

Workshop on a Collaborative Platform for Agricultural Research in Sub-Saharan Africa

WARDA, Bouaké, 14–16 March 2001

WORKSHOP REPORT



About ISNAR

ISNAR, one of the 16 Future Harvest centers supported by the Consultative Group on International Agricultural Research (CGIAR), seeks to contribute to the generation and use of knowledge that fosters sustainable and equitable agricultural development. ISNAR's mission is to help bring about innovation in agricultural research institutions to increase the contribution of research to agricultural development for the poor.

ISNAR identifies and advances new arrangements that promote more effective generation of new knowledge. Emphasis on institutional innovation allows ISNAR to play a catalytic role in the change processes taking place in many developing countries. At the same time, it is strengthening its ability to play an important role in the new programs being developed by the CGIAR. The focus on institutional innovation puts ISNAR in a strategic position in a research community where national and international concerns are increasingly converging.

ISNAR conducts its work on institutional innovation through the following six thematic areas of work:

- Policies for institutional innovation for agricultural research
- Linking research organizations and stakeholders in a changing context
- Learning for institutional innovation
- Management of new technologies for agricultural research
- Building capacity to respond to cross-sector demands
- Entrepreneurial partnerships to support agricultural research

Founded in 1979, ISNAR headquarters is in The Hague, the Netherlands. Regional offices are located in San José, Costa Rica; Washington, DC, USA; Ibadan, Nigeria; Los Baños, Philippines; and Entebbe, Uganda.

About WARDA

The West Africa Rice Development Association (WARDA) was formed as an autonomous intergovernmental research association in 1971 by 11 countries with the assistance of the United Nations Development Programme (UNDP), the Food and Agriculture Organization of the United Nations (FAO), and the Economic Commission for Africa (ECA). Today, the Association comprises 17 member states: Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo. Since 1987, WARDA has also been a member of the Consultative Group on International Agricultural Research (CGIAR), a network of 16 international research centers supported by more than 50 public- and private-sector donors.

WARDA's mission is to: contribute to food security and poverty eradication in poor rural and urban populations, particularly in West and Central Africa, through research, partnerships, capacity strengthening and policy support on rice-based systems, and in ways that promote sustainable agricultural development based on environmentally sound management of natural resources.

WARDA's research and development activities are carried out in collaboration with the national agricultural research systems of member states, academic institutions, international donors and other organizations, to the ultimate benefit of West and Central African farmers—mostly small-scale producers—who cultivate rice, as well as the millions of African families who eat rice as a staple food.

WARDA also operates research stations at N'Diaye, near Saint-louis, Senegal, and at the International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria.

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An international workshop organized by

West Africa Rice Development Association
and

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Technical Centre for Agricultural and Rural Cooperation (CTA)



isnar

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Acronyms

AAU	African Association of Universities
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
CAP	Collaborative Agreement Platform
CBSS	Community-Based Seed Production System
CGIAR	Consultative Group on International Agricultural Research
CORAF	Conférence des Responsables de Recherche Agronomique Africains
CTA	Centre Technique de Coopération Agricole et Rurale/ Technical Centre for Agricultural and Rural Cooperation
FAO	Food and Agriculture Organization of the United Nations
GFAR	Global Forum on Agricultural Research
IARC	International Agricultural Research Center
ICRAF	International Centre for Research in Agroforestry
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
INGER	International Network for the Genetic Evaluation of Rice
ISNAR	International Service for National Agricultural Research
MOU	memorandum of understanding
NARO	national agricultural research organization
NARS	national agricultural research system(s)
NERICA	New Rice of Africa
NGO	nongovernmental organization
PM&E	planning, monitoring, and evaluation
PVS	Participatory Varietal Section
R&D	research and development
SACCAR	Southern African Centre for Co-operation in Agricultural & Natural Resources Research and Training
SPAAR/FARA	Special Program for African Agricultural Research, World Bank/ Forum for Agricultural Research in Africa
SRO	subregional organization
SSA	Sub-Saharan Africa
WARDA/ADRAO	West Africa Rice Development Association / Association pour le développement de la riziculture en Afrique de l'ouest

Executive Summary

The main objective of the workshop on a collaborative platform for agricultural research in Sub-Saharan Africa was to develop a framework for producing more productive partnerships that will maximize the advantages and efficiency gains of collaboration. The conclusions from the workshop could be summarized as follows.

First, collaborating partners must have a shared vision, goals, objectives (strategic and specific), values, and principles underlying the partnership. Such values include trust, mutual respect, transparency, and accountability. Others are sharing of credit of research, sense of ownership by all partners, shared rights, and a commitment to the principle of sharing of resources, expertise, technology, and services. In addition, partners must agree on shared operational values and principles such as flexibility, accountability, and responsibility for delivering on agreed outputs, monitoring and evaluation of partnership projects, complementarity, cooperation, and commitment.

Second, partners must clearly see the advantages of collaborative partnership, such as economies of scale and scope, pooling of resources for efficient production and dissemination of research knowledge and technology, and the avoidance of duplication of research efforts. These advantages ensure that the whole is greater than the sum of the parts.

Third, partners must demonstrate genuine appreciation of their respective constraints. For example, in universities, there has been a lack of mainstreaming of universities into national developmental research, a lack of institutional research vision and agenda, inadequate funding, gross underutilization of human resources, low morale, and frustration.

Fourth, it was recognized that the original concept of a collaborative platform involving only the CGIAR centers and the universities was too narrow. It was agreed that the collaborative platform should be widened to include the CGIAR centers, universities, NAROs, NARIs, ARIs, NGOs, CSOs, farmers' associations, and private-sector research. This calls for a more inclusive concept of NARS. It was underlined that collaboration has to be bottom up, and that collaboration between the CGIAR and the universities cannot be effective without strengthening the collaboration between universities and NAROs at the national level. It is only when universities are an active component of the NARS that regional and international collaboration can be successful.

Fifth, new collaborative platforms, if they are to succeed where others failed, need to recognize the constraints of existing partnerships between the universities and the centers. Such constraints include differences in philosophy and objectives, and the different levels at which on-going research at these institutions relate to national research priorities, and lack of information on existing capacities in partnership institutions. Others include inadequate budget provisions for partnership projects and activities (e.g., publications), differences in research culture and bureaucratic and organizational constraints.

Sixth, the workshop endorsed a draft collaborative platform covering vision, goal, objectives, and follow-up program of work. Elements of the program include sensitization of existing partnerships at national, regional and global levels on the outcomes of the workshop, formulation, and implementation of immediate simple projects, and invitations to universities, NAROs, CGIAR centers and other key actors to join the platform. Other elements include an inventory of received baseline information, identification of institutions for specific collaboration and partnership, the establishment of a coordinating group to facilitate the organization of national, regional, and global stakeholder workshops and the creation of a website for the platform.

Finally, the workshop agreed on elements of the implementation process to include development of collaborative agreements of partnership among participating institutions and the establishment of monitoring and evaluation mechanisms for partnerships. Others are the establishment of steering committees to monitor progress of the implementation of partnership programs, expected output, impact, and dissemination of information on programs of collaborative platforms.

Of equal importance, but not treated at the workshop, are issues such as the reconciliation of joint research themes when partners are located in countries and sub-regions with conflicting national and regional research priorities, mechanisms for determining joint research projects, and specification of the most appropriate collaborative platforms for different types of joint research themes of partnerships.

Introduction

Agricultural research in Sub-Saharan Africa (SSA) has undergone intensive processes of planning and restructuring during the last 20 years. This development has been within the domains of the national agricultural research systems (NARS), the international agricultural research institutions, notably the Consultative Group on International Agricultural Research (CGIAR), and the donor community.

The academic institutions, which are major components of the NARS, have played a marginal role in the mainstream of agricultural research and development in SSA. However, they must be credited for making major contributions to the education and training of the evolving pools of agricultural researchers and development leaders. Academic institutions, especially those that have graduate-level teaching and research, have a high human potential for agricultural research. Thus, they can collaborate in development-oriented research by joining partnership mechanisms. As universities they also have an obligation to base their teaching on relevant research activities.

In December 1999, WARDA and ISNAR organized an international workshop on partnerships to identify the constraints to partnership building, to learn what has worked and what has not worked and why, and to develop guidelines and tools for the management of partnerships. The workshop particularly identified institutional players, including international centers, regional research coordination organizations, NARS, universities, farmers' organizations, NGOs, and private-sector organizations. It also identified opportunities for defining a more pluralistic NARS concept with increased involvement of the university system.

The human and physical resources of academic institutions can be employed to contribute in a significant way to collaborative research at national and regional levels, while improving the science base of research, education, and development. It provides the rationale for creating a collaborative platform between international agricultural research centers and academic institutions in Sub-Saharan Africa.

The purpose of the workshop was to provide a forum of exchange and planning for key leaders of agricultural education and research that aims at adopting a strategic framework and creating a platform for strengthening agricultural research and education through cooperation between and among international centers and academic institutions in SSA.

Participants represented the CGIAR (WARDA and ISNAR), the Association of African Universities (AAU), and the academic community of SSA. High-level managers of 15 academic institutions from 12 countries in Eastern, Western, Central and Southern Africa attended the workshop. Prof. F. Idachaba (ISNAR) moderated the workshop.

The workshop achieved the following specific objectives:

- Review existing partnerships and collaborative mechanisms of research, training, and development activities of the international centers and the academic institutions in Sub-Saharan Africa;

- Learn from research conducted on strengthening the roles of academic institutions in NARS;
- Examine the nature of and need for establishing a collaborative platform between international centers and academic institutions;
- Define steps for organizing joint research, teaching and development activities between participating organizations.

Using a highly participatory method, the workshop was organized in three sessions: (I) a framework for collaboration, (II) maximizing the gains from CGIAR centers–universities collaboration, and (III) elements of a collaborative platform. The following five keynote papers (two in session I, three in session II) were presented:

- (1) Collaboration in African agricultural research (by Dr. H. Michelsen, ISNAR).
- (2) WARDA: A model of partnerships in agricultural research and technology transfer (by Dr. K. Nwanze, WARDA).
- (3) Constraints, opportunities, and potential role of the university system in agricultural research and development in Sub-Saharan Africa (by Prof. F. Rajaoson, AAU).
- (4) University research collaboration with NAROs and CGIAR centers in SSA (by Dr. H. Michelsen, ISNAR).
- (5) The experience in collaborative agricultural research: The case of collaboration between the Faculty of Agriculture of the University of Benin and the international centers (by Dr. A.A. Thomas Odjo, University of Bénin).

During session III, a discussion panel prepared the stage for defining the collaborative platform and the implementation measures. Plenary presentations and discussions alternated with discussions in small groups throughout the three sessions.

The results of the workshop presented here build on earlier lessons of the international workshop on partnerships, the collective experiences of WARDA, ISNAR, AAU, and the academic institutions, and on intensive dialogues among participants throughout the plenary sessions and small group discussions.

Opening Remarks

On behalf of WARDA and ISNAR, Dr. Kanayo F. Nwanze, Director General of WARDA, welcomed Prof. N'Guessan Yao Thomas, Director of Scientific Research, representing the Minister of Higher Education and Scientific Research of Côte d'Ivoire, Prof. Nwamuo, representing the Association of African Universities (AAU), as well as the high-level managers of 15 academic institutions in Sub-Saharan Africa, to Bouaké for the three-day workshop "A Collaborative Platform for Agricultural Research in Sub-Saharan Africa."

This workshop was the second international workshop on the theme of partnership, co-organized by the two CGIAR centers WARDA and ISNAR. The first international workshop on "Effective and Sustainable Partnerships in a Global Research System: Focus on Sub-Saharan Africa" was held in December 1999 at WARDA. It convened representatives of the CGIAR centers, NARS, sub-regional organizations (SROs), and farmers' organizations. The results were recorded in the workshop's synthesis report. It is worth observing that the first workshop clearly noted and regretted that very few academic leaders had attended the workshop.

The second workshop rectified that shortcoming. ISNAR and WARDA have outstanding collaborative relations with academic institutions, sometimes through working with individual scientists, and often bring together the combined strengths of the two CGIAR centers and the systems of higher education and research in Sub-Saharan Africa. Dr. Nwanze concluded that this workshop should signal a new start in reviewing together the institutional mandates, constraints, roles, experiences, and potentials in addressing critical issues of agricultural research, education, and development. ISNAR and WARDA stated that this workshop was the proper venue to map out a collaborative platform for collaboration.

Prof. N'Guessan Yao Thomas welcomed participants on behalf of the Minister of Higher Education and Scientific Research. He indicated that Côte d'Ivoire is privileged to have higher education and scientific research under one ministry. He also said the country feels privileged to host WARDA, a reputable research center of the CGIAR. The Government of Côte d'Ivoire wished the workshop much success. Prof. Yao Thomas pointed out that the ministry has had very special relations with ISNAR since 1981, when ISNAR reviewed the country's NARS, and more recently through a research project on strengthening the role of the university and agricultural colleges in national agricultural research. It resulted in an action plan that was implemented to improve the research performance of the national universities and their linkages with the national agricultural research organizations. The national organizations of agricultural research and development, farmers, and other actors in agricultural development collaborate intensively with WARDA in all processes of rice research and technology transfer. On behalf of the government he thanked the two CGIAR centers for their assistance in Côte d'Ivoire. In his concluding remarks Prof. Yao Thomas emphasized that three academic institutions are representing the Ivorian education and research system at this workshop, and that they should share their experiences with the distinguished guests from the region and from other corners of Africa.

Session I: A Framework for Collaboration

This session aimed to review existing partnerships and collaborative mechanisms of research, training, and development activities of the CGIAR centers and the academic institutions in Sub-Saharan Africa. There were two presentations of keynote papers, working groups, and plenary discussions. An ISNAR representative provided a conceptual framework for analyzing and developing collaboration. Further, an overview was given on collaboration in African agricultural research from a national, regional, and international perspective, with a strong emphasis on the impact of the changing external environments on agricultural research. WARDA presented its experiences with partnerships by elaborating on various mechanisms developed, with special attention to non-traditional partners.

Collaboration in African Agricultural Research

by Dr. H. Michelsen

Dr. H. Michelsen provided a framework for the analysis and development of collaboration. The framework built on the lessons learned from the previous “partnership” workshop organized jointly by WARDA and ISNAR in 1999. It analyzed the successes and failures of collaboration. One form of collaboration is partnerships: long-term arrangements between two or more institutions, involving exchange or sharing of resources to achieve a common objective. Several effectiveness, efficiency, and sustainability considerations can be an advantage of a partnership. Foundation elements (e.g., compelling vision, strong and shared leadership, shared problem definition and approach, power equity, interdependence and complementarity, and mutual accountability) and sustaining elements (e.g., attention to process, communication linkages, explicit decision making process, trust and commitment, credit, and recognition) are factors that influence the success of collaboration. In developing collaboration, a four-step approach was suggested: 1) assessment of opportunities for collaboration; 2) identification and selection of partners; 3) intentional formation of collaboration; and 4) implementation and evolution.

The following trends in collaboration in SSA were observed. During the last decade there have been significant global changes in the approaches to agricultural research, with major shifts in thematic emphasis, actors, ownership of knowledge and stakeholder participation in influencing and setting research agendas, and in the process of transferring research results to farmers. New national partnerships must supplement or replace existing structures. They may require new partnerships among public bodies, further involvement of universities, NGOs and farmers’ associations, and new dialogues with the private sector (both national and multinational). New partnerships between the countries will emerge through the new regional and global initiatives and entities in SSA such as ASARECA, CORAF, SACCAR, SPAAR/FARA, or GFAR. Finally, these paradigm shifts will change the role of CGIAR institutes and advanced research institutes in industrialized countries and their way of collaborating with the NARS.

Regional research networks and institutes increasingly undertake agricultural research at the regional level. The three SROs ASARECA, CORAF, and SACCAR play major roles. Most of the actual research, however, is still being conducted by national agricultural organizations and CGIAR centers.

Most international agricultural research is being executed by the CGIAR centers. International agricultural research represents a relatively large part of the research capacity in SSA and therefore plays an important role in setting the regional research agenda. GFAR, established in 1997, facilitates the development of partnerships among the NARS of different regions and with other stakeholders at global level.

The national organizational structure of agricultural research in SSA is quite complex but has changed little in the past 30 years. All 49 SSA countries conduct agricultural research. Most countries employ relatively small numbers of researchers, and most researchers work for government R&D agencies, i.e., ministerial departments or semi-autonomous agricultural research institutes. In some countries, universities have significant human resources and a high potential for conducting development-oriented agricultural research. NGOs and farmers' and community-based organizations are closest to the end-user of the developed technologies -- the farmers. The effectiveness of these groups, however, is sometimes limited by their mandates, local orientation, technical knowledge and capacity, and financial resources.

It is important to form a collaborative platform for agricultural research in SSA to improve the performance of institutions and systems. Such decisions should be based on the knowledge of all costs and benefits for the institutions involved, and the ability to sustain activities. All institutions need to regularly monitor and evaluate whether the collaboration succeeds in retrieving the envisaged benefits at the envisaged costs.

WARDA: A Model of Partnerships in Agricultural Research and Technology Transfer

by Dr. K. Nwanze

Dr. K. Nwanze emphasized the fact that "WARDA is a child of partnerships" through experimenting with the following mechanisms:

- *The Task Forces Mechanisms of collaboration between WARDA and national agricultural research institute (NARI) partners*
The Task Forces are responsible for coordinating regional research activities, providing national scientists with access to research information and results, facilitating the testing and transfer of technologies, and targeting technical, material, and financial assistance to national programs.
- *The Open Center Mechanism*
WARDA shares its experiences with many advanced research institutions in Canada, France, Germany, Japan, the Netherlands, and the United Kingdom. The United Nations also provide collaborating scientists. Staff are seconded to WARDA's research stations, while WARDA provides office, laboratory, and field space as necessary. Seconded staff become an integral part of the WARDA team.

- *Two Consortia*
The Inland Valley Consortium and the Human Health Consortium bring together national scientists, international organizations, extension services, NGOs, and universities. They illustrate that shared experiences, expertise, and joint implementation result in significant cost savings and faster advances than any one member could hope to achieve alone.
- The interspecific hybridization project has led to the creation of a *Consortium for the Dissemination of New Rice of Africa (NERICA)*. An international symposium was convened in April 2001 to launch the Consortium.
- The *Participatory Varietal Selection (PVS)* and the *Community-Based Seed Production System (CBSS)* build on the research-extension-farmer partnerships. They are an integral part of the improvement and dissemination of the NERICA.

The experiences of WARDA to reach out to non-traditional partners, especially NGOs and academic institutions, were also presented. Dr. Nwanze pointed out that existing collaborative mechanisms involve some NGOs, for instance in the Pilot Program, to improve rainfed rice production, or through visiting scientists and students from many universities.

Outcomes of the Partnerships Workshop were reviewed and the pledge of participants to open a dialog with NGOs, explore joint IARC–NARS appointments, and enlist the assistance of African universities were highlighted.

Dr. Nwanze concluded with reiterating WARDA’s commitment to further “strengthen its network of partners,” as it strives to be a center of excellence in rice research and development, as a model of a regional institution for science and technology-based systems, and as the hub of an efficient technology and knowledge system.

Discussion

The discussion focussed on the involvement of farmers in research and the collaboration with NGOs, as well as WARDA’s experiences on partnership issues.

Much of the demand-driven research is still mainly carried out by the CGIAR centers and NAROs, not by universities. There was some criticism that research at universities is still often limited to the specific interests of scientists, with little involvement of the ultimate beneficiaries and other stakeholders.

There is less collaboration with NGOs than with farmers’ organizations. University staff reported that NGOs with better access to funding implemented university ideas without the active participation of universities. There is a need to avoid duplication of efforts, also by NGOs.

Concerning partnerships, serious failures have been observed in many countries as a result of competition among national institutions and lack of transparency. WARDA developed well-functioning partnerships with different stakeholders such as NAROs, other CGIAR centers, international universities, and advanced research institutes from developed countries. WARDA intends to broaden its partnerships to include African universities.

The fact that the “New Rice for Africa” (NERICA) developed by WARDA is not yet found in all parts of Africa raised the question of dissemination of research results. WARDA’s International Network for the Genetic Evaluation of Rice (INGER) program is actively disseminating NERICA in countries outside WARDA member states, particularly Tanzania and Mozambique. It was suggested that WARDA should monitor the use of NERICA and its sustainability over time, and that WARDA should start to work on NERICA that is suitable for the lowland swamps. In reply, WARDA said that NERICAs were bred for their high protein content and as such do not require a high amount of nitrogen from the soil for its development. It can produce good yields under low-input systems. Active farmer participation in conducting the research gave conclusive results on farmers’ selection criteria of the NERICA and this includes palatability of the varieties. Research on lowland-adapted NERICA rice is in progress.

Working Group Discussion

Working group 1 reflected on reasons for partnerships, collaborative advantages that need to be created, added value, and effective partnerships between universities and CGIAR centers. The group proposed the following vision of partnership: “The partnership will result into a complimentary and efficient use of resources equitably to enhance the contribution of agricultural research in securing food security and poverty alleviation within Sub-Saharan Africa.”

Potential collaborative advantages of a partnership between universities and CGIAR centers identified were:

- Exchange and sharing of expertise
- Exchange and sharing of services
- Exchange and sharing of resources and technology
- Exchange and sharing of research funding
- Efficient dissemination of research funding
- Broaden areas of research coverage, i.e., geographically, in scope, and in discipline
- Avoid duplication of efforts in research
- Joint collaborative research
- Pooling of resource for their efficient use.

The discussion on added value focused on research partnerships rather than on partnering for improved teaching, as CGIAR centers are better endowed with research resources. The suggested added value of a partnership includes the following:

- Increased relevance of research to make it more demand driven and addressing the specific needs of universities to link research to training;
- Common goals and objectives for both partners, which can be better achieved if the two come together;
- Efficient use of the pooled resources (e.g., human resources, equipment).

Working group 2 discussed the following key elements for a successful collaboration:

- Existence of national policies mainstreaming universities in the national research agenda and the need to focus on relevant research;
- Trust and frankness;
- Constant communication between CGIAR centers, universities and national research organizations;
- Existence of a Memorandum of Understanding to promote institutional networking rather than individual networking;
- Universities to develop and implement research programs that are consistent with the national and regional research priorities;
- CGIAR centers to assist in human resource development;
- Mutual benefit and interest;
- Accountability of each partner to deliver on agreed outputs;
- Sense of ownership of the project by each partner;
- CGIAR centers and universities to jointly submit proposals to solicit funding.

The working group identified the following potential constraints to a partnership between universities and CGIAR centers:

- Lack of mainstreaming of universities into national research agenda;
- Lack of communication and working relationship at national level;
- Lack of a research agenda at universities;
- Lack of research funding at universities;
- Lack of initiative at universities;
- Lack of human resources in universities.

Working group 3 suggested a process to develop and sustain a successful collaboration between universities and CGIAR centers. A first step suggested is to get to know each other by analyzing competencies, complementarities, commonalities, resource base, and the operational structure. A second step is to analyze opportunities and needs leading to mutual interests.

The following institutional set-up for effective partnerships was suggested:

- It should be flexible;
- A work plan and implementation plan should be drawn up;
- Procedures for monitoring should be included;
- Accountability and transparency should be addressed;
- Mutual respect is needed from all partners;
- There should be shared rights and ownership of expected outputs.

Discussion

Discussants elaborated on post-graduate training, human resources, and responsibilities for developing research areas at universities. Funding is a main constraint.

Universities could be streamlined into the CGIAR system in order to strengthen their funding and facilitate post-graduate training and curriculum development. Training of higher degree (PhD) students is already taking place in collaboration with CGIAR

centers. Many students have had research opportunities at WARDA, IITA, ICRAF, etc. Universities are responsible for developing into centers of excellence. CGIAR centers could assist.

Is the problem at universities one of under-utilized human resources or a lack of human resources? Some universities, e.g., the University of Namibia and the University of Côte d'Ivoire, have not enough staff. The University of Namibia invites professors from other African countries to complement its national staff. In Côte d'Ivoire there is a lack of human resources due to the poor conditions of service. Special efforts should be made for universities to retain quality staff. Universities should encourage split degree programs for their staff so that they can go to another university to pursue their degree without losing the link to their home university. It was observed that structural adjustment programs have been partly responsible for staff problems at universities in many SSA countries. Funding of universities was not mentioned as a specific constraint to develop successful collaboration. It was, however, argued that the lack of funding for universities and particularly for conducting research, has an important impact on the research performance of universities and limits their ability to collaborate.

Government policies effectively reduced the active participation of universities in the national research agenda. The university portfolio in many countries is under the Ministry of Education while agricultural research is either under the Ministry of Science and Technology or the Ministry of Agriculture.

Session II: Maximizing the Gains of CGIAR Centers – Universities Collaboration

This session aimed to learn from research on strengthening the role of academic institutions in NARS. It included the presentation of three keynote papers, two sets of working group discussions, and plenary discussions. The AAU presentation pointed out the challenges of the academic institutions in addressing hunger, poverty, and disease in Africa. The ISNAR representative highlighted the results of two studies on existing collaboration of universities with national agricultural research organizations and CGIAR centers in SSA. Finally, the representative of the University of Benin (UNB) discussed collaborative projects and the development orientation of UNB and identified specific areas of potential collaboration with WARDA.

Constraints, Opportunities and Potential Role of the University System in Agricultural Research and Development in Sub-Saharan Africa

by Prof. F. Rajaoson

Prof. Chris Nwamuo presented Prof. F. Rajaoson's paper "Constraints, opportunities and potential role of the university system in agricultural research development in Sub-Saharan Africa." Prof. F. Rajaoson is a Senior Program Officer at AAU, an international NGO established by African universities to promote cooperation among themselves and with the international academic community. AAU has 162 members in 43 African countries. AAU identified the great challenge for African universities to help bring about a profound transformation of higher education provisions on the continent, so that they can contribute meaningfully to the social, cultural, and economic prosperity of the African people. The current negative image of Africa as a continent of war, disease, food crisis, hunger, poverty, untold misery, high levels of corruption, and political instability was highlighted. If hunger, poverty, and disease are Africa's main problems, what are African education institutions doing towards reducing these scourges, which exacerbate war, instability, non-democratic practices, dictatorships, external borrowing, and debt crises? African universities have the capacity to improve the image of Africa.

AAU has participated in two regional meetings with the objective of strengthening the role of universities in the efforts of NARS in SSA: (1) the Inter-center Training Group meeting on strengthening agricultural research through training, and (2) the ISNAR workshop on strengthening the role of universities in NARS in SSA. Both meetings underlined the potential role of universities in contributing to national agricultural development-oriented research. However, they are facing several research constraints, including (1) the lack of planning and coordination of research, (2) enormous costs of acquiring, maintaining, and upgrading the research infrastructure, (3) research being considered as a secondary activity to the heavy teaching load, (4) lack of access to research data, where they at all exist from governments and previous research, (5) the tendency for governments to work without research statistics, and (6) the fact that research often does not address the needs of the farmers or how to get food to the people.

Given the universities' roles as centers of knowledge and human resource development, they have to be encouraged to become full-fledged partners in research and technology development, as well as an integral part of the NARS. What needs to be advocated are strong linkages with all the components of the national research system. Efforts could include (1) greater facilitation of inter-university, inter-institute, and institute-university use of staff and equipment, (2) unifying the degree programs on agriculture within each region, (3) maximizing the use of local and regional human and physical resources for effective training, (4) improving and developing training materials in the region, (5) providing short-term training for teaching, research, technical, and support staff of NARS, CGIAR centers, and other research institutes, and (6) making university training, degrees, and research more relevant to local, national, regional problems, and situations. Recommendations related to the 154 agricultural universities in SSA include the following: (1) university agricultural researchers spend their sabbatical leave at research institutes or relevant ministries, (2) students organize their internships at research institutes, (3) regional agricultural universities and research institutes share training responsibilities and resources, and (4) policy makers and university research staff jointly conduct research projects.

AAU has a key role in collecting, classifying, and disseminating information on higher education and research and can support a change process in collaborate research, enhance the training mission, work towards the improvement of academic qualifications, encourage universities to provide mass agricultural education, and advise universities to focus their research efforts. It is suggested that an advisory board of AAU and perhaps FAO is established to coordinate the interests of higher education institutions and to recommend reforms in the university research agenda.

Prof. Nwamuo concluded that the African food crisis is becoming an embarrassment to higher education and agricultural institutions in SSA. African higher education institutions are better positioned to deal with this crisis because they deal with the best motivated force: the educated youth who need training and re-training in order to play key roles in Africa's sustainable development. An agricultural revolution in this millennium should start at the colleges of agriculture, the NARS, and allied institutions, and from the effective coordination of their research activities, which will advance the course of agricultural education, food production, and distribution in SSA.

Discussion

How does AAU link with sub-regional agricultural research organizations such as ASARECA, CORAF or SACCAR? Can higher-education institutions be blamed for food insecurity in Africa? There have been a number of breakthroughs in technology generation in Africa. The problem is inefficient dissemination of these technologies. Universities tend to emphasize basic research as reward criteria for its staff. Universities should equally recognize research efforts that are relevant to local conditions. To address Africa's food insecurity problem it is suggested to set up an advisory body in collaboration with FAO, CGIAR centers, FARA, and AAU.

Working Group Discussions

Working group 1 discussed constraints that are relevant for the development of partnerships with CGIAR centers. The following were identified:

- Individually managed partnerships;
- No partnership between researchers;
- No university facilitation;
- No guaranteed continuity or sustainability;
- Accountability of project funds;
- No system for monitoring and evaluation;
- Unreliable reports.

Working group 2 discussed opportunities and potentials of universities in collaborating with CGIAR centers. The following opportunities were mentioned:

- Use of resources:
 - infrastructure,
 - personnel (e.g., development of common projects or didactic materials),
 - different services (e.g., soil and plant analysis).
- Strengthening of human resource capacities:
 - training of students (e.g., conferences, courses, thesis supervision, and examination),
 - training of teachers (i.e., post-doctoral stage, exchange of personnel on the basis of one-year sabbatical leaves, different training for specialization and improvement, dissemination, and diffusion of scientific information, and connection of universities to modern information networks).
- Access to funding for research.

The potential of universities to collaborate with CGIAR centers lies in their human resource base and existing infrastructure. There is a potential to conduct common projects that reflect regional or national interests and to build on existing linkages between the CGIAR and the national research organizations.

Working group 3 suggested mechanisms of successful collaboration between universities and CGIAR centers. The following steps can foster successful partnerships between universities and CGIAR centers:

- Identification of specific institutions participating;
- Information exchange (e.g., activities and interests):
 - limited resources,
 - diverging interests,
 - identify common ground (shared objectives) and potential complementarities,;
 - sensitization of chancellors and deans,
 - generation of stakeholder database.
- Define a time frame (6-9 months) for launching a workshop;
- Create inter-institutional linkages:

- scientist-to-scientist linkages,
- letters to initiate collaboration,
- organize workshop with all stakeholders (i.e., identify issues and priorities),
- develop MoU.
- Clarify the division of roles and the initiator of activities (e.g., AAU, CGIAR centers, regional and sub-regional organizations (new FARA, SACCAR, ASARECA, CORAF), universities and relevant ministries.

While there is no need to develop a new structure, the existing institutional framework has to be improved by using existing resources available for agricultural research. It was suggested to use a similar scheme for setting priorities as ASARECA and to explore the option of using AAU or the new FARA as platform.

University Research Collaboration with NAROs and CGIAR Centers in Sub-Saharan Africa

by Dr. H. Michelsen

ISNAR has conducted two studies on the role of universities in national agricultural research. The number of universities in SSA is increasing, along with a strong growth in the number of staff and students, but also in the face of significant cuts in public funding for higher education. Several international organizations, such as FAO, World Bank, and ISNAR, have emphasized the need to strengthen the role of universities in the NARS, with the aim of improving the efficiency, effectiveness, and sustainability of the NARS.

The first ISNAR study focused on the collaboration between universities and NAROs in Benin, Burkina Faso, Côte d'Ivoire, Nigeria, Uganda, and Zimbabwe. It summarized the linkages identified in these countries and results of a detailed cross-country analysis of the performance of these linkages:

- Most of the actual linkage mechanisms used are achieving their objectives.
- Universities and NAROs benefit from these linkages.
- Personal benefits from linkages were generally present.
- Participants found it was more efficient to pursue these activities jointly than separately.
- NAROs usually provide financial resources for the functioning of linkage mechanisms.
- Analyzed linkage mechanisms seem to be relatively sustainable.
- Donor funding for linkage mechanisms generally did not play an important role.

The study analyzed factors that influence the performance of linkages between universities and NAROs, such as the absence of a national research and research linkage policy and national priorities, the absence of a coordinating (apex) body for the NARS, linkages with different institutions, differing availability and qualification of staff members, differing behavior of staff members, differing and missing (non-)monetary

incentives for staff members to link, missing information on on-going and proposed research, differing nature of research, and differing organizational structure of universities and NAROs.

Key priority recommendations endorsed by and partly implemented in these countries are the following: (1) draw up a national agricultural research policy with explicit reference to linkages and a strategic plan, (2) organize cross-representation in the different decision-making bodies, (3) establish and share access to national databases on resources (human, physical, financial) availability, (4) create of a research competitive fund favoring joint teamwork, and (5) implement a common PM&E system.

The second ISNAR study focused on the collaboration between universities and CGIAR centers in SSA. Results are based on a survey of CGIAR centers. On the basis of the survey, CGIAR centers contributed USD10 million, which equals 8% of their total expenditures in SSA, to support research activities in SSA institutions, including universities and NARIs. As centers have different regional coverage, regions benefit unevenly. Centers focus on poor countries, and small countries receive relatively more than large countries. Countries with different historical background benefit equally, but Anglophone universities receive a much higher share than Francophone universities. Allocation within countries showed that NAROs receive 58% of all available support, compared to 14% for universities, and 74% of all projects are carried out by NAROs compared with 26% by the universities. The most important criteria for allocating funds between institutions were: capabilities for carrying out certain types of research, specific skills of staff, relative strength in different areas of specialization, and research facilities.

- Key constraints to collaboration with universities identified by CGIAR centers were: (1) lack of funding resources for collaboration, (2) differing philosophies and priorities, (3) undeveloped or non-existent policies to encourage collaboration, (4) lack of mutual knowledge about institutions and programs, and (5) expectation of a donor-recipient relationship rather than one of a true partnership.
- Key constraints to collaboration with CGIAR centers identified by universities in SSA were: (1) CGIAR centers conduct research according to their objectives, not to the needs of NARS, (2) CGIAR center expenditures on administration are very high, (3) resources are unequally distributed, (4) interpersonal relationships are more important than institutional relationships, and (5) collaboration is not sustainable regarding funding.

The study recommended the following on university–CGIAR collaboration: (1) increase funding for the purposes of joint collaboration, (2) change policies and structures so CGIAR centers and universities can set research priorities collaboratively, (3) allocate resources in a manner that is conducive to joint collaboration, (4) exchange staff and arrange for cross-representation on boards, (5) formalize relationships and streamline modalities, (6) increase the use of CGIAR facilities, (7) establish long-term funding strategies, (8) conduct long-term joint research programs, and (9) exchange information.

Lessons learned on building and sustaining strong university research collaboration with NAROs and CGIAR centers include the following: only through the interaction with national organizations and international organizations that support the NARS, such as the CGIAR, can universities become a more active component of the NARS and contribute to its objectives. Universities in SSA have many characteristics that make them good partners for research collaboration, yet there is lack of funding, different philosophies, and a lack of supporting policies. University research can be redirected towards more development-oriented research, but universities should not become adaptive research organizations or extension services. Linkages do not need to be formalized. Individual initiatives should not be suppressed by rules and regulations. The success of individual linkages is limited by the engagement and motivation of individuals. Important for all linkages is that all actors involved benefit, that there is a net-gain for institutions involved, and that the transaction costs are minimized.

Discussion

The discussion addressed the bureaucratic and highly centralized university system. It was stated that person-to-person contact with research institutes should not be discouraged. In this context individual contacts with researchers could take place but this should be formalized within the university to ensure continuity. University staff have high workloads. Teaching staff do not have adequate time for research (e.g., in nematology). There is significantly more collaboration between CGIAR centers and universities in anglophone countries than in those in francophone countries, due to a stronger research focus of the former. Finally, it was suggested that the new FARA and the sub-regional research organizations should be included in the discussions on linking CGIAR centers, AAU, and universities in SSA.

The Experience in Collaborative Agricultural Research: The Case of Collaboration between the Faculty of Agriculture of the University of Benin and the International Centers

By Dr. A. A. Thomas Odjo

The Faculty of Agriculture (FSA) of the University of Benin (UNB) falls under the Ministry of Rural Development, and is mandated for agricultural education and training of the technical staff of the Ministry. There are 45 staff, including professional and support positions. The education program takes five years and three months, and consists of two obligatory cycles and one optional cycle.

New challenges of research at FSA are based on sustainable and multidisciplinary research. The research council of FSA coordinates the main research activities. FSA has gained valuable experience in agricultural research through very successful collaboration with numerous countries (i.e., France, Nigeria, Germany, Canada, the UK, Denmark, Belgium, the USA, the Netherlands, Ghana, and Israel), the European Union, and the International Institute of Tropical Agriculture (IITA). Collaborative projects include: consumer crops, biodiversity, agricultural innovation, and health related to agricultural development.

A focal point of agricultural research is the inland valleys of Benin. This area is defined as having high potential for agricultural development. The FSA, in collaboration with the Ministry of Rural Development, adapted its educational program to address the specific sustainable management needs of the low/shallow lands. Professional water management is also required. The status of past and current research projects and potential collaboration with WARDA in managing research and rice-growing practices were outlined.

Discussion

During the past 15 years, UNB, and particularly the Faculty of Rural Development, has significantly increased its PhD holders as a result of strong linkages. The Dutch, Belgian, and French governments provided support to UNB. UNB is currently in contact with various foreign missions in Benin to move the collaborative process forward.

Some universities, in for example Benin and Zimbabwe, have good rural development facilities that some NAROs utilize these for their research. There are no formal agreements between the two institutions. Universities sometimes lose staff to other universities and NAROs. In the case of Nigeria, where these movements could be observed in the past, they have stabilized because of the parity in the conditions of service between the two countries. There is also discussion in Nigeria of bringing the agricultural universities back from the portfolio of the Ministry of Agriculture to the portfolio of the Ministry of Education. This, however, could distance universities from research institutions. Agricultural universities tend to be more focused on relevant research outputs than Faculties of Agriculture within a (non-agricultural) university, because agricultural universities extend technologies to farmers and other end users. In addition, agricultural universities are expected to produce graduates that could be self-employed. Lack of resources limits that opportunity.

Working Group Discussions

Working group 1 discussed relevant experiences of existing collaboration between universities and CGIAR centers. It was noted that there are very different forms and elements of formal and informal collaboration. Collaboration can be initiated by individuals, institutions, or government and can focus on research, training, or staff and student exchange. It is usually multidisciplinary but has a limited subject area. It can include partnerships with NGOs, universities and NARS. Some of the constraints of university-driven collaboration identified are the following:

- Over-centralization and the use of a top-bottom approach;
- Stifles initiative;
- Tends to be overdone;
- Lack of a research vision, strategy and agenda.

The group concluded that there is a need to develop institutional partnerships and that the universities support and monitor these partnerships. Any collaboration has to fit into the university vision and its strategies.

Working group 2 focused on constraints of existing relationships between universities and CGIAR centers and to provide respective suggestions to overcome these constraints. The issues discussed included:

- Difference in philosophy and objectives: (1) Widen the mandate of the universities and increase development-oriented research activities, (2) strengthen the research link between universities and CGIAR centers and integrate them with the national research priorities.
- Different research objectives: (1) Recognize different management practices, (2) lower administrative load for staff to engage in collaboration, (3) clearly allocate available financial resources for collaboration.
- Organizational constraints: (1) Reform institutional structure of universities, (2) Develop well-defined Terms of Reference for university staff.
- Lack of information on the actual capacity of institutions (universities and CGIAR centers) and their programs: Organize and distribute existing institutions information.
- Lack of funding: (1) Funding for activities, (2) funding for publications, and (3) funding for collaboration.
- Difference in research culture between universities and CGIAR centers: Evaluate performance and the capacity to collaborate with other institutions.

Working group 3 explained the complementarity of universities and CGIAR centers. Several examples of collaboration between universities and CGIAR centers in research, training, human resource development, and consultancies were reviewed:

- Université Nationale du Bénin / IITA / ICRAF
- University of Abeokuta / IITA / ICRAF
- University of Ibadan / IITA
- University of Egerton / CIMMYT / ILRI
- University of Tschang / IRRI / IITA
- University of Bouaké / WARDA
- CIRES / WARDA / ILRI
- Institut Polytechnique de Yamoussoukro / WARDA

The key constraints identified were:

- Political instability;
- Bureaucracy;
- Governance of collaboration with a lack of transparency and accountability;
- Adequate funding for research partners;
- Institutional boundaries through different cultures and policies.

Several suggestions were made to overcome some of these constraints:

- Universities have a role in educating the national population through, for example, seminars, conferences, and workshops to contribute to political stability;
- Decision making should be decentralized to avoid bureaucracy;
- There is a need to understand partners and build confidence;
- Basic infrastructure should be in place for communications;
- National politics should allow for dispensation and make special exemptions;
- There is a need for realistic budget estimates of collaborative projects;
- Intellectual property right issues should be mentioned in the collaboration contract.

Discussion

Are there cultural differences between universities and CGIAR centers? Most university lecturers conduct research in isolation—even within the university there is little involvement of their colleagues. Research institutions, on the other hand, generally undertake a critical analysis on research needs with the stakeholders and monitor the progress of the research activity. Another challenge is how university professors could continue to do effective research after they assume higher administrative positions.

Session III: Elements of a Collaborative Platform

This session aims to examine the nature of and need for establishing a collaborative platform between international centers and academic institutions in SSA and to define steps for organizing joint research, teaching, and development activities between participating organizations. The session includes the views of panel members on the elements of a collaborative platform for agricultural research in SSA. Elements included the vision, goal, and strategic objectives, the program orientation, and how best to implement this new form of collaboration. Based on working group discussions, a draft collaborative platform was developed and next steps agreed upon before the official closure of the workshop.

Panel Discussion: Vision, Constraints, Strategies, and Program Orientations of a Collaborative Platform for Agricultural Research in Sub-Saharan Africa.

Participants: Dr. S. Goburdhun (University of Agriculture, Mauritius), Dr. A. Thomas-Odjo (University of Benin), Dr. K. Nwanze (WARDA), Prof. C. Nwamuo (AAU), Dr. H. Michelsen (ISNAR).

Discussion

A draft collaborative platform for agricultural research to cover crops, livestock, forestry, and fisheries was discussed. A preamble will explain the need and importance of this workshop on a platform for collaboration on agricultural research with active involvement of the academic institutions. The preamble should also spell out the problem of collaboration within NARS, especially the involvement of academic institutions in national agricultural research and development. It was further agreed that a “Collaborative Agreement Platform” (CAP) is being prepared on the basis of the collaborative platform, instead of a Memorandum of Understanding (MoU).

All participants agreed on a revised version of the collaborative platform, which is presented in Box 1 below. It includes a preamble, vision, goal, guiding principles, strategic and specific objectives, program, implementation, expected outcomes, and conclusions. This collaborative platform was adopted as the instrument that describes the framework of active collaboration between CGIAR centers, academic institutions, national agricultural research organizations, and other key actors in agricultural research in Sub-Saharan Africa.

The represented leaders of the academic institutions and CGIAR centers further agreed on a number of concrete steps to implement the collaborative platform. An important step is the organization of national stakeholder workshops to sensitize the different actors and policy makers and to identify areas of collaboration in agricultural research and technology transfer. It was suggested that external partners such as ISNAR should facilitate these national stakeholder workshops. This should help to minimize potential conflicts between academic institutions and NAROs. All implementation steps and measures are listed in Box 2.

Conclusion

The workshop used a conceptual framework to review existing partnerships and collaborative mechanisms of research, training, and development activities of the international centers and the academic institutions in Sub-Saharan Africa. Lessons were learned from research that was conducted on the roles of academic institutions in NARS. The workshop succeeded in developing and adopting a collaborative platform for agricultural research and development. The frontiers of collaboration in agricultural research and development expanded significantly by bringing AAU and the academic institutions into the current partnerships framework in Sub-Saharan Africa. However, the original concept of creating a platform between universities and CGIAR centers was widened to include all partners of agricultural research. It was underlined that the collaboration has to be a bottom-up approach—the collaboration between universities and CGIAR centers cannot function without strengthening the collaboration of universities with NAROs at national level. Only if the universities are an active component of the national NARS, regional and international collaboration can be successful.

Participants unanimously accepted to take the collaborative platform with them back to their universities and institutions and to contribute to the full implementation of actions identified in the steps forward. This will allow expanding the participation beyond the represented institutions at the workshop to include other institutions in SSA working on agricultural research and development. It is expected that the implementation of the developed collaborative platform will have a significant impact on the scientific base of education, research and development, as well as training.

Evaluation

The high level of the participants and their active participation in the plenary and working group discussions contributed significantly to the outcome of the workshop. Workshop participants rated the event as successful in reaching its main objective of adopting a collaborative platform. They underscored the ample and well-structured opportunities to analyze partnerships in preparing for the analysis of the specific case of partnerships between CGIAR centers and the academic institutions. The workshop significantly strengthened the mutual understanding of successes and failures in CGIAR center - university partnerships in SSA. It was highlighted that the workshop was dealing with a real problem that universities are coping with. However, the absence of important actors of agricultural research in SSA, i.e., NAROs and SROs, at the workshop limited discussions of their roles in the collaborative platform.

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Box 1: Collaborative Platform for CGIAR Centers, Universities, NAROs, and Other Key Actors in Sub-Saharan Africa

Preamble

In Sub-Saharan Africa (SSA) the technology and knowledge generating components (agricultural research institutes and academic institutions) of National Agricultural Research Systems (NARS) often do not have coordinated efforts and there is no synergy in their activities. The need of the development of pluralistic NARS cannot be overemphasized. It is a prerequisite for bringing key stakeholders of agricultural research and development to play their role to sustain productivity improvement, achieve food security, improve rural income and enhance the quality of life.

In the light of the above, WARDA and ISNAR organized a workshop on “Effective and sustainable partnerships in a global research system: Focus on (SSA)” in December 1999. The main objective of the workshop was to develop a framework for producing more productive partnerships with increase collaborative advantage and efficiencies. The workshop on “A collaborative platform for agricultural research in Sub-Saharan Africa” is a follow-up of the partnership workshop. The purpose of this workshop is to adopt a strategic framework and a platform for strengthening the collaboration of universities and research institutions (CGIAR centers and National Agricultural Research Institutes).

Vision

The collaborative platform for universities, NAROs, CGIAR centers and other key actors will result in complementary, equitable and efficient utilization of resources to enhance the contribution of agricultural research to food security, protection of the environment and poverty alleviation in SSA.

Goal

The goal of the collaborative platform is to improve the contribution of universities, NAROs, CGIAR centers and other key actors to national and regional agricultural development (including research, training, teaching and technology transfer).

Guiding principles

The guiding principles of the collaborative platform include:

- Trust and mutual respect;
- Commitment;
- Complementarity;
- Comparative advantage;,,
- Flexibility;
- Self-sustainability;
- Transparency and accountability; and
- Inclusiveness.

Strategic objectives

The strategic objectives of the collaborative platform are to:

- Identify the comparative advantages of universities, NAROs, CGIAR centers and other key actors in agricultural research, technology development and transfer;
- Mainstream universities and other key actors in national and regional research, technology development and transfer;
- Devise, prioritize and strategize national and regional research; and
- Generate and disseminate technology.

Specific objectives

The specific objectives of the collaborative platform are to:

- Jointly develop and coordinate client-oriented research to avoid duplication and to promote complementarity (e.g., identify areas of joint interest);
- Promote efficient use of available resources (financial, human, physical) to realize economies of scale and scope in agricultural research and technology transfer;
- Facilitate capacity building in participating institutions; and
- Foster collaboration among stakeholders in research and technology transfer.

Program

The program includes the following:

- Sensitize existing partnerships at national, regional and global levels on the outcomes of this workshop;
- Immediate project ideas resulting from this workshop before the platform is fully developed are as follows:
 - Explore options for student placements at CGIAR centers,
 - Staff exchanges (e.g., sabbatical leave of university staff at CGIAR centers; postdoctoral and visiting scientists attachments at CGIAR centers),
 - Formulation of joint research proposals between universities and CGIAR centers,;
 - Postgraduate training and supervision of PhD students, and
 - Access to CGIAR database on research program, staffing, and governance.
- Contact universities, NAROs, CGIAR centers and other key actors inviting them to join the platform and to provide baseline information on their institutions (AAU sensitizing universities in other countries, participants other universities in the countries, CGIAR centers);
- Create inventory of received baseline information (i.e., staff, infrastructure, existing collaboration, training);
- Identify institutions for specific collaboration and partnership;
- Form a coordinating group in form of a task force (WARDA, ISNAR, FARA, AAU, 1–2 universities) to facilitate national, and subsequently regional and global stakeholder workshops;
- Coordinating group to facilitate the organization of national, and subsequently regional and global stakeholder workshops (representation of universities, NAROs, other key actors and CGIAR centers) to sensitize and identify areas of collaboration in agricultural research and technology transfer. Expected outputs of the workshops are:
 - Identify mechanisms for joint planning, priority setting of research, and technology transfer,
 - Joint research projects (formulation, and resource mobilization),
 - Modalities for exchange of staff and students, infrastructure, information, and
 - Training needs and opportunities.
- Creation of a Website for the platform, and networking;
- Coordinating group to facilitate linkages at national, regional and global levels.

Implementation

Steps in the implementation of the collaborative platform include the following:

- Develop collaboration agreement of partnership (CAP) among participating institutions;
- Establish system of monitoring and evaluation of the collaborative platform;
- Set up a steering committee of the collaborating institutions responsible for monitoring the implementation of the program and its expected output and impact;
- Use of existing organizational structure to facilitate collaboration, e.g., sub-regional organizations, networks, AAU, and FARA; and

- Dissemination of information on programs under the collaborative platform.

Expected Outcomes

The expected outcomes include but are not limited to the following:

- Linkages between universities, NAROs, CGIAR centers, and other key actors established and strengthened at national, regional, and global levels;
- Research and training programs identified and implemented;
- Information exchange between institutions promoted;
- Institutional and human resource capacity of partners improved;
- Efficient use of available resources for agricultural research achieved;
- Additional resources for agricultural research mobilized; and
- Technology transfer improved.

Conclusion

The collaborative platform for universities, NAROs, CGIAR centers, and other key actors for agricultural research in SSA is a call for mainstreaming universities to complement the NAROs. Its scope has been widened to include key actors of the SSA research and development community. The program and actions identified will lead to strengthening agricultural research, development and education through effective and productive partnerships among all the components of the national agricultural research systems.

Box 2: Steps forward

- (1) Participants report on the outcomes of the workshop to their institutions. (**Action: all participants**)
- (2) Set up an (coordinated) internet network for all participants and other members of the collaborative platform. (**Action: WARDA**)
- (3) Participants sensitize existing partnerships at national, regional and global levels on the outcomes of this workshop (e.g., FARA, CGIAR committee on SSA, other relevant CGIAR meetings, AAU meeting). (**Action: all participants**)
- (4) Synthesis report including the outline of the collaborative platform is prepared by the organizers. (**Action: WARDA, ISNAR**)
- (5) A collaborative agreement based on the collaborative platform is drafted by the organizers and circulated to the participants for final agreement and for obtaining signature of their respective institutions. (**Action: WARDA, ISNAR**)
- (6) Set up a steering committee of the collaborating institutions responsible for monitoring the implementation of the program and its expected output and impact (e.g., WARDA, ISNAR, AAU). (**Action: WARDA, ISNAR, AAU**)
- (7) Draft letter of invitation to universities, NAROs, CGIAR centers, and other key actors to join the platform and to provide baseline information on their institutions. (**Action: WARDA, ISNAR**)
- (8) Distributing of the letter of invitation (AAU sensitizing universities in other countries, participants other universities in the countries, CGIAR centers). (**Action: WARDA, AAU**)
- (9) Form a coordinating group in form of a task force (WARDA, ISNAR, FARA, AAU, 1-2 universities – Anglo-Franco) to facilitate national, and subsequently regional and global stakeholder workshops. (**Action: WARDA, AAU**)
- (10) Follow up on immediate project ideas resulting from this workshop before the platform is fully developed:
 - Exchange of information on the research programs from CGIAR centers and universities. (**Action: all participants of the platform**)
 - Explore options for student placements at CGIAR centers and staff exchanges (e.g., sabbatical leave of university staff at CGIAR centers; postdoctoral and visiting scientists attachments at CGIAR centers). (**Action: all participants of the platform**)
 - Formulation of joint research proposals between participating universities and CGIAR centers. (**Action: all participants of the platform**)
- (11) Create inventory of received baseline information (i.e., staff, infrastructure, existing collaboration, training). (**Action: Steering committee**)



Tree-planting ceremony



Participants at work in the conference room



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