicated by FAO statistics, which presents threats to our countries
- Imports will not help and it will be an illusion to count on food assistance
- Some of the causes of poor performance of agriculture in Africa were highlighted as follows: agro-ecological constraints, limited access to market, poor quality of processed products and bottlenecks in the entire value chains
- He embraced the workshop because it had involved all the value chain actors and key partners in West and Central Africa to plan the future of staple crops.

He finally declared the workshop officially opened. This was then followed by self introduction of participants (list provided in Annex 5) after which a group photograph was taken.

### **3. Workshop outline, objectives and expected outputs**

At the beginning of the technical sessions, the workshop outline, objectives and expected output were presented as follows.

Presentation outline

1. Objectives
2. Expected outcomes
3. Approach and methodology
4. Agenda and timetable

Workshop objectives

- Validate with key stakeholders, the outcomes of the survey
- Develop with key stakeholders the draft logframe and activities for the *Staple Crops Programme*
- Offer the opportunity to update and validate proposed partnership/ institutional arrangement for an effective intervention
- Develop an Action Plan for the next five years that will drive the implementation of the sub-regional program on staple crops

## Expected outcomes

- A detailed Operational Plan on Staple Crops, containing activity work-plans and budgets for the implementation of the Staple Crop Programme in the sub-region is drafted
- A comprehensive partnership arrangement updated under each programme result area

## 4. Approach and methodology of the workshop

- Approach: interactive processes during the workshop – exchange initial work with key stakeholders and incorporate their ideas and suggestions into the programme
- Methodology: participatory methods combining oral presentations – discussions and validation– working groups to jointly develop and share ideas

### Agenda for the workshop (Annex 1)

#### Day 1

- Introduction
- CORAF/WECARD strategic plan & SCP field survey (presentation + validation)
- Working groups: project themes + their prioritization (ToR in Annexes 2 and 3)

#### Day 2

- Working groups: prioritization of projects and project activities (ToR in Annexes 2 and 3)
- Visit to WARDA labs and fields

#### Day 3

- Working groups: update partnership arrangement under operational result area of the program
- Visit to the Songhai Centre
- Workshop conclusions and re commendations

The workshop process comprised formal presentations with break-out sessions, and was professionally facilitated and mentored by Dr. Constant Dangbegnon of the International Centre for Soil Fertility and Agricultural Development (IFDC). The process covered:

A presentation on the strategic and operational plans, analyses of survey outcomes, including needs and expectations of actors, followed by validation

- A presentation on Mechanism to operate activities and organizations/institutional arrangements
- Break-out group-works to update operational mechanism, organizational/arrangements and work-plans and budgets.

## 5. Brief on the presentation of the survey report on the SCP

Presentations on the CORAF/WECARD Strategic and Operational Plans, as well as on the report on the participatory survey that identified the constraints and needs of value chain actors were made by Drs. George Muluh and Ernest Asiedu respectively. These presentations, particularly on the survey report were exhaustively discussed to clarify

participants understanding of the report and to offer them the opportunity to enrich the information with their experiences.

### **Priority Constraints of Value Chain Actors**

**Constraints to Producers:** The survey identified and prioritized the constraints and needs of value chain actors: This revealed that the most important technological constraints of producers were insufficient access to quality agricultural inputs (improved seeds varieties, fertilizer and labor-saving devices) and integrated crop, soil, water and pest management technologies. The problem of input supply is related to the poorly developed input supply and credit delivery systems to facilitate input purchase. Thus, whilst the use of improved maize seeds in most countries in the sub-region hovers around 10% of the total maize seed planted annually, seeds and planting materials of other cereals, legumes and the vegetatively propagated crops (roots and tubers and plantain) fall far below 5%. Most farmers are therefore compelled to depend on their old land races saved over the years, and or seeds and planting materials from neighbours and the food market. The low use of fertilizer in Africa, estimated to be 8 kg/ha nitrogen (Bage, 2006) compared to some countries in southern Asia and USA where nitrogen uses are as high as 150 kg/ha and 200 kg/ha respectively, constitute a further constraint in improving crop productivity.

Inadequate access to production technology and farm machinery, stemming from weak extension services, insufficient training offered to farmer groups and lack of prototype equipment adapted to farmer's circumstances, limits producers ability to bridge the yield gap. Limited accesses to other productivity enhancing technologies such as suitable germplasm and irrigation facilities present serious drawbacks to productivity. The low adoption of integrated pest and disease management practices result in significant yield losses caused by common pests such as *Striga*, as well as field and storage insects and plant diseases. It is worth to note that *Striga* alone can cause a total crop failure in a particular season.

Further to these, poor practices in harvesting, conditioning and storage of farm produce, are significant causes of quality deterioration and high post-harvest losses. Difficulty in harvesting root and tuber crops manually, particularly during the dry season result in high labour costs and harvest losses. In addition to the general constraints, plantain production suffers excessive lodging caused by storms during the on-set of the rainy season, when plantain stems are less turgid as a result of excessive evapo-transpiration preceding the cropping season.

The main cross-cutting constraints of producers include inadequate access to credits for the purchase of inputs and to allow them wait for better prices. In addition, low access to output markets due to lack of basic equipment to clean harvested produce and weak group coherence for effective collective bargaining, present major bottlenecks to market access. Indeed weaknesses in producer capacity and group coherence for effective linkages to technology, credit, markets, as well as for lobbying, constrain efforts to improve crop productivity and increase incomes. To mitigate the effect of climate change, improvements in inventory credit, good grain storage system, multiple-stress tolerance crop varieties, improved seed supply and seed security systems, as well as improved soil water management technologies and irrigation facilities are considered very desirable.

**Constraints to Processors:** Both large-scale and small-scale processor groups, most of whom are women, have serious constraints with respect to yearly interruptions in the supply of raw materials with respect to quality and quantity. The low supply occurs particularly during the lean season, which follows the long dry season when active production ceases. In addition, inadequate accesses to improved processing technologies,

and storage facilities, as well as low access to credit and markets constitute important constraints to processors. Processors, particularly, women groups are further constrained by their low capacity, low access to germplasm to meet consumer needs, weak technology transfer system, poor state of group and association coherence, as well as low access to market information.

**Constraints to Traders:** Sub-regional traders are constrained by harassments on frontiers between countries by law enforcement agents, through extortions and delays. This could be attributed to the differences in traveling requirements and trade rules and regulations among countries, which may not be adequately mastered by these actors. Differences in trade rules and regulations, as well as insufficient market information and linkages, currency exchange problems, linguistic limitations and difficulties in bank transactions significantly reduce the efficiency of traders. Furthermore, their inadequate knowledge of rules and standards and low capacity to adopt good agricultural practices (GAPs), pose major constraints in accessing regional and international markets. Large markets of sub-regional importance are further constrained by low capacity to: manage statistics and records, coordinate various commodity groups and associations within the markets; manage communication, information and large scale storage systems. Poor road and transport systems, frequent vehicular breakdowns, aggravated by delays on frontiers, contribute to significant levels of spoilage to farm produce, especially roots and tubers and plantain.

**Constraints to Agri-input Entrepreneurs:** Agri-inputs enterprises are constrained by; insufficient access to credit to expand businesses, restricted access to regional markets, weak human, institutional and logistic capacity, unfavorable policy support, particularly for the vegetatively propagated crops and insufficient supply of breeder and foundation seeds. Other constraints are related to insufficient seed processing equipment, storage facilities, inadequate knowledge in seed production technology and insufficient germplasm. Seed marketing constraints are related to farmers' perception of certified seeds being expensive, as well as to poor certification systems, insufficient promotion, long distances to input supply centres and inappropriateness of available inputs, particularly fertilizer. The prevalence of different input standards, rules and regulations among countries in the sub-region, whilst awaiting the implementation of the sub-regional harmonized systems, pose a hindrance to regional seed trade.

### **Opportunities Offered by Value Chain Actors**

As part of the constraint and need identification survey, strengths, weaknesses, opportunities and threats (SWOT) analyses was conducted on the private and public (NARS, Extension) sector actors, as well as on NGOs and international research centres. This provided very useful information, regarding opportunities that exist among them for effective cooperation in the implementation of the Staple Crops Program.

*Research organizations* have enormous expertise in the development of crop productivity technologies, community-based seed multiplication system, capacity strengthening, utilization, socio-economic studies and possess good understanding of the sub-regional and national agricultural systems. Agricultural extension and NGOs have very rich experiences in facilitating producer linkages to technology, markets, inputs and credit as well as managing market information and strengthening the capacities of producers and the private sector.

*Producer groups and associations* offer a great opportunity in the group approach for linkages to technology, credit, input and output markets, particularly under the present

circumstance of low extension-farmer ratio (which is 1:9000 to 1:1800 in certain countries). The associations and groups also offer a unified front for lobbying and advocacy, as well as for intra-group/association information exchanges, which amplifies the technology transfer process.

*Processor groups and associations* offer opportunities for effective technology transfer and linkages to various services. Additionally, they offer an opportunity in their contribution to reducing post-harvest losses through processing to prolong shelf life of food commodities, improve storability, handling and transportation. Trader organizations of sub-regional interest facilitate cross-border movements, marketing, storage of food commodities and raw material and facilitate extensive distribution of these in the sub-region.

With respect to the *agri-input supply system*, the emergence of new sub-regional initiatives such as WASA and AGRA, the existence of harmonized frameworks for seed regulations, standards, releases and cataloguing, as well as the existence of functional seed industries, enterprises, expertise and facilities in certain countries offer opportunity for improving and up-scaling input supplies sub-regionally.

## **6. Key points discussed and suggestions**

Presentations on the CORAF/WECARD Strategic and Operational Plans, as well as on the report on the participatory survey were exhaustively discussed to clarify participants understanding and to offer them the opportunity to enrich the information with their experiences. Some of the major concerns of participants were as follows:

1. How will CORAF ensure that farmers and processors benefit from the program?
2. Research activities to speed up the development of new crop varieties to make more resistant seeds available to farmers.
3. Little focus on pests and diseases, since these are a major constraint to agricultural production and storage in west and Central Africa (at program level, it is embodied under two themes: 1. Integrated crop management and (2) development of multiple resistance varieties. Specific pests and diseases should be investigated at project levels)
4. Need to take into account the views of farmer organisations at all levels - from community, regional, national and sub regional (These were adequately addressed with the exception of ROPPA head office which did not fall in the countries visited; PROPAC was however contacted in Yaoundé, Cameroon)
5. Referring to results (3) the proposed activities do not have direct link with the capacity building of stakeholders.
6. Why the constraints of NARS, extension and consumers were not presented? (these were well highlighted in the report through a SWOT analyses conducted)
7. Plantain should be considered as a staple crop instead of identifying it as with the fruits and vegetables as in the IFPRI study. This will give it adequate attention
8. What is the current rate of growth of agriculture in West Africa?
9. Why are the proposed themes mainly on generation of technologies and not much on transfer of knowledge? (the use of integrated approach will mean development and transfer of technologies will be done concurrently)
10. What criteria were used in the selection of countries for the survey? ( Considerations of the three agro-ecological zones and the presence of the CG centres among others)
11. It is not clear how the mechanisms for organisational institutional arrangements tackle some of the problems identified in the 1<sup>st</sup> presentation.

12. Why is policy and land tenure ranked low under the constraints of producers when it is generally accepted as one of the underlining factors for decline in agriculture? (policy issues are very important and cover all aspects of agriculture but producers were firstly concerned of their immediate needs – inputs, technology, markets. Land tenure is a constraint, particularly for women who don't normally own assets, including land; however putting all producers together they had immediate priorities and with land tenure being important but more remote )
13. Was the issue of crop pests captured in the questions?
14. Concerns on the delay of activities to be implemented under the other pillars, at which stage the various pillars will be congregated and what role is CORAF playing in this regard.
15. What is the effect of climate change on agriculture? (serious; measures to mitigate it is outlined in section 5)

Breakout sessions allowed participants in two groups, each comprising a mixture of stakeholders, identify and prioritize key projects and activities, which can propel growth in the staple crops sub-sector. It also offered stakeholders opportunity to know major public and private sector actors for integrated partnership during project implementation.

## 7. Field visits

Field visits to WARDA laboratories and fields, as well as to the SONGHAI Centre deepened participants' understanding and appreciation of modern crop improvement tools, seed multiplication and conservation systems and integrated value chain approaches. This also enlightened participants on the opportunities that these two centres offer in strengthening scientific and technical capacities of stakeholders in staple crops. At WARDA, participants first visited the Biotechnology Laboratory which support marker assisted breeding. They spent considerable time in the laboratory where the processes used to identify chromosomes with desirable genes were explained to them. Post-graduate students from the sub-region carrying out their theses research had the opportunity to explain the objectives of their projects to participants who included some scientists from their respective countries. Participants also had the opportunity to visit the plant physiology laboratory, where many physiological studies on rice grain characteristics and plant productivity and efficiency in the utilization of environmental resources were explained. In addition, participants visited the WARDA rice gene bank and saw enormous genetic accessions stored. Visit to seed multiplication fields of the NERICA 1 and 2 varieties, commonly grown in West and Central Africa provided most participants the first opportunity in seeing the performance of the varieties in the field. In general, participants had very fruitful interactions with the scientists of WARDA; they were impressed of the potential of the centre to support staple crops initiatives and training.

At the Songhai Centre, participants were conducted around the entire value chain continuum by the Director General of the Songhai Project, Rev. Godfrey Nzamujo. The first place visited was a unit for the generation of biogas, using wastes and sewage from the farm. The biogas is used for cooking and baking at the centre. Crop production fields visited were those for sweet corn, vegetables, plantain, cassava, citrus, oil palm and coconut; these are fertilized using farmyard manure from the farm and watered when necessary using water from boreholes or rain-harvested water. Sites for mushroom production, snail rearing under plantain plantation, grasscutter rearing, as well as ponds for geese and fish production were also visited. With regards to processing, a rice processing plant, a bakery, sausage and fruit jam processing were demonstrated. Produce and products from the farm are used to supply the centre's cafeteria and also sold to the general public in a store located at the centre. In addition, a fundary where processing

equipment, including cassava graters, palm oil extracters, grain shellers, etc were fabricated were visited; the operations of the equipment were demonstrated to participants. A site for trapping insects and breeding larvae used as source of protein for feeding fish and geese were shown. Byproducts from these processes are not wasted but are used in various forms including fish feeding, mushroom production and farm manuring. Water harvesting techniques and the use of solar energy for lightening and powering motorized equipment were also demonstrated. Participants were overwhelmed of the enormous potential of the centre, particularly in providing training for farmers and technicians.

## **8. Results of the workshop**

Outcomes of the stakeholder validation workshop were priority research and development themes and activities, which were formulated for implementation to achieve accelerated growth in the staple crops sub-sector. These are as follows:

### **Theme 1: Agricultural productivity enhancement**

#### **Activities**

- 1.1. Intensify of low lands and irrigated areas
- 1.2. Develop and promote of appropriate crop varieties for various agro-ecologies
- 1.3. Manage Diseases and pests in the field and in storage (use of host plant resistance, cultural practices, biological control, chemical control, integrated crop and pest management, quarantine, trade issues etc.)
- 1.4. Strengthen institutional and human capacity for technology development and adoption
- 1.5. Promote of technological and market information systems

### **Theme 2: Agricultural input usage enhancement**

#### **Activities**

- 2.1. Promote productivity enhancing technologies on-farm for adoption
- 2.2. Improve seed and inputs supply (credit, labour, mechanization, fertilizer etc) chain management
- 2.3. Adapt agricultural input and output systems to sub-regional needs
- 2.4. Promote viable seed companies and agro-input enterprises in rural areas
- 2.5. Facilitate trade in seeds and other inputs in West Africa
- 2.6. Strengthen capacities of producer organizations in the production, accessing and marketing of improved seeds, in the light of the global food crises and climate change
- 2.7. Facilitate credit and rural financing

### **Theme 3: Promotion of post harvest technologies**

#### **Activities**

- 3.1. Develop and promote post harvest technologies in storage, processing, packaging and marketing for food and feed management in West and Central Africa
- 3.2. Transform raw produce into quality processed products
- 3.3. Improve packaging, labelling and product grading
- 3.4. Develop and operate effective sub regional and regional post-harvest technology data base management systems
- 3.5. Promote appropriate manual and mechanized equipment for processing

#### **Theme 4: Strengthening capacities of value chain actors**

##### **Activities**

- 4.1. Strengthen the capacities of policy makers to take clear decisions
- 4.2. Train and sensitize service administrators to improve the enforcements of laws, norms, etc.
- 4.3. Strengthen capacities of civil society organizations (leadership, management, marketing, organizational capacity, etc.)
- 4.4. Strengthen the capacities of researchers
- 4.5. Strengthen the capacities of private sector actors in the value chain (processors, traders, etc.)

#### **Theme 5: Accelerated promotion of regional integration systems**

##### **Activities**

- 5.1. Develop and harmonize sub-regional laws, rules, norms and regulations on exchanges of planting material, varieties and other inputs in order to facilitate regional trade and exchanges of genetic resources
- 5.2. Develop and harmonize laws, rules and norms on food products in order to facilitate regional trade in food products
- 5.3. Develop and harmonize laws, rules and norms on information systems for markets, credit, etc in order to facilitate regional trade.

#### **Theme 6: CORAF/WECARD CORE FUNCTION: Strengthening sub-regional agricultural research systems**

##### **Activities**

- 6.1. Develop a financial resource - mobilization mechanism to attract funding both internally and externally
- 6.2. Develop scientific and technical partnership mechanism among all the NARS actors at the sub-regional level (define roles of different partners)
- 6.3. Renew and harmonize research statutes in different countries of the sub-region to reduce brain-drain

Prioritization of project themes and activities  
Partnership to support project activities  
Remarks and suggestions of the participants

## **9. Conclusions and recommendations**

The projects identified together with key activities comprised innovations and/or technologies which stemmed from the participatory study and the follow-up validation and planning workshop. These are expected to be implemented by developing and/or up-scaling and transferring technologies and innovations regionally in the near-term, with the provision of appropriate support (financial, capacity enhancement, etc.) to achieve significant results and impact. These results should capture and contribute significantly to CAADP's 6 percent target growth in agriculture as well as harnessing approximately \$20 billion potential trade in the region. The following recommendations were made:

- The Staple Crops Program Manager should use the survey and the workshop outcomes to further develop a program document with activity plans and budgets for submission to prospective partners for support.
- Considering the important role plantain plays in ensuring food security, issues on plantain must be clearly separated from plantain/banana to ensure that plantain is well captured in the interventions for staple crops during project implementation.
- Policy issues should come out clearly as a major constraint to producer organizations and these organizations must be actively involved in envisaged policy interventions.
- To achieve the objectives of the Staple Crops Program, and that of CORAF/WECARD in general, participants suggested that CORAF/WECARD should collaborate strongly with the implementers of the remaining three pillars to ensure the achievement of CAADP targets.
- The outcomes of the participatory survey and the workshop should be extensively shared with the constituent countries and stakeholders of CORAF/WECARD to bring them to a common understanding on the objectives of the Staple Crops Programme and to get them involved in future activities.
- The identified projects should be systematically implemented using the CORAF/WECARD procedures and guidelines for implementing programs and projects under both competitive and commissioned projects, to realize the potential of the priority staple crops by the end of 5 years.
- Participants agreed that although the guidelines for partnership arrangement are important, partnership should be left at the project bidding level.
- Participants also agreed with CORAF/WECARD that producers and private sector actors set the research agenda and also get actively involved in all project activities as prescribed in the Operational Plan.
- The identified projects should be widely advertised in the sub-region through various means to enable all eligible candidates get equal access in applying.
- Considering the existence of excellent centres and institutions available in the sub-region, it was agreed that these must be adequately exploited for research and capacity strengthening activities during implementation of projects.

## Annex 1: Agenda of the workshop

### Draft Timetable: CORAF/WECARD - Staple Crops Program Survey Validation and Planning Workshop – Cotonou Benin, 26 – 28<sup>th</sup> June 2008

Note: This timetable is indicative and will be managed flexibly to respond to the needs and wishes of participants.

DAY 1 – JUNE 26			
Introduction	0830-0900	1. Introductions and Welcome	<ul style="list-style-type: none"> <li>• Executive Director - CORAF/WECARD</li> <li>• Self Introduction of Participants</li> </ul>
	0900-0930	2. Workshop objectives, timetable, methodology and expected outcomes	<ul style="list-style-type: none"> <li>• Facilitator</li> </ul>
Context of Sub-regional Agricultural Research	0930-1000	3. CORAF/WECARD Strategic and Operational Plans	Director of Programs Facilitator/Rapporteur
	1000-1015	Coffee break	
	1015-1115	4. SCP Field Survey - Presentation on background, methodology and findings	<ul style="list-style-type: none"> <li>• SCP Manager</li> </ul> Facilitator/Rapporteur
	1115-1200	5. Discussions on presentation, followed by validation	<ul style="list-style-type: none"> <li>• SCP Manager</li> </ul> Facilitator/Rapporteurs
	1200-1300	Lunch	
	1300-1400	6. Presentation and discussion	SCP Manager Facilitator/ Rapporteur
	1400 – 1415	7. Introduction to Working Groups	Facilitator/ Rapporteur
	1415-1430	Coffee Break	
	1430-1600	8. Working Groups – Development of project themes. Each Group will work to develop 2 result areas based on the presentation, discussion and their respective experiences. Gp. 1 – Result 1&4 (blend of stakeholders) Gp. 2 – Result 2 &3 (blend of stakeholders)	Planning and M&E/SCP Manager Facilitator/Rapporteur
	1600-1730	9. Plenary presentation and discussion on the group work.	Facilitator/Rapporteur

Day 2 – JUNE 27			
	0830-0900	10. Recap Day 2	<ul style="list-style-type: none"> <li>• Facilitator</li> </ul>
	0900 - 1030	11. Working Groups – Prioritization of project themes and project activities. Each Group will work to develop 2 result areas based on the presentation, discussion and their respective experiences. Gp. 1 – Result 1&4 (blend of stakeholders) Gp. 2 – Result 2 &3 (blend of stakeholders)	<ul style="list-style-type: none"> <li>• SCP Manager Facilitator/Group Rapporteur</li> </ul>
	1030-1100	Coffee break	
	1100-1145	12. Plenary presentation and discussion on the group work – Group 1.	<ul style="list-style-type: none"> <li>• SCP Manager</li> <li>• Facilitator/Group Rapporteur</li> </ul>
	1145-1230	13. Plenary presentation and discussion on the group work – Group 2.	Facilitator
	1230-1400	Lunch	
	1400-1630	Visit to WARDA Fields and Facilities	<ul style="list-style-type: none"> <li>• Facilitator</li> </ul>
	1630-1645	Coffee Break	
	1645 – 1730	15. Plenary presentations and Discussions on field visits	<ul style="list-style-type: none"> <li>• Facilitator/Group Rapporteur</li> </ul>
	1700-1730	16. Arrangements for Day 3 (Field Visits)	SCP Manager/Facilitator

DAY 3 – JUNE 28			
	0830-0900	Recap Day 2	<ul style="list-style-type: none"> <li>• Facilitator</li> </ul>
	0900-1200	17. Partnership arrangements (institutional & organizational). Identification of key partners in implementing broad themes (technology development & transfer, markets & trades; agri-inputs; agro-processing & utilization; policy & harmonization; enabling environment and capacity strengthening)	<ul style="list-style-type: none"> <li>• SCP Manager/Rapporteur</li> </ul>
	1200-1300	Port Novo and Launch	
	1300- 1800	18. Visit to the Songhai Centre	<ul style="list-style-type: none"> <li>• SCP Manager/ Facilitator</li> </ul>
	1800-1830	19. Closing and workshop conclusions and Recommendations	<ul style="list-style-type: none"> <li>• DP/Facilitator</li> <li>•</li> </ul>
	1830	Departure for Cotonou	

# Annex 2A: Terms of reference for Working Group 1

## CORAF/WECARD - Staple Crops Program: Survey Validation and Planning Workshop

Cotonou Benin, 26 – 28<sup>th</sup> June 2008

### Term of Reference (ToR) of working groups I

#### Project themes

#### Objectives of the working groups

- To fine-tune the project themes (re-word, remove and add new ones) under each of the four operational results;
- To prioritize the project themes for competitive funding under each operational result area
- Identify one or two themes for commissioned projects

#### Four groups are formed

Each group will concentrate on one operational result

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

#### Methodology for the assignments

Three steps

1. Revise project themes under the operational results:
  - Re-word
  - Remove project themes that are not relevant according to the group (provide reasons)
  - If necessary, add new project themes (provide the reasons)
  - Document comments and suggestions using the flipchart or put notes on card for the rapporteurs
2. Prioritize project themes (use guiding principles such as: **relevance – impact**)

Project themes	Score (distribute marks for the project themes – individually or by the group)	Rank
1		
2		
3		
Etc.		

3. Synthesize results and comments on the project themes using notes on flipchart or put notes on cards

#### Working materials

- Programme document
- Guideline for the assignment (ToR)

## **Annex 2B: Terms of reference for Working Group 2**

### **CORAF/WECARD - Staple Crops Program: Survey Validation and Planning Workshop**

**Cotonou Benin, 26 – 28<sup>th</sup> June 2008**

#### **Term of Reference (ToR) of working groups II**

##### Activities for project themes

#### **Objective of the working groups II**

- To develop activities for the project themes (Day 1 working group results)

#### **Two groups formed during day 1 will continue the assignment**

Each group will concentrate on the following CORAF/WECARD operational result

- Group 1: R1 and R4
- Group 2: R2 and R3

R1: Appropriate technologies and innovations developed

R2: Strategic decision-making options for policy, institutions and markets developed

R3: Sub-regional agricultural research system strengthened and coordinated

R4: Demand for agricultural knowledge from target clients facilitated and met

#### **Methodology for the assignment**

Three steps

1. Each group will use result of day 1: prioritized project themes
2. develop activities for project themes which were prioritized
3. Document comments and suggestions for reporting

#### **Working materials**

- Programme document
- Guideline for the assignment (ToR)

## Annex 3A: Results of Working Group 1

**Theme: Producers and end-users at the Centre of Research**

**Chairperson:** Robert KAGBO

**Rapporteur:** Norbert MAROYA

**Members:**

<b>Name</b>	<b>Organization</b>	<b>Country</b>
1- Joseph Vincent MAMA	CORAF/WECARD	Senegal
2- Dona DAKOUO	INERA	Burkina Faso
3- Abraham OGUNGBILE	Premier Seed	Nigeria
4- Braima JAMES	IITA	Benin
5- Kerstin HELL	IITA	Benin
6- Jacob NGEVE	IRAD	Cameroon
7- Demba Faba M'BAYE	ISRA	Senegal
8- Abdou N'DIAYE	ISRA	Senegal
9- N'Deye T.T. DOUMOUYA	ITA	Senegal
10- Abdoulaye KEITA	APCAM	Mali
11- Amoncho ADIKO	CNRA	Cote D'Ivoire
12- Sydney JOHNSON	NARCC	Sierra Leone
13- Jacques LANÇON	INRAB	Benin
14- Simone ZOUNDI	INTERFACE	Burkina
15- Marcel NWALOZIE	CORAF/WECARD	Senegal

Projects themes developed under CORAF/WECARD following results 1 and 4

**R1: Appropriate technologies and innovations developed**

**R4: Demand for Agricultural knowledge from target clients facilitated and met**

### **1- Enhanced Agricultural Productivity**

- Intensification of low lands and irrigated areas
- Institutional and human capacity enhancement
- Development and promotion of appropriate crop varieties for various agroecologies
- Diseases and pests management in the field and storage (use of plant resistance, cultural practices, biological control, chemical control, integrated crop and pest management, quarantine, trade issues etc.)
- Dissemination of market information systems

### **2- Agricultural Inputs Enhancement**

- Seed and inputs supply (credit, labour, mechanization, fertilizer etc) chain management
- Adaptation of agricultural inputs and outputs
- Promotion of productivity enhancing technologies on farm for adoption
- Promotion of viable seed companies and inputs agro-dealers in rural areas
- Facilitation of trade in seeds and other inputs in West Africa
- Facilitate credit and rural financing

### 3- Post Harvest Technologies

- Post harvest technologies in storage, processing, packaging and marketing for food and feed management in West and Central Africa
- Transformation of raw produce into quality processed products
- Improved packaging, labelling and product grading
- Develop and operate effective sub regional and regional agricultural data base management systems
- Promotion of appropriate manual and mechanized equipment

## Annex 3B: Results of working group 2

### Group 2 Members

NAME	Field/Organization	COUNTRY
1. Osseni Bouraïma	Development fund	Cote d'Ivoire (Président)
2. KWA Moise	Research (CARBAP)	Cameroun (Secrétariat)
3. Biney Juliet	Executive Sec.APFOG	Ghana (Secrétariat)
4. Zinsou A. Jacques	Research (INRAB)	Benin
5. Doudou Ndiaye	Ag. Economist (CMA/AOC)	Senegal
6. Ariyo Bunmi	Farmer Organisation	Nigeria
7. Bengone N. Toussaint	Research (IRAF)	Gabon
8. Manga Desire	FBO (PROPAC)	Cameroun
9. Benoit-Cattin Michel	Economist	France
10. Muluh George .A	Ag. Economist (CORAF)	Senegal
11. Ndiaye Saliou	Planning Officer (ROPPA)	Burkina
12. Kama Idrisse	FBO (Processor/Poultry)	Senegal

Projects themes developed under CORAF/WECARD following results 2 and 3

**R2: Strategic decision-making options for policy, institutions and markets developed**

**R3: Sub-regional agricultural research system strengthened and coordinated**

### 1 - Promotion of harmonized systems

Promotion of regional harmonization for germplasm exchanges and commodity trade (with reference to rules, regulations, laws and organization)

#### Activities

- Develop and harmonize sub-regional laws, rules and norms on the exchanges of planting materials, varieties and other inputs
- Develop and harmonize sub-regional laws, rules and norms for agricultural trade

- Develop and harmonize the laws, rules and norms on market information system in order to facilitate germplasm exchanges, as well as input and commodity trade

## **2 – Capacity Strengthening of Stakeholders**

Capacity strengthening of all stakeholders in the value chain

### **Activities**

- Capacity strengthening of policy decision makers on decisions for regional exchanges and trade in planting material and agricultural products
- Train and sensitize Permanent Secretaries (Chief Directors) of Agriculture and Custom Service to improve the implementation of laws, rules and their enforcement.
- Strengthen capacities of the Civil Society Organizations (leadership, management, marketing and organizational capacity.
- Strengthen capacities of researchers
- Strengthen capacities of private sector actors in the value chain (including processors, traders, etc.)
- Strengthening capacities of producer organizations in the production, accessing and marketing of improved seeds in the light of the current food crises, climate change and low producer access to improved seeds.

Capacity strengthening of processors comprising women groups, associations, leadership in management and technical capacities in view of effective promotion and coordination relating to regional information sharing, technology transfer and linkages to research, extension and NGOs.

## **3 - Research Coordination**

### **Strengthening of sub-regional agricultural research system**

#### **Activities**

- Develop mechanisms for mobilization of financial resources, internally and externally
- Develop scientific and technical partnership mechanisms among all NARS actors at national and sub-regional levels (define roles of different partners and functioning of the system)
- Renew and harmonize research statutes in different countries of the sub-region to reduce their exit from the NARS.
- Develop and test innovative models to establish relationship among NARS actors in order to improve information sharing and technology transfer.
- Define strategic options for decision making for policy institutions and markets
- Develop and implement innovations for improving regional and international trade

## Annex 4: Evaluation form

### CORAF/WECARD: Validation and Planning Workshop - Staple Crops Program

**Theme :** “Producers and end-users at the centre of research”

**Venue & Date:** Cotonou (Bénin) June 26 to 28, 2008

Please tick one rating below for each numbered attribute

#### SECTION A

##### 1. Quality of the discussions

Poor       Fair       Good       Excellent

##### 2. Quality of materials provided (papers, articles etc.)

Poor       Fair       Good       Excellent

##### 3. Length of workshop

Too long       Too short       Adequate

##### 4. Logistical arrangement for the workshop

Poor       Fair       Good       Excellent

##### 5. Travel arrangements

Poor       Fair       Good       Excellent

**6. Quality of hotel services**

Poor  Fair  Good  Excellent

**7. Overall evaluation of the seminar**

Poor  Fair  Good  Excellent

**SECTION B**

**8. How are the workshop discussions relevant to your current work?**

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**9. According to you, what worked so well during the workshop?**

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**10. According to you, what are the weaknesses of the workshop?**

**11. What are your suggestions to improve further organization of such a workshop**

**12. Any additional comments/suggestions**

## Annex 5: List of Participants

STAPLE CROPS PROGRAMME - PLANNING WORKSHOP					
26-28 JUNE 2008, Cotonou – BENIN					
List of participants					
N°	NAME	POSITION & INSTITUTION	ADDRESS	TELEPHONE	E-MAIL
1	ADIKO Amoncho	Directeur de la Recherche et de l'Appui au Développement - CNRA	01 BP 1740 Abidjan 01 COTE D'IVOIRE	225 23 47 24 24 225 01 01 10 84	<a href="mailto:adikoam@yahoo.com">adikoam@yahoo.com</a> <a href="mailto:amoncho.adiko@cnra.ci">amoncho.adiko@cnra.ci</a>
2	ARIYO Bunmi	Treasurer -Motherland Women Multi-Purpose Coop. Society Ltd. Gwagwalada FCT	Abuja, NIGERIA	234 80 53 55 40 53	<a href="mailto:ariyo.bunmi@yahoo.com">ariyo.bunmi@yahoo.com</a>
3	ASIEDU Ernest Assah	Staple Crops Programme Manager - CORAF/WECARD	BP 48 DAKAR RP - SENEGAL	221 33 869 96 18	<a href="mailto:e.asiedu@coraf.org">e.asiedu@coraf.org</a>
4	BENOIT-CATTIN Michel	Agro-économiste - CIRAD	TA 180/04, Avenue Agropolis 34398 Montpellier Cedex 5 France	33 467 61 57 82	<a href="mailto:michel.benoit-cattin@cirad.fr">michel.benoit-cattin@cirad.fr</a>

<b>5</b>	BINEY Juliet	Executive Secretary, Ghana Agricultural Association & Information Centre (GAABIC)/Apex Farmers Organization (APFOG)	P.M. B. CT 284 Cantoments, Accra GHANA	233 21 787051 233 244 743070	<a href="mailto:jbiney@hotmail.com">jbiney@hotmail.com</a> <a href="mailto:apfogsecretariat@yahoo.com">apfogsecretariat@yahoo.com</a>
<b>6</b>	BRAIMA James	IITA	08 BP 0932 Tri postal Cotonou BENIN	229 21 35 01 88	<a href="mailto:B.James@cgjar.org">B.James@cgjar.org</a>
<b>7</b>	DAKOUO Dona	Directeur de Recherches - INERA	Station de Farako-ba 01 BP 910 Bobo-Dioulasso BURKINA FASO	226 50 34 02 70 226 70 17 79 54	<a href="mailto:dakouo@hotmail.com">dakouo@hotmail.com</a> <a href="mailto:ddakouo@fasonet.bf">ddakouo@fasonet.bf</a>
<b>8</b>	DANGBEGNON Constant	Facilitator	TOGO		<a href="mailto:cdangbegnon@ifdc.org">cdangbegnon@ifdc.org</a>
<b>9</b>	DOUMOUYA Ndèye Thi Thin Sèye	ITA	BP 2765 Dakar, Sénégal	221 33 859 07 07 221 77 633 62 84	<a href="mailto:ndoumouya@ita.sn">ndoumouya@ita.sn</a> <a href="mailto:nttseye@yahoo.fr">nttseye@yahoo.fr</a>
<b>10</b>	JOHNSON Sydney	NARCC	Tower Hill PMB 1313 SIERRA LEONE	232 76 661 369 232 76 624 991	<a href="mailto:sagidigas@yahoo.com">sagidigas@yahoo.com</a>

11	KAGBO Robert	Senior Agricultural Advisor - USAID/WA	P. O. Box. 1630 Accra GHANA	233 21 741 200	<a href="mailto:rkagbo@usaid.gov">rkagbo@usaid.gov</a>
12	KAMA Idrissa	Deputy Director General - Complexe Avicole de Mbaou (Président, Union nationale des acteurs de la filière avicole)	Km 21, route de Rufisque BP 3272 Dakar - SENEGAL	221 33 836 03 16 221 33 836 04 16 221 77 637 06 02	<a href="mailto:idrissakama@yahoo.fr">idrissakama@yahoo.fr</a>
13	KEITA Abdoulaye	Conseiller Technique - Assemblée Permanente des Chambres d'Agriculturee dur Mali (APCAM).	BP. 3799, Porte no. 15, Square Patrice Lumumber – BAMAKO	223 221 87 25 223 642 92 72	<a href="mailto:apcam@apcam.org">apcam@apcam.org</a> <a href="mailto:abdoulaye.keita@apcam.org">abdoulaye.keita@apcam.org</a>
14	KWA Moïse	Coordinateur Scientifique - CARBAP	B.P. 832 Douala CAMEROUN	237 99 65 73 02	<a href="mailto:moisekwa@yahoo.fr">moisekwa@yahoo.fr</a>
15	LANCON Jacques	INRAB-CIRAD-Coopération française	01 BP 966 Cotonou BENIN	229 21 30 69 34 229 97 24 96 57	<a href="mailto:jacques.lancon@cirad.fr">jacques.lancon@cirad.fr</a>
16	MAMA Vincent Joseph	Chargé du Suivi Evaluation et de l'Impact-CORAF/WECARD	BP 48 DAKAR RP - SENEGAL	221 33 869 96 18	<a href="mailto:mamvincent@yahoo.com">mamvincent@yahoo.com</a>

17	MANGA NDZANA Désiré	Programme Officer - PROPAC	P. O. Box. 7445 Yaoundé CAMEROON	237 22 23 41 90 237 99 64 69 51	<a href="mailto:cnop_cam2001@yahoo.fr">cnop_cam2001@yahoo.fr</a> <a href="mailto:propac_cm@yahoo.fr">propac_cm@yahoo.fr</a> <a href="mailto:alex_manga2007@yahoo.fr">alex_manga2007@yahoo.fr</a>
18	MAROYA Norbert	Coordinator of WASA/ICRISAT	BP 320 Bamako MALI	223 222 80 86 223 410 12 72	<a href="mailto:n.maroya@icrisatml.org">n.maroya@icrisatml.org</a> <a href="mailto:nmaroya@insah.org">nmaroya@insah.org</a>
19	MBAYE Demba Farba	Membre du CST du CORAF/WECARD - ISRA	Route des Hydrocarbures Bel Air BP 3120 Dakar SENEGAL	221 33 859 17 17 221 33 859 17 36	<a href="mailto:dbaye@refer.sn">dbaye@refer.sn</a> <a href="mailto:demba.farba@yahoo.fr">demba.farba@yahoo.fr</a>
20	MULUH George Achu	Chargé de la Planification- CORAF/WECARD	BP 48 DAKAR RP - SENEGAL	221 33 869 96 18	<a href="mailto:muluh.achu@coraf.org">muluh.achu@coraf.org</a>
21	NDIAYE Abdou	Sélectionneur, Chercheur au CNRA de Bambey - ISRA	Bambey SENEGAL	221 33 973 63 48 221 77 646 16 87	<a href="mailto:adndiaye@refer.sn">adndiaye@refer.sn</a>
22	NDIAYE Doudou	Expert agro-économiste - CMA/AOC	7, Avenue Bourguiba, Dakar SENEGAL	221 33 869 11 90	<a href="mailto:dndiaye@cmaoc.org">dndiaye@cmaoc.org</a> <a href="mailto:dossena@yahoo.fr">dossena@yahoo.fr</a>

23	NDIAYE Saliou	Chargé Suivi- CapitalisationCET/ROPPA	09 BP 884 Ouagadougou 09 - BURKINA FASO	226 50 36 08 25 226 78 83 72 97	<a href="mailto:salioundiaye@roppa-ao.org">salioundiaye@roppa-ao.org</a> <a href="mailto:asliou@hotmail.com">asliou@hotmail.com</a>
24	NDONG Toussaint Bengone	IRAF	BP 2246 Libreville GABON	241 73 23 75 241 73 25 32 241 73 25 65 241 06 05 69 20	<a href="mailto:bengonendong@yahoo.fr">bengonendong@yahoo.fr</a> <a href="mailto:tbengone@refer.ga">tbengone@refer.ga</a>
25	NGEVE Jacob M.	Director Annual Crops - IRAD	BP 2123 Yaoundé CAMEROON	237 22 23 35 38 237 77 76 58 48	<a href="mailto:jmngeve2000@yahoo.fr">jmngeve2000@yahoo.fr</a>
26	NWALOZIE Marcel	Director of Programmes CORAF/WECARD	BP 48 DAKAR RP - SENEGAL	221 33 869 96 18	<a href="mailto:marcel.nwalozie@coraf.org">marcel.nwalozie@coraf.org</a>
27	NZAMUJO Godfrey	Directeur-SONGHAI	BP 597 Porto Novo BENIN	229 20 22 50 92 229 20 22 28 81	<a href="mailto:nzamujo@songhai.org">nzamujo@songhai.org</a> <a href="mailto:gngzamujo@yahoo.com">gngzamujo@yahoo.com</a> <a href="mailto:songhai@songhai.org">songhai@songhai.org</a>
28	OGUNGBILE A.O.	Agricultural Economist, Director of Technical and Commercial Services - Premier Seeds Nigeria LTD	Chikaji Industrial Estate, POBox.1673, Zaria, Kaduna State NIGERIA	234 069 334 804 234 802 84 35 718	<a href="mailto:supercrops@premier-seeds.com">supercrops@premier-seeds.com</a> <a href="mailto:ogungbileao2000@yahoo.co.uk">ogungbileao2000@yahoo.co.uk</a>

<b>29</b>	OSSENI Bouraïma	Conseiller Technique - FIRCA	01 POBox. 3726 Abidjan 01 COTE D'IVOIRE	225 22 52 81 81 225 22 52 81 94 Mob.225 07 09 25 55	bdocosseni@hotmail.com <a href="mailto:ossenib@firca.ci">ossenib@firca.ci</a>
<b>30</b>	SECK Marianne Soumaré	Assistant Accountant CORAF/WECARD	BP 48 DAKAR RP - SENEGAL	221 33 869 96 18	<a href="mailto:marianne.seck@coraf.org">marianne.seck@coraf.org</a>
<b>31</b>	SERE Yacouba	WARDA	01 BP 2031 Cotonou BENIN	229 21 35 01 88	<a href="mailto:Y.SERE@CGIAR.ORG">Y.SERE@CGIAR.ORG</a>
<b>32</b>	ZINSOU Jacques	INRAB	BP 128 Porto-Novo BENIN	229 20 21 27 73 229 97 64 35 75	<a href="mailto:zinsoujacques@yahoo.fr">zinsoujacques@yahoo.fr</a>
<b>33</b>	ZOUNDI KAFANDO Simone	PDG - SODEPAL & Coordinatrice Réseau INTERFACE	01 BP 1749 Ouagadougou BURKINA FASO	226 50 36 10 82 226 70 23 11 56	sodepal1@fasonet.bf <a href="mailto:sodepal3@yahoo.fr">sodepal3@yahoo.fr</a>