Moving Forward in Support of S&T Partnerships in Africa

Background Material for a Meeting at IFPRI September 29 and 30, 2014

Background

A small, technical meeting was held at IFPRI on September 8, 2014 to discuss how best to formulate a CGIAR-wide response in support of the science and technology agenda and broader-based partnerships in Africa. With the advent of the Science Agenda for Agriculture in Africa: Connecting Science to transform agriculture in Africa (S3A), an effort coordinated under the Forum for Agricultural Research in Africa (FARA) and Chaired by Dr. Kanayo Nwanze, President of the International Fund for Agricultural Development, in which the CGIAR participated -- and in recognition of the Memorandum of Understanding signed between the African Union Commission (AUC) and CGIAR Consortium Office – the time is ripe to engage in new partnerships around the science and technology landscape in Africa.

The strategic partnership between the Commission and the Consortium as stated in the MoU will work to:

1) Enhance the capacity of mandated African institutions in articulating and advancing an African Science and Technology agenda for agriculture that is anchored in CAADP-based country and regional agriculture and food security investment plans; and
2) Strengthen synergies and complementarities between CGIAR planning processes for its African-oriented initiatives, on the one hand, and, on the other, CAADP-based priorities in research, policy analysis, training and knowledge management

This meeting and concept note, serve as background to prepare for additional meetings and activities of the CAADP and CGIAR partners, and captures some of the key ideas raised around the need for continued partnerships in support of the science agenda and the research for development platforms within Africa.

In his preamble, Dr. Nwanze rightly pointed out that “this continental Science Agenda will only translate into stronger nations and better lives for the people of Africa if it is supported by coherent investment in science for agriculture-for-development and will inspire reform of the related institutions.” The backdrop for engagement lies in the Key Messages taken from the S3A:

1) Africa should commit to strengthen its role as a player in global science for agriculture to drive the transformation of agriculture and society;
2) Science for agriculture in Africa is too important to be outsourced. African leaders must take responsibility for enhancing the role of science in their societies;

3) Science is critical for the preservation and use of Africa’s rich biological heritage and indigenous and local knowledge;

4) Agricultural transformation in Africa will not happen without realizing the potential of women and young people;

5) Now is the time to increase investments in science for agriculture in Africa, when countries have the means and opportunities to invest, and gain returns and specifically
   a) Investing in science is necessary and feasible
   b) The private sector is increasingly important in agribusiness
   c) National financial commitment by government is the key that unlocks other support
   d) High rates of return on investments in science for agriculture, in the order of 40-60% have shown consistently in several global studies, and

6) African Solidarity in Science is an important dimension of the strategy for harnessing the power of science – and Africa’s partnerships in science shall be based on the principles of: mutual benefit, mutual responsibility and mutual accountability.

It is therefore time to focus on the development and deepening of substantive partnerships between CGIAR and other advanced research institutes with research and development partners in Africa, at the national, regional and international level in pursuit of the following goals and targets, as collectively we:

- Identify common development problems and research challenges that need to be addressed
- Share relevant knowledge, data sets and base line data for mutual benefit
- Pursue joint resource mobilization efforts
- Share responsibility for implementing a joint research for development program and
- Share accountability in the delivery of results

**Science and Technology Challenges and Response**

The meeting noted that there are major challenges in the discovery and delivery of science and technology in Africa. It commended the inclusion in the Science Agenda for Agriculture in Africa of an overview of several areas where science and technology development offers new opportunities for the transformation of agriculture in the countries of Africa. These areas are grouped as follows:

- Sustainable productivity in crop and livestock based systems, aquatic systems, agroforestry and forestry systems
- Agricultural mechanization
- Food systems and value chains
- Post-harvest handling, food processing safety and storage
- Agricultural biodiversity and natural resource management
- Responses to mega trends and emerging challenges, including foresight
The meeting noted that the CGIAR research institutes and research programs and their partners have relevant scientific research underway in all of these areas. There was additional discussion on some areas which merit further investigation. For example, in the area of crop improvement, recent research, including that published by IFPRI/ASTI, has shown that the rate of uptake of high performing varieties (HPVs) in sub-Saharan Africa is less than 30% (in contrast to about 60% uptake in Asia and 80% uptake in South America). This suggests the need for including more demand-led approaches in the development of new plant varieties that meet market demand. It may also call for further exploration into the multiple and complex interaction of challenges for technology adoption in Africa, including, inter alia, the considerable environmental, cultural and infrastructural heterogeneity. There was also some discussion on the new developments in livestock genomics that make the delivery of genetic gains through new breeds of livestock more feasible in tropical livestock systems (e.g. poultry, dairy cows). The importance of conservation, characterization and utilization of biodiversity, including livestock-wildlife interactions was also noted.

The meeting noted that the CGIAR has substantial data and research results that could inform the implementation of science and development programs in Africa, and that one of the roles of the AU-CGIAR science partnership could be to make this wealth of knowledge systematically available to the wide range of partners in Africa, nationally, sub-regionally and Pan African.

Areas discussed (but not limited to, nor prioritized) that require more in-depth analysis to guide decision makers included:

- **Dimensioning of investments** – Current levels of investments in S&T; gaps and opportunities; what are the implications of different levels of investments
- **Total factor productivity (TFP)** – Unpacking the influences on TFP of investments in S&T and other factors
- **Institutional architecture** – How to develop in practice a coherent, functional system that comprises national, sub regional organizations (SROs), Pan African, and international partners
- **Foresight modelling and prioritization** of investment choices in S&T in Africa
- **Expanding the use of tools, modeling and technology platforms** to provide the technical evidence needed as research demands address Climate Change and other major global issues
- **Policy framework for investing in science** – incentives and systems for introducing new technologies including varietal release procedures, intellectual property rights, regulatory frameworks, public-private collaborations; private R&D investment, regional seed trade and foreign direct investment
- **Capacity strengthening needs**, at various levels from institutions to individuals, and across the areas of expertise required in a functioning research system, from science through to management, and what is the role of the CGIAR
- **Competition and cooperation between smallholder agriculture** with industrial development, including agribusiness, large-scale farming, and manufacturing sectors.
With respect to the interface of research and capacity, the group noted the CGIAR has developed a systems thinking approach with regard to capacity development. The main innovation from this emphasis will include mechanisms to learn and adapt as required across different impact pathways. Guidelines developed by the CGIAR CapDev Community propose nine key elements of capacity development to consider:

1. Capacity needs assessment and intervention strategy design
2. Design and delivery of innovative learning materials and approaches must be included
3. Develop the CRPs and CGIAR Centers capacity to partner in new ways
4. Develop future research leaders through fellowships
5. Increase gender-sensitive approaches throughout the capacity development process
6. Focus on institutional strengthening
7. Include monitoring and evaluation (M&E) throughout
8. Pay attention to organizational development
9. Increase the amount of research supporting capacity development

**Joint Priority Setting to Deepen Partnerships**

The MoU between AUC and CGIAR serves as the guiding framework for aligning research activities and developing long-term research and technological development goals for Africa. This includes joint priority setting (through the development of the CAADP National Investment Plans at the country and regional levels) and the formulation of the Strategy and Results Framework (SRF) to help guide next steps for CGIAR Research Programs. This includes all aspects of the CAADP institutions and delivery research systems, including the Regional Economic Communities (RECs), the Sub Regional Organizations (SROs) and RUFORUM, a network of universities for capacity building in agriculture, linked to the AUC.

Alignment involves a high degree of trust and willingness to give and take in a partnership arrangement. The vision of the S3A is an Africa that is a global player in science for agriculture. As a global player Africa will exercise leadership where it develops its comparative advantage and it will benefit from collaboration where it can. Partnership will begin with a true commitment by African leaders to support the elements of the Agenda: The Heads of State endorsed the principle that national commitment is the key that unlocks international collaboration. This commitment includes: 1) a minimum science base to support inter-African mobility; 2) the encouragement of the diaspora through productive rotation and longer-term assignments; 3) the alignment of credentials and facilitation of intra-African exchanges; and 4) functioning networks for the flow of ideas, people and resources.

The basic building blocks of the architecture are in place for alignment around shared priorities and research processes. How these building blocks are managed and encouraged will determine how future alignment in the form of partnerships succeeds. The partnerships must be adaptive, and the costs of adaptation must be carefully reviewed so that research does not suffer. We look forward to expanding this discussion and creating opportunities to debate and design the most efficient way forward within a shared agenda.