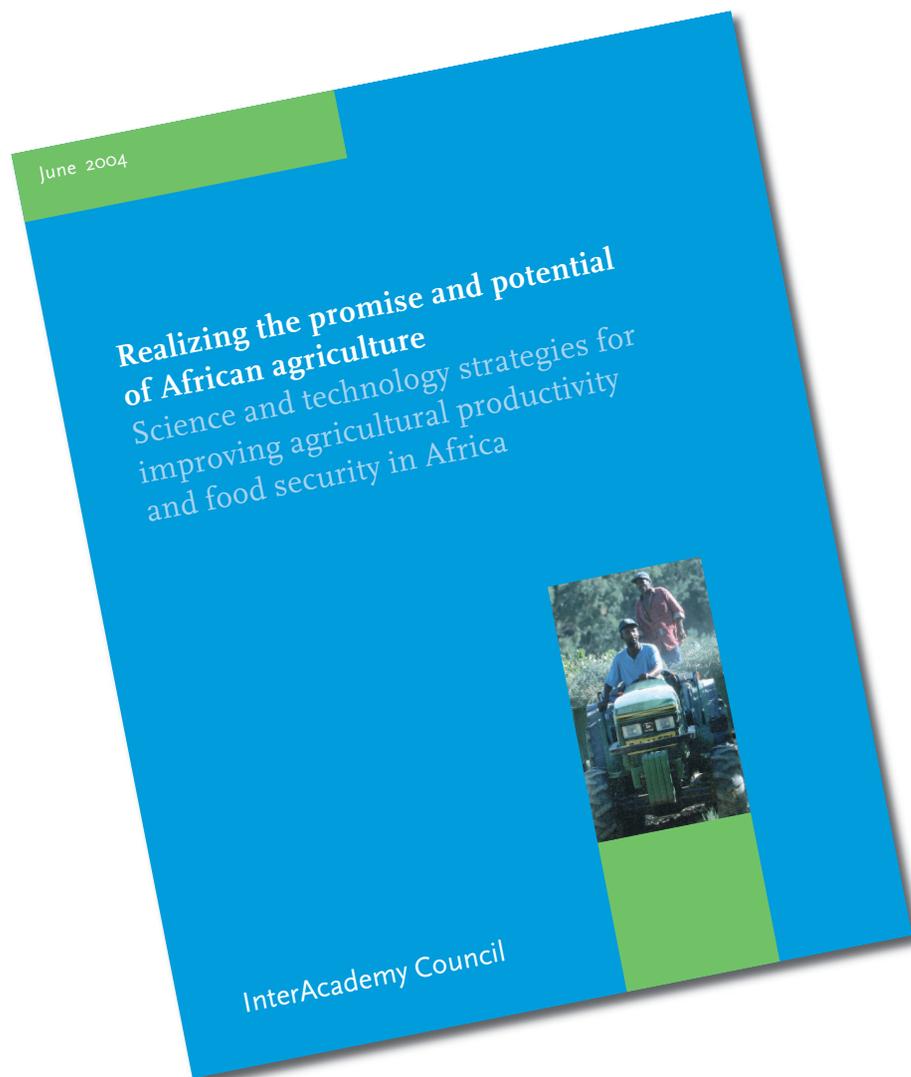


Realizing the promise and potential of African agriculture Implementation of recommendations and action agenda

Report of the Ad-Hoc Follow-up Committee



**InterAcademy Council Board Meeting
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Realizing the Promise and Potential of African Agriculture: Implementation of Recommendations and Action Agenda

Report of the Ad-Hoc Follow-up Committee, October 2005

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I. OVERVIEW

The Secretary-General of the United Nations requested that the InterAcademy Council (IAC) prepare a strategic plan for harnessing the best science and technology to increase the productivity of agriculture in Africa. The resulting IAC report, *Realizing the Promise and Potential of African Agriculture—Science and Technology to Improve Food Security and Agricultural Productivity in Africa*, was released in June 2004. This report was the culmination of the efforts of a distinguished Study Panel of experts (listed in Appendix A). The recommendations and action agenda in the report gave a key role to leaders of universities; national agricultural research systems and institutions; the private sector; regional and subregional intergovernmental organizations; academic, scientific, and extension staff; nongovernmental and community-based organizations and the mass media.

The Ad Hoc Follow-up Committee, appointed by the IAC Board in October 2004, was tasked to help transfer the responsibilities for follow up of the report's recommendations and action agenda to more appropriate national and regional organisations; and to communicate and inform target groups and others on the analysis, diagnosis, and recommendations formulated in the report and adopted by the IAC. The Committee was asked to coordinate its activities with other initiatives, such as the Hunger Task Force, the Sub-Saharan Africa Challenge Program (SSACP) of the Forum for Agricultural Research in Africa (FARA), the Science Council of the Consultative Group on International Agricultural Research (CGIAR) and the World Bank-supported International Assessment of Agricultural Science and Technology for Development (IAASTD).

The Ad Hoc Follow-up Committee clearly sees a growing international focus on African agriculture and the inter-related role of science and technology (S&T). It also found encouraging that the initiatives of many organizations are complementary and strengthened by each

other. The African Union; the New Partnership for Africa's Development (NEPAD); and other multilateral organisations, such as the Food and Agriculture Organization (FAO), the United Nations Environment Programme (UNEP), and the United Nations Development Programme (UNDP), have made policy statements and declarations demonstrating political will in agriculture and S&T – at least at the continental and international levels. To enhance it priority to support development in Africa, the Government of the United Kingdom has also established a Commission on Africa. These activities are all needed to create the enabling environment and strategies in which science and technology will flourish. What is needed now is a stronger political and institutional commitment at national levels by African countries themselves.

Activities of the ad-hoc follow-up committee

The Ad Hoc Follow-up Committee met in January 2004 in Amsterdam and agreed upon the following terms of reference:

- *Dissemination of the report.* Dissemination of the report through presentations and discussions by committee members will bring the recommendations to the attention of various stakeholders and may be among the most efficient ways to promote implementation. Committee members will make presentations and initiate discussions to take advantage of the momentum raised by the launching of the report in June 2004.
- *Coordination with other panels, task forces and working groups.* During its working period, the IAC Study Panel had intensive contacts with other related initiatives, such as the Hunger Task Force (HTF) of the UN Millennium Development Goals Program, the SSACP/FARA, CGIAR, and the IAASTD. The Study Panel did so because they realized that the various activities may complement each other, leading to a multiplier effect. As a result of these interactions, a number of similar recommendations have been adopted by other organizations. Coordinating the implementation of these activities is necessary.
- *Transfer the responsibility for the recommendations to appropriate regional and national institutions.* The Ad Hoc Follow-up Committee is committed to the implementation of the recommendations, as was the Study Panel. Yet the Committee acknowledges the fact that the actual implementation is not and cannot be a task for the Committee or for the IAC. Many permanent organisations and institutions are better suited to bring the recommendations into action. Therefore the Committee formulated the objective to assist organisations and institutions in formulating their strategies and articulating their initiatives and in the process to encourage implementation of the recommendations to the institutions.
- *Final report of the ad-hoc committee.* The Ad Hoc Follow-up Committee will report to the InterAcademy Council before the end of 2005.

II. DISSEMINATION OF THE IAC REPORT

To stimulate awareness of the recommendations and to facilitate their incorporation into action programs, the Ad Hoc Follow-up Committee envisaged meetings with the following organizations:

- Academies and universities in the South; national academies; regional and the developing world academies.
- The National Agricultural Research Systems (NARS) and the regional and continental coordinating organisations, such as FARA, Le Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles (CORAF), and the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA).

- A selected group of universities of the North.
- Nongovernmental organizations (NGO) in the fields of agriculture, primary production, and producer-related institutions.
- Donor agencies, such as the Rockefeller Foundation, the World Bank, United States Agency for International Development (USAID), European Union, and Australia Agency for International Development (AusAID).
- NEPAD, African Union, and CGIAR institutes.
- International UN agencies, such as FAO, UNEP, and UNDP.

Following the presentation of the IAC report to the UN Secretary-General in June 2004, the Ad Hoc Follow-up Committee and others have been involved in over 30 presentations and discussions at many of the targeted organizations listed above and others. There have been approximately 25 articles in newspapers and other journals that highlighted the findings of the IAC report. A summary overview of these presentations and discussions is presented in Appendix B.

III. COORDINATION WITH OTHER PANELS, TASK FORCES AND WORKING GROUPS

From the initial work of the IAC Study Panel, there have been intensive contacts with the Hunger Task Force, the Sub-Saharan Africa Challenge Program of FARA, the CGIAR Science Council, and the IAASTD. It was envisaged that the various activities could complement each other and create synergism leading to a multiplicative effect.

The Hunger Task Force of the UN Millennium Development Goals Program

Early in 2002 the Secretary General of the UN Mr. Kofi Annan asked Professor Jeffrey Sachs to serve as his special advisor and direct the UN Millennium Development Goals Program, designed to help implement the 17 Millennium Development Goals agreed by the General Assembly in September 2000. The Program is composed of 10 task forces, each addressing one or more Millennium Development Goals. The Hunger Task Force addresses the target of reducing by half the number of hungry and malnourished people by 2015. The Hunger Task Force involves about 20 highly experienced persons from science (academia, international agricultural research centres) civil society, the private sector, African governments, and UN agencies. Reinforced by the outcome of the Johannesburg Summit in 2002, the Hunger Task Force deals with Africa as first priority, as well as the hungry in food-exporting countries, like India and China. The scope of the Hunger Task Force is very broad and requires the input of many analyses and studies by other groups.

The Hunger Task Force had several sessions and field visits at different places around the world. On basis of an index of the density of malnourished children in various farming systems in Africa, the Hunger Task Force identified a number of hunger hot spots. These hunger hot spots are concentrated in South Asia and Sub-Saharan Africa.

The Task Force then identified what interventions would be most promising in order to increase agricultural productivity and food security in Africa. The HTF produced the final report, *Halving Hunger: It Can Be Done*, in June 2005 and has recommendations in seven domains (Box 1).

Box 1. Recommendations of the Hunger Task Force

1. Move from political commitment to action.
2. Reform policies and create an enabling environment.
3. Increase the agricultural productivity of food-insecure farmers.
4. Improve nutrition for the chronically hungry and vulnerable.
5. Reduce vulnerability of the acutely hungry through productive safety nets.
6. Increase incomes and make markets work for the poor.
7. Restore and conserve the natural resources essential for food security.

At this moment, the Hunger Task Force has eclipsed the IAC in most recommendation areas. They have high visibility and credibility with African governments and may soon become well resourced. They are working with a several African countries to integrate their principle recommendations into national agricultural development strategies—or conversely, are being used by several countries to leverage additional resources for their already existing strategies, including the FAO national initiative (Special Programme for Food Security)—that are in general agreement with the recommendations of the Hunger Task Force.

Most of the key production and market-related recommendations of the Hunger Task Force are fully congruent with the recommendations made in the IAC report. This is no coincidence as the IAC report became a key reference in the drafting of the HTF report and the IAC Study Panel used the African hunger hot spot analyses of the HTF in deriving its recommendations.

Science Council of the CGIAR

The Science Council of the CGIAR has led an exercise to develop priorities for the CGIAR's research until year 2015 at the global level. Furthermore, the CGIAR initiated a discussion on increased programmatic and structural alignment as part of the ongoing CGIAR reform program. The Science Council endorsed a broader study on rationalization of CGIAR operations across the system (starting with Sub-Saharan Africa). It would review the programmatic directions of CGIAR work in the context of the changes in the external environment, formulate recommendations for the needed re-alignment, and propose structural adjustments that would effectively realize the agreed modifications. Two task forces were established: one dealing with programmatic alignment in the CGIAR and the other addressing structural options/organizational alignment. Both task forces reported at the Executive Council meeting of the CGIAR in May 2005. Comprehensive programs in line with the recommendations of the IAC report were proposed.

Sub-Saharan Africa Challenge Program of FARA

The Sub-Saharan Africa Challenge Program is based on an integrated agricultural research for development (IAR4D) paradigm, which is designed to foster synergies among disciplines and institutions, along with a renewed commitment to change at all levels, from farmers to national and international policy makers.

IAR4D draws on integrated natural resource management, which takes a systems approach to managing the interactions between soils, water, pests, and human interventions in agriculture but also encompasses the domains of policies and markets and the effects that these have on the productivity, profitability, and sustainability of agriculture. Taking these factors into account, the research and development agenda of the SSACP will focus on four overall objectives:

- Develop technologies for sustainably intensifying subsistence-oriented farming systems,
- Develop smallholder production systems that are compatible with sound natural resource management,
- Improve the accessibility and efficiency of markets for smallholder and pastoral products,
- Catalyse the formulation and adoption of policies that will encourage innovation to improve the livelihoods of smallholders and pastoralists.

The broad scope of work inherent in the IAR4D approach of the SSACP requires four “support pillars” to foster internalisation of the new way of doing business, and the “out-scaling” (to neighbouring villages or similar agro-ecosystems elsewhere on the continent) and “up-scaling” (to connect with local, national, and international governments and institutions, and the private sector) of programme outcomes. The four support pillars of IAR4D are:

- Promotion of organizational and institutional change to enable cross-disciplinary research and development and multi-institutional collaboration;
- Capacity building for project teams, farmers, and scientists in African institutions;

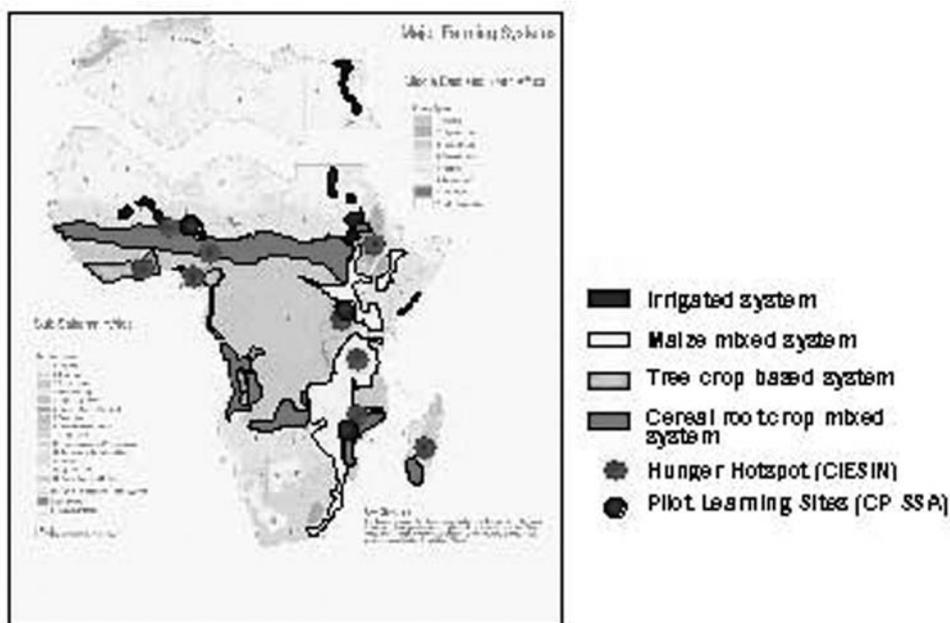


Figure 1. Priority Farming Systems

- Information and knowledge management (including documentation of new methodologies developed) to disseminate widely the findings of IAR4D work; and
- Ongoing monitoring and evaluation, and a systemic approach to impact assessment, to track Programme progress towards overall goals, signal the need for mid-course adjustments, and document the returns on investment in IAR4D.

For the first phase of the SSACP, pilot learning sites were selected by the sub-regional research organizations—CORAF/WECARD, ASARECA, and the South African Development Community—one site per sub-region, each characterised by a different but complementary set of constraints to sustainable development. The three sites are the Kano-Katsina-Maradi (Niger and Nigeria) transact; the Lake Kivu area interface of the Democratic Republic of the Congo, Rwanda, and Uganda; and a corridor that runs from northeast Zimbabwe through central Mozambique into southern Malawi. The three pilot learning sites coincide with the hunger hotspots identified by the Hunger Task Force and fall within the four prioritized farming systems identified in the IAC report (Figure 1).

For each site, a pilot learning team will be formed to address priority problems identified with the communities. These teams will be comprised of members from a various scientific disciplines (biophysical and social) and from diverse institutions (national agricultural research institutes, universities, CGIAR centres and advanced research institutes; extension agencies; nongovernmental, community-based, and farmers’ organizations; and the private sector).

The three initial pilot learning teams will begin their work by continuing the participatory problem identification with farmers to further define the problems and develop concept notes. The teams will pay particular attention to involving women agriculturalists who have frequently been marginalised in past development efforts. The diagnostic stage will lead to the identification of relevant “entry points” for research that will set the agenda for the work of the pilot learning teams.

The SSACP programme coordination unit will, through a competitive grants scheme, engage facilitation and mentoring services to support the Pilot Learning Teams from the outset to ensure that they work effectively across disciplinary and institutional boundaries and with their multiple constituents, and to foster broader changes in the institutional context.

The World Bank-supported IAASTD

In 2002, the World Bank initiated the International Assessment of Agricultural Science and Technology for Development. The IAASTD should lead to a better understanding of the impact of agricultural research and identify a policy and research agenda for the future. During the first plenary meeting of the IAASTD in Nairobi in September 2004, the IAC report was presented and well received. A number of the broad objectives formulated during the meeting directly corresponds to the IAC report (Box 2).

The meeting further approved the scope, structure, governance and management structures, timetable, and budget. The IAASTD will bring governments together with civil society to develop and implement global and sub-global assessments (Sub-Saharan Africa, Latin America and the Caribbean, Central and West Asia and North Africa, East and South Asia and the Pacific, and North America and Europe) that respond to the range of stakeholder informational needs. The IAASTD will be conducted as an intergovernmental process with a multi-stakeholder bureau; co-sponsored by FAO, Global Environment Facility, UNDP, UNEP, UNESCO, WHO and the World Bank; and prepared and peer-reviewed by hundreds of experts from all stakeholder groups. The IAASTD will be completed by June 2007.

Box 2. IAASTD Broad Goals

- Undertake global and sub-global assessments of the role of knowledge, science, and technology as it pertains to agriculture in reducing hunger and poverty, improving rural livelihoods, and health, increasing incomes and facilitating equitable, environmentally, socially and economically sustainable development.
- Provide robust information for decision makers on how to ensure that policies, practices and institutional arrangements enable knowledge, science, and technology to contribute to reducing hunger and poverty, improving rural livelihoods and health, increasing incomes, and facilitating equitable, environmentally, socially and economically sustainable development.
- Bring together the range of stakeholders (consumers, governments, NGOs, private sector, producers, scientific community, international agencies) involved in the agricultural sector and rural development to share views, gain common understanding and vision for the future.

IV. POSITIONING THE IAC REPORT RECOMMENDATIONS FOR IMPLEMENTATION BY APPROPRIATE NATIONAL AND REGIONAL INSTITUTIONS

FARA. Monty P. Jones, Executive Secretary of FARA, and member of the Ad Hoc Follow-up Committee reported that several of the IAC report's recommendations are currently part of FARA's programs. The recommendation for achieving near-, intermediate- and long-term impact will help shape, and be implemented through programmes, such as the SSACP, Dissemination of New Agricultural Technologies in Africa (DONATA), and the sub-regional research organizations' competitive grants schemes.

The recommendation for creating and retaining agricultural scientists and reforming university curricula are helping mould the programme for Building African Scientific and Institutional Capacity (BASIC). In the implementation of BASIC, FARA will facilitate the implementation of priorities identified by African universities and expressed through the African Network for Agroforestry and Agriculture Education (ANAFE). ANAFE is the largest working education network with a membership of 124 universities and colleges in 34 countries. BASIC takes into consideration the IAC report referring that its recommendations "...demand urgent action on a scale that will make the difference in the lives of 700 million Africans." The action agenda of BASIC is substantially consistent with the recommendations of the IAC report.

BASIC is complemented by graduate programmes such as the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM). This programme is an initiative by a

consortium of 10 universities in east and southern Africa to develop and strengthen human resource capacity for interdisciplinary problem-solving. RUFORUM operates in six countries (Uganda, Kenya, Malawi, Mozambique, Uganda and Zimbabwe). It achieves its goal through a competitive grants program to support research and MSc training to address rural (agricultural) development issues, especially community and smallholder farmer needs. Another linked activity is the Global Open Agriculture and Food University. This University is a CGIAR initiative for open distance learning and capacity strengthening that serves traditional and open universities in developing and developed countries.

At the first meeting of the scientific advisory committee of the Open University, it was agreed that there will be an emphasis on collaboration with various universities in graduate studies. In the short term, there will be two programs started at MSc level (economics of agriculture and natural resources) and one on agro-ecology. Contributors to the IAC report will be invited to participate in this activity.

The various initiatives will revitalise the CGIAR Intercentre Training Group in which the International Service for National Agricultural Research (ISNAR) of the International Food Policy Research Institute (IFPRI) team will have a vital role. The initiatives will be integral to capacity development programmes of the African Union, NEPAD, and the African Capacity Building Foundation (ACBF). FARA and the sub-regional research organizations endorse the recommendation that graduates should be prepared for modern participatory, multi-institutional, and multi-disciplinary approaches. This will involve the new innovation, information, knowledge and education systems, and the synergistic 'quadrangle' with due sensitivity to the socio-economic and policy environments.

FARA and the sub-regional research organizations share the Study Panel's commitment to revitalising African universities as centres of excellence capable of building the human capacity required for all aspects of the agricultural industry. That includes producing scientists who can take advantage of vital specialised African Centres of Agricultural Research Excellence (ACARE) exemplified by Biosciences East and Central Africa (BECA), which will provide African biotechnologists with access to cutting-edge facilities and equipment. FARA states in its progress report 2004 that it prefers to consider the ACARE 'centres of specialisation' because FARA is committed in the BASIC programme as mentioned above.

To build more effective institutions in Africa, NEPAD and FARA are developing the Multi-Country Agricultural Productivity Programme (MAPP) that would sustain the resources for effective technology generation, dissemination and adoption. FARA's principle mandate for advocacy, decreed by its General Assembly, encompasses the IAC report's recommendation to broaden and deepen political support for agricultural sciences, mobilizes increased and sustainable funding, and minimizes dependence on donors.

FARA further states that it has continued to advocate consistency and focus in agricultural research for Africa's development by adhering to the Comprehensive Africa Agriculture Development Programme (CAADP) as a guiding framework. CAADP will continue to evolve and be improved but it has already established a means of ensuring cohesion and added value. For example CAADP provides a framework for synchronising the realisation of the recommendations of the IAC report with the goals and objectives of the SSACP without the need to create any new structures.

FARA and the sub-regional research organizations are vigorously promoting more effective agricultural research networking at sub-regional level that is characterised by common research agendas, research tasks shared according to institutional comparative advantages, and efficient and equitable sharing of research results across participating countries.

Enhancing the role of markets and policies in making poor families' income and food secure is welcome endorsement of the IAR4D approach promoted by the SSACP which will inform enabling policies. The first three SSACP pilot learning teams will integrate the activities of the various research and development (R&D) stakeholders in the regions in innovative new participatory S&T pilot programs in priority farming systems in eight Sub-Saharan countries. These will contribute significantly to realising the IAC Report's recommendation to implement a series of participatory S&T pilot programmes that will stimulate convergence and synergy among the range of programs designed to achieve the UN Millennium Development Goals. The production ecological approach will be a useful tool for the pilot learning teams in determining the technical options for agricultural production systems in the pilot learning sites, which will be encompassed in the 'sustainable intensification' aspect of IAR4D. The IAR4D also encompasses natural resource management, markets, and policies; and the teams will be as concerned about the interactions between these four factors as with the factors themselves.

To embrace information and communication technology at all levels, FARA and the sub-regional research organizations are working together to develop the regional agricultural information system (FARA-RAIS) that would integrate and give access to technologies and information to agriculture stakeholders.

The FARA General Assembly brings together the sub-regional research organizations and the science community, farmers, governments, NGOs, the international donor community, and the private sector. These are the stakeholders and implementers of NEPAD's CAADP which provides the overall framework for Africa's agricultural research and development.

The third General Assembly of the Forum for Agricultural Research in Africa meeting in Entebbe, Uganda on 11 June 2005 recognized that as an African continental institution FARA is incomplete without the inclusion of North Africa. Therefore, the FARA general assembly accepted by acclamation to welcome The Association of Agricultural Research Institutions in the Near East and North Africa (AARINENA), representing the north African countries, of Algeria, Egypt, Libya, Mauritania, Morocco and Tunisia as a fully fledged member of FARA. The North African countries will henceforth receive the same recognition and due regard from FARA's stakeholders as that accorded to the founding sub-regional organizations in all assemblies, organs, and procedures of FARA

CGIAR. Dennis Garrity, the Director General of the World Agroforestry Centre (ICRAF) welcomed the IAC report on behalf of the CGIAR. The CGIAR uses the IAC report in formulating and refining its strategies and priorities. ICRAF deployed the report in a number of ways and made particular use of its overlay of the hunger hot spots on the African farming systems, and the interpretations from that overlay. This input has become a critical element in the CGIAR's decision to focus its new Africa strategy on developing integrated systems approaches directed to these hot spots.

Dennis Garrity shared the IAC analysis with Jeffrey Sachs last December. He was so enthusiastic about it that it has since then been adopted by the UN Millennium Development Goals Project as the basis for a major new initiative focused on the hunger hot spots that is called the Millennium Villages Program.

Dennis Garrity shared the analysis in a slide presentation with the Centre Directors' Committee (CDC) in May 2005, in his role as Chair of the CDC committee on Sub-Saharan Africa. The objective there was to gain the support of the Centres in deploying the concept as the frame for the CGIAR's ramped-up efforts in Africa in the coming years.

ICRAF. The IAC report made reference to the Landcare program in Australia, and the possible

value of it in Sub-Saharan Africa. Indeed ICRAF and other centres have been involved in facilitating the development of a Landcare program in Eastern Africa. This is linked with the already large and ongoing Landcare Program in South Africa. Uganda now has a vibrant Landcare Program and efforts are under way for Landcare to be organized in Kenya and Tanzania. Recently, the interim Working Group on International Landcare, which Dennis Garrity chairs, has asked ICRAF to assist in formally launching Landcare International, a global support program for Landcare around the world. ICRAF has received a grant from AusAid to develop a facilitation unit, and is working on the modalities for global support to Landcare with particular emphasis on Africa.

IFDC. Many of the IAC report recommendations on improvement of soil fertility and on market development are in line with activities of IFDC in many countries in Western Africa. These activities with thousands of farmers will be scaled-up making use of the suggestions of the report.

CIAT. The Research for Development Challenge III—“Rural Innovation: Learning to Innovate” of the International Centre for Tropical Agriculture (CIAT), the draft Medium Term Plan 2006-08—reflects much of the IAC report comments regarding the importance to African smallholders of market-led R&D strategies along the production to market chain and the need for rural institutional innovations and knowledge systems. As CIAT does not mention the IAC-report, their embrace of these concepts cannot be attributed to the IAC report, but the coincidence is worth mentioning. More specifically CIAT formulates the following goals that are directly related to the IAC report:

- To contribute to improving capacity for continuous innovation that increases the food security and income of resource-poor, rural producers and agro-enterprises.
- To improve the livelihoods of rural communities in developing countries by promoting improved business support services to enhance smallholder competitiveness.
- To increase the relevance of R&D outputs and enhance community empowerment, with emphasis on gender equity, through developing and applying participatory research methods, tools, skills and organizational principles to improve capacity for innovation in resource-poor rural economies.

NASAC. Out of about 50 African countries, only 10 scientific academies have been established in Africa, 2 in North Africa and 8 in Sub-Saharan Africa. These academies form the Network of African Science Academies (NASAC) and are members of the InterAcademy Council. The Ad hoc Follow-up Committee had intensive contact with Mohamed Hassan, the Director of the Academy of Sciences for the Developing World (TWAS), and coordinator of NASAC. A joint science academies statement was signed by NASAC (Dr Hassan) and the scientific academies of the G8 (Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States). The statement says “... *the fundamental importance of science, technology and innovation in tackling a wide range of problems facing Africa and other developing regions*” and recommends to assist in revitalise African universities and support the development of centres of excellence. The statement recognises that science, technology, and innovation underpin success and sustainability in all aspects of international development in Africa, including poverty alleviation and economic growth, as well as in areas such as health and agriculture. It is proposed to organise a meeting in Marrakech in December 2006 to discuss the IAC report with the G8 academies and to define actions. This proposition has already been made to Mohamed Hassan.

FAO. FAO was represented in the activities of the IAC Study Panel through the appointment of Ms. Dr. Louise Fresco, FAO Assistant Director-General, as Special Adviser to the Study Panel. The contributions of FAO were discussed with Dr Mahmoud Solh, Director of the FAO Plant Production and Protection Division (AGP). According to Dr Solh, FAO has many actions

that parallel the IAC report recommendations. More specifically the actions comprise the following initiatives:

- Plant protection and phytosanitary measures including Farmer Field Schools for Integrated Pest Management.
- Technology Transfer, Strengthening Research and Extension Linkages.
- African Biotechnology Initiatives.

In discussions with Dr. Diouff, Director-General of FAO, and other members of senior management of FAO, it became clear that the report will be used in the implementation of CAADP. They consider the report as an extensive analysis that could support the various scheduled interventions of FAO in close collaboration with individual countries.

IFPRI. In cooperation with Alemaya University (Ethiopia), IFPRI seeks to create a Centre for Agricultural Research Management and Policy Learning to respond to the changing continuing education needs of agricultural institutions and scientists in Eastern Africa. Universities, extension organizations, NARS, NGOs, management training personnel throughout Eastern Africa have been invited to participate as partners or stakeholders. The Ad Hoc Follow-up Committee has recommended involving farmer associations and some key private sector organizations to respond to the IAC report's recommendations about a quadrangle approach to institutional innovation in Sub-Saharan Africa. The ISNAR Program in IFPRI, now based in Ethiopia, is ideally placed to help create this Centre.

Together with the Makerere University in Uganda, IFPRI/ISNAR has developed a proposal on "Transforming Agriculture and the Policy Environment in East and Central Africa through Training." The objective of this project is to support the development of a new post-graduate course at Makerere University to enhance policy management capacity, and thereby bring about regional change in agricultural innovation systems. Eventually the project must deliver people trained in up-to-date agricultural research and policy analysis techniques, so that they can support and sustain new initiatives to transform the lives of the many subsistence farmers and other poor citizens in East and Central Africa. As chair of the country's Agriculture Committee, a Member of the Ugandan Parliament said at the IFPRI April 2005 workshop, "we (in Africa) can make great policies, but they will remain incompetent and ineffectual, until we can assure their implementation through the work of qualified professionals in management and policy analysis." The IAC Ad Hoc Follow-up Committee suggests that this initiative, along with the one in Ethiopia, may provide further steps toward implementing the recommendation in the IAC report regarding the African centres of agricultural research excellence,

V. GENERAL CONCLUSIONS

The report of the InterAcademy Council was in general well received by various target groups. The comprehensive analysis and the concrete suggestions and recommendations were appreciated and enabled actions that are now being taken. More specifically the various recommendations and their follow-up are discussed in Appendix C.

The conclusions on basis of this table are as follows:

1. The majority of the recommendations are being used in activities by permanent institutions
2. The recommendations focussed on enabling circumstances (market conditions, logistics, etc.) that are not yet accepted nor implemented.
3. There is an urgent need for a clear monitoring of the implementation of the various IAC recommendations and also for other reports. The momentum is not yet fully utilised.
4. The private sector shows a growing interest in the follow-up of the report in specific countries.
5. The increased political will for support to African agriculture has not yet resulted in concrete action plans.

APPENDIX A

The InterAcademy Council Study Panel

Co-Chairs

Speciosa Wandira KAZIBWE, Former Vice-President of the Republic of Uganda, currently doctoral scholar at Harvard University

Rudy RABBINGE, Dean Wageningen Graduate Schools, The Netherlands

M.S. SWAMINATHAN, Chairman M.S. Swaminathan Research Foundation, India

Members

Mohamed BESRI, Professor Hassan II Institute of Agronomy & Veterinary Medicine, Morocco

Maria Manuela CHAVES, Professor Faculty of Agronomy, Technical University of Lisbon, Portugal

Avílio Antonio FRANCO, Member Agronomy Advisory Committee, Brazilian Research Council

Ryuichi ISHII, Professor College of Bio-resource Science, Nihon University, Japan

Jikun HUANG, Director Center for Chinese Agricultural Policy, Chinese Academy of Science, China

Renald LAFOND, Senior Program Specialist ICT for Development, International Development Research Centre, Canada

Peter MATLON, Deputy Director for Food Security, Rockefeller Foundation, USA

Ahmadou Lamine NDIAYE, Vice-President Academy of Sciences and Technology of Senegal

Bongiwe NJOBE, Director General National Department of Agriculture, South Africa

Emmanuel Uche ODIGBOH, Professor Agricultural Engineering Department, University of Nigeria

Gideon ORON, Professor Environment Water Resources Unit, Institute for Desert Research, Ben-Gurion University of the Negev, Israel

Per PINSTRUP-ANDERSEN, Professor Cornell University, USA and The Royal Veterinary and Agricultural University, Denmark

Elly N. SABIITI, Former Dean, Faculty of Agriculture, Makerere University, Uganda

José SARUKHAN, Commissioner Social and Human Development, Office of the President of Mexico

Jennifer THOMSON, Professor, Department of Molecular Biology, University of Cape Town, South Africa.

Special Adviser

Louise FRESCO, Assistant Director General, Food and Agriculture Organization of the UN, Italy

Directorate

Jim RYAN, *Study Director*, Visiting Fellow, Economics Division, Research School of Pacific and Asian Studies, Australian National University.

Prem BINDRABAN, *Associate Study Director*, Team Leader, Natural Resources, Agrosystemsresearch, Wageningen Agricultural University and Research Centre, The Netherlands.

Huub LÖFFLER, *Research Associate*, Team Leader, Food

Activities of Ad Hoc Follow-up Committee

Multilateral organisations

Briefing UN Secretary-General and administrator UNDP (Rudy Rabbinge and Jim Ryan)
Special session for the permanent representatives to the UN (Rudy Rabbinge, M.S. Swaminathan and Speciosa Wandira Kazibwe)
Various committee's of the FAO (Rudy Rabbinge)
Council of FAO (Rudy Rabbinge)
Council of UNEP (Rudy Rabbinge)
Briefing Director, Dr Mahmoud Solh. of the FAO Plant Production and Protection Division (Mohamed Besri)

African organisations

Secretariat NEPAD (Rudy Rabbinge)
Executive council NEPAD (Rudy Rabbinge)
Executive committee African Union (Rudy Rabbinge)
Presentation of the IAC_report to the International conference "Dakar Agricole" (4-5 February, 2005). The Powerpoint presentation (in French) is available at www.dakaragricole.org (Mohamed Besri)
Third FARA General assembly (Entebbe, Uganda): presentation of the IAC report to various stakeholders and African and international institutions. The FARA general assembly accepted by acclamation to welcome AARINENA, representing the north African countries, of Algeria, Egypt, Libya, Mauritania, Morocco and Tunisia as a fully fledged member of FARA (Mohamed Besri)
Presentation to the All-Africa Conference organized by IFPRI in Kampala, Uganda on Assuring Food Security in Africa by 2020: Prioritizing Actions, Strengthening Actors, and Facilitating Partnerships, April 2004 (Jim Ryan)
Annual meeting of the African Association of Agricultural Economists in Nairobi on 6 December 2004 (Peter Matlon)
Presentation at the Hunger Task Force Seminar at the Heads of State Summit Meeting of the African Union in Addis Ababa, Ethiopia; Presentation introduced by Kofi Annan, Secretary General of the United Nations, July 2004 (Jim Ryan)
Interactions with Dr Dennis Garrity Director General World Agroforestry Centre, Nairobi Kenya regarding WAC's response to the IAC report, and in particular its Landcare program in Africa in view of the recommendation in the report about the relevance of the Australian Landcare program to Africa, June 2005 (Jim Ryan).

Universities and scientific organisations

InterAcademy Council and various academies of science (Rudy Rabbinge)
Four CGIAR institutes (Rudy Rabbinge)
Discussions with Professor Per Pinstrup-Andersen, Chair of the Science Council of the CGIAR about the influence of the IAC report on the deliberations of the Science Council and in particular the recently completed system priorities exercise, April 2005 (Jim Ryan)
Contributions to the CIAT draft Medium Term Plan for 2006-8, June 2005 (Jim Ryan)
IAV Info 2003. Le rôle des sciences et des technologies dans l'augmentation de la productivité agricole en Afrique du Nord (Mohamed Besri)
International Association for the Plant Protection Sciences News letter, 2004. Plant Protection as a science and a technology for the future. An IAC study on science and technology strategies for improving agricultural productivity and food security in Africa, IAPPS News letter, 4, 2004 (Mohamed Besri, Rudy Rabbinge and Jim Ryan)
International Association for the Plant Protection Sciences News letter, 2005. New report available. Realizing the promise and potential of African Agriculture: Science and technology strategies for improving agricultural productivity and food security in Africa. IAPPS Newsletter, 1, 2005 (Mohamed Besri). International Association for the Plant Protection Sciences News letter, 2005. IAC Ad hoc Task force established. IAPPS Newsletter, 4, 2005 (Mohamed Besri).
Presentation of the IAC report to various NARS in North Africa (Mohamed Besri).
Various contacts with Mohamed Hassan, Director of the third world academies of sciences (Mohamed Besri).

Donor organisations

The Dutch Directorate-General for International Cooperation (Rudy Rabbinge)
The UK Department for International Development (Rudy Rabbinge)

NGO's

World Wildlife Fund (Rudy Rabbinge)
Greenpeace (Rudy Rabbinge)
International Federation of Organic Agriculture Movements (Rudy Rabbinge)

Private sector

The Sustainable Agriculture Advisory Board of Unilever (Rudy Rabbinge)
Nestlé, Senior Management (Rudy Rabbinge)
The International Fertilizer Development Center, Board of Directors (Rudy Rabbinge)
International Association for the Fertilizer Industries, Senior Management (Rudy Rabbinge)
Biotechnology Industries, Senior Management (Rudy Rabbinge)

African research organisations

FARA (Rudy Rabbinge)
ASARECA (Rudy Rabbinge)
Many different National Agricultural Research Institutes (Rudy Rabbinge)

Others

Presentation of the IAC report to the Moroccan ministers of Agriculture, high education and research, to the presidents of many universities, to an adviser of the king Mohamed VI and to the royal academy (Mohamed Besri).

Presentation at the Australian Centre for International Agricultural Research (ACIAR), Canberra A.C.T. Australia, March 2004 (Jim Ryan)

Discussions with Dr Bob Clements, former Director of ACIAR and currently Executive Director of the Crawford Fund in Australia and Dr Tony Fischer, Research Program Manager, ACIAR in Canberra regarding the involvement of Australia in Africa following upon the IAC report's recommendations. Explored the role of Land care in Africa and Australia's interest in furthering this initiative, April 2005 (Jim Ryan) .

APPENDIX C

and Health, BU Genetics and Breeding, Wageningen Agricultural University and Research Centre, The Netherlands.

RECOMMENDATION	PROPOSED APPROACH	KEY ACTIONS	STATUS AUGUST 2005
Domain one: TECHNOLOGIES THAT MAKE A DIFFERENCE			
1.1 Adopt a market-led productivity improvement strategy.	Encourage producer organizations and the private sector to engage with the content of the report.	Invite IFAP to engage with the report; Identify other relevant organizations and encourage them to engage in the report.	Discussions with representatives of IFAP were very positive. There is clear interest of other producer organisations.
1.2 Adopt a production ecological approach with a primary focus on identified continental priority farming systems.	Develop training opportunities for African Scientists and Research Managers in Production Ecology in a phased manner starting with countries most affected by the hunger spots.	Identify countries that are most affected by the overlay of the hunger spots and priority farming systems; Identify funding partners; Design a training module and relevant curricula for distance learning; Recruit and award bursaries for training in the Production Ecology Approach, as well as Masters and PhD studies; Focus on the Sandwich model.	FARA developing with ISNAR and Wageningen University a course and training program. There is a clear interest in some West African countries.
1.3 Pursue a strategy of integrated sustainable intensification.	Apply the Production ecological approach to the existing and new research programmes at the regional and national levels where relevant. This is a message that needs to be integral to agricultural production policy.		New programs will be formulated, but have not yet started.
1.4 Bridge the genetic divide.	Develop a continent-wide strategy for bridging the genetic divide, drawing on the experiences of biotechnology/ biodiversity management in Africa, including institutions such as universities, CIRAD, USAID, WUR etc.	Policy Makers to be alerted to the value of this approach. Encourage the CGIAR to adopt this approach and integrate it into their communication campaigns and research programmes.	In various political arenas the approach was proposed and advocated. There is a positive response. The Science Council of the CGIAR is now advocating this approach.
			NEPAD Secretariat, FARA, AU, ARIs, [CGIAR] ISNAR and FARA have been approached. A program on biotechnology to bridge the genetic divide is now developed.

RECOMMENDATION	PROPOSED APPROACH	KEY ACTIONS	STATUS AUGUST 2005
1.5 Recognise the potential of rain fed agriculture and accord it priority.	Link this recommendation to the CAADP [pillar one] and The Water and Food Challenge Programme and encourage a balanced approach to investments in the total value chain of agricultural water management.	Engage the NEPAD Secretariat, the FAO the African Development Bank, the IWMI, ICARDA.	All members of the task force have made this clear at different places. It is now more accepted than before and not fully adopted as a possibility.
1.6 Reduce land degradation and replenish soil fertility.	This is a message that needs to be integral to agricultural production policy.	Policy Makers to be alerted to the value of this approach.	Policy Makers in general have been approached and this amplified by various members of the Hunger Taskforce of the MDG's.
1.7 Explore higher scale integrated catchment strategies for natural resource management.	Linked tot recommendation 3: Encourage and promote best practice – e.g. Land Care.	Invite the Australian CSIRO to share its experience within the African Continent.	CSIRO is very willing to share its experience with various countries within the African continent.
1.8 Promote the conservation, sustainable and equitable use of biodiversity as a component of future biotechnology initiatives.	CGIAR Water and Food Programme to ensure an adequate response in its approach; FAO Forestry Management Programme to be expanded.	Link to CP Water and Food.	FARA, CP, IWMI and FAO have shown interest, but the higher scale integrated catchment strategies are not yet fully adopted.
1.9 Enhance use of mechanical energy and power.	Link to the response to recommendation 1.4.	Link to CP Generation.	The links have been made and responsibilities transferred.
1.10 Embrace information and communication technology at all levels.	Stimulate interest of the relevant industries [machinery and energy and traction providers].	Develop a strategic approach; Share the strategic approach with relevant stakeholders including the NEPAD Secretariat.	Not much of a follow-up in this specific field. It needs much more attention.
1.11 Improve the coping strategies of farmers in response to environmental variability and climate change;	Identify additional activities that are needed beyond the existing FARA initiative.	Assess the gaps in the FARA programme; Develop suitable partnership arrangements to support the approach.	FARA and IDRC have shown interest in this field.
	Need to develop a strategy and action plan together with the sub-regional research organizations, Commodity IARCs and other relevant interested organized parties.		It is considered as one driving force in the strategic planning, but not a major one.
Domain Two: BUILDING IMPACT-ORIENTED RESEARCH, KNOWLEDGE AND DEVELOPMENT INSTITUTIONS			
2.1 Design and invest in national agricultural science systems that involve farmers in education, research and extension.	Develop a plan of action and budget.		FARA and ISNAR are developing such plans, but other organisations and NGOs play also a major role.

RECOMMENDATION	PROPOSED APPROACH	KEY ACTIONS	STATUS AUGUST 2005
2.2 Encourage institutions and mechanisms to articulate S&T strategies and policies.	Expose regional and national agricultural research systems to the benefits of the approach.	A clear and comprehensive communication programme and materials to be developed and disseminated.	FARA, NEPAD and ISNAR have to develop such a plan. Concrete steps are not yet taken.
2.3 Cultivate African centers of agricultural research excellence.	Approach Academies of Sciences.		Within the CGIAR discussions are taking place to develop such centres.
2.4 Increase support for agricultural R&D.	Maintain the call for more resources.		FARA, African Governments, International development Agencies, African Development Bank and World Bank and many donors have tentatively given their commitment.
	Follow up on the implementation of the MAPP.		FARA and the World Bank will take the lead to get this done.
	Investigate and advise on the challenges of financing strategies at the national/regional levels.		
2.5 Strengthen international agricultural research centers (IARCs).			International Development Agencies and the World Bank have substantially increased their support to the CGIAR.
Domain Three: CREATING AND RETAINING A NEW GENERATION OF AGRICULTURAL SCIENTISTS			
3.1 Focus on current and future generations of scientists in Africa.	Need to retain the number of young people trained in agriculture.	Elevate the profile and benefits that can accrue to young agriculturalists; Encourage the development of public private partnership to address this problem; Develop a discussion document to serve as a basis for redress.	Ministers of Agriculture and Science and Technology working with the Private Sector are being approached, but there are not yet results.
	Need to encourage governments to improve the conditions of service for scientists.	Mobilizing targeted resources for agricultural science recruitment, retention and training.	Relevant government Ministries including the Ministries of Education, Finance and Public Administration will be addressed by FARA and regional organisations.
	Encourage the development of Masters and Phd programmes that embrace international experience alongside with the local realities.	Encouraging the implementation of African focused training programmes.	Various universities of the North and academies of science have shown interest and commitment to get this done. Twinning is promoted at different places.
	Promote the establishment of Centers of Excellence.		
	Linked to 3.1		
3.2 Broaden and deepen political support for agricultural science			

RECOMMENDATION	PROPOSED APPROACH	KEY ACTIONS	STATUS AUGUST 2005
3.3 Reform university curricula	There is a need to review the existing curricula and develop new and innovative programmes.	Revive the African Association of the Agricultural Faculties of Agriculture and task them to review the curricula. Ask FARA to invite the Agricultural Faculties to the Plenary in June and facilitate a session that focuses on the reform of university curricula.	NEPAD Secretariat has been approached to strengthen the Association but the recommendation is not yet implemented. Some faculties were present at the meeting of FARA in June.
3.4 Mobilize increased and sustainable funding for higher education in S&T, minimizing dependence on external donor support.	Develop capacity to access existing resources.	Develop research project writing skills of African Scientists; Institutionalization of the ISNAR training programme in African universities; Investigate and advise on how the CGIAR Virtual University can contribute using the sandwich formula and partnerships with other Universities – north south and south-south.	ISNAR and Wageningen UR will develop together these skills and will train scientists from Africa.
3.5 Strengthen science education at primary and secondary school levels.	Improve the level of awareness about existing resources. Link to 3.1	Increase the awareness of African Scientists about the availability of grants that are available from International Foundation for Science in Sweden and others.	FARA and the African Leadership have been informed. Ministers of Education and Science and Technology in Africa are approached.
Domain Four: MARKETS AND POLICIES TO MAKE THE POOR INCOME AND FOOD SECURE			
4.1 Increase investments in rural infrastructure.	Support and engage with existing initiatives.	Facilitate the articulation of agricultural research infrastructure.	NEPAD Secretariat has indicated their responsibility to get these accepted.
4.2 Strengthen capacity to expand market opportunities.	Support and engage with existing initiatives.		This is not explicitly allocated.
4.3 Institute effective intellectual property rights (IPR) regimes to encourage the private sector and facilitate public-private partnerships.			IPGRI has been approached. That institute will take the lead.

RECOMMENDATION	PROPOSED APPROACH	KEY ACTIONS	STATUS AUGUST 2005
4.4 Reduce barriers to increased African trade with OECD countries.	Support and engage with existing initiatives.	Facilitate the articulation of agricultural research challenges; Exploit every opportunity to engage with the EU and OECD on the agricultural challenges.	Chairperson CGIAR Science Council has indicated his commitment to this task.
4.5 Improve data generation and analysis related to agriculture, food and nutrition security, and vulnerability.			FAO has been asked to update and upgrade their data gathering and processing.
Domain Five: Engaging science and technology for the benefit of African Agriculture in the near term			

RECOMMENDATION	PROPOSED APPROACH	KEY ACTIONS
5.1 Employ the Study Panel's recommended strategies to implement a series of Participatory Science and Technology Pilot Programmes.	Alignment with the existing initiative of the Challenge Programme is critical. The CP should use the paradigms of the IAC-report as a base.	FARA to coordinate engagement through regional workshops. FARA and IAC to coordinate a workshop to collate the approaches to pilots on the basis of the priority farming systems.
	Caution should be applied not to design "pilots" with due sensitivity to the views of the African Leadership.	There is still a need to ensure the translation of the full report into French.

APPENDIX D

AARINENA	Association of Agricultural Research Institutions in the Near East and North Africa
ACARE	African Centres of Agricultural Research Excellence
ACBF	African Capacity Building Foundation
ACIAR	Australian Centre for International Agricultural Research
ANAFE	Network for Agroforestry and Agriculture Education
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
BASIC	Building African Scientific and Institutional Capacity
BECA	Biosciences East and Central Africa
CAADP	Comprehensive Africa Agriculture Development Programme
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Centre for Tropical Agriculture
CORAF	Le Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles = WECARD
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DFID	Department for International Development (UK)
DGIS	Dutch Directorate-General for International Cooperation
DONATA	Dissemination of New Agricultural Technologies in Africa
FAO	Food and Agriculture Organization
FARA	Forum for Agricultural Research in Africa
HTF	Hunger Task Force
IAASTD	International Assessment of Agricultural Science and Technology for Development
IARC	International Agricultural Research Centers
ICRAF	World Agroforestry Centre
IDRC	International Development Research Centre
IFAP	International Federation of Agricultural Producers
IFPRI	International Food Policy Research Institute
IAR4D	Integrated Agricultural Research for Development
ISNAR	International Service for National Agricultural Research
IWMI	International Water Management Institute
MAPP	Multi Country Agricultural Productivity Programme
MDG	Millennium Development Goal
NASAC	Network of African Science Academies
NEPAD	The New Partnership for Africa's Development
OECD	Organization for Economic Cooperation and Development
SPSF	Special Programme for Food Security

