Rolling-out the Science Agenda for Agriculture in Africa in Tier one countries

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Participants at the S3A synthesis and validation workshop held in Accra, Ghana 26-28 July 2017

Seated left to right: Dr. Malu Ndavi (IFAD), Dr. Abdoulaye Toure (World Bank), HE William Hanna (European Commission delegation, Ghana), Dr. Yemi Akinbamiijo (FARA), Hon. George Boahen Oduro (Deputy Minister of Food and Agriculture, Ghana), Mr. Fredua Agyeman (Ministry of Environment, Science, Technology and Innovation, Ghana), Dr. Ouedraogo Mahama (African Union Commission), Dr. Irene Annor-Frempong (FARA), Dr. Augustin Wambo (NEPAD Planning and Coordinating Agency), Mr. Tabi Karikari (African Development Bank)
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Introduction
Empirical evidence from old and recently industrialised countries shows that agricultural transformation is driven by sustained investments in science, technology and innovation (STI), policies to support widespread adoption of appropriate STI as well as policies to develop agro-based manufacturing and service sectors to which small scale farmers are well connected.

In June 2014, the African Union Heads of State and Government (HoSGs) adopted the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods. As part of this declaration, the HoSGs committed to ending hunger by 2025 and to achieve this they further resolved to accelerate agricultural growth by at least doubling agricultural productivity levels, by the year 2025.

The Science Agenda for Agriculture in Africa (S3A) is the AU-endorsed framework for achieving the goal of doubling productivity by 2025. It also serves as the operational framework for achieving the AU Science, Technology and Innovation Strategy for Africa (STISA 2024), priority one which is concerned with eradication of hunger and ensuring food and nutritional security. Furthermore, the S3A underpins the food and nutritional security and sustainable agriculture roadmap under the Africa-Europe partnership on research and innovation.

A study conducted by FARA to establish the agricultural productivity baseline, starting with eight countries, projects that none of these countries will achieve the AU-HoS target of doubling productivity by 2025 (Table 1) under the business-as-usual scenario (FARA, 2016). This underscores the need for new and innovative approaches to accelerate agricultural productivity growth. The S3A encapsulates these approaches.

<table>
<thead>
<tr>
<th>Country</th>
<th>Agric TFP Growth</th>
<th>Year when ATFP is projected to double</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>0.017</td>
<td>2051</td>
</tr>
<tr>
<td>Cameroon</td>
<td>0.023</td>
<td>2040</td>
</tr>
<tr>
<td>Malawi</td>
<td>-0.029</td>
<td>-</td>
</tr>
<tr>
<td>Morocco</td>
<td>0.019</td>
<td>2047</td>
</tr>
<tr>
<td>Nigeria</td>
<td>0.039</td>
<td>2028</td>
</tr>
<tr>
<td>Tunisia</td>
<td>0.014</td>
<td>2060</td>
</tr>
<tr>
<td>Uganda</td>
<td>0.014</td>
<td>2060</td>
</tr>
<tr>
<td>Zambia</td>
<td>-0.016</td>
<td>-</td>
</tr>
</tbody>
</table>

FARA is spearheading the implementation of the S3A by African countries. To this end, FARA is working in close collaboration with the four sub-regional agricultural research organisations (SROs, i.e. ASARECA, CCARDESA, CORAF/WECARD and NAASRO) and the African Forum for Agricultural Advisory Services (AFAAS), along with several CGIAR centres.

Currently, FARA is working with the SROs and AFAAS to catalyse the implementation of the S3A by mobilising African countries to gain a good understanding of what S3A implementation entails and the outcomes expected therefrom. This is designed to provide countries with the information base required to guide their expression of commitment to implement the S3A. These approaches...
initial activities are characterised as rolling-out the S3A.

The development of the S3A and the on-going roll-out in countries has been facilitated by funding from the International Fund for Agricultural Development (IFAD) and the Australian Centre for International Agricultural Research (ACIAR) and core-funding from the European Commission.

Tier One Countries and their Selection

The roll-out of the S3A is conceptualized as a phased process starting with a set of initial (tier one) countries that have been carefully identified. The tier one countries are expected to demonstrate the process of implementing the S3A and crucially, the resulting impacts. In this way, tier one countries will serve as nuclei for out-scaling the S3A to adjoining countries.

Five tier one countries, namely: Egypt, Ghana, Malawi, Rwanda and Senegal were identified based on an estimation of the ‘S3A Preparedness’ for countries in each sub-region.

The ‘S3A preparedness’ was estimated using a set of variables in econometric models (Ordinary Least Squares, Propensity Score Matching and a composite of both models). The key variables are outlined in Box 1.

**Box 1 Variables used to identify tier one countries**

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Investment in Agricultural R&amp;D</th>
<th>Significance of Agriculture to national economy</th>
<th>Ease of access to the countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promptness in signing CAADP-aligned National Agricultural Investment Plan (NAIP)</td>
<td>Percentage allocation of national budget to Agriculture</td>
<td>Contribution of Agriculture to GDP</td>
<td>Scale of FARA-supported interventions</td>
</tr>
<tr>
<td>Number of recognized centres of excellence</td>
<td>Allocation to agricultural R&amp;D as a percentage of AgGDP</td>
<td>Performance in terms of CAADP targets</td>
<td>Data availability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crop and Livestock Yields</td>
<td>Number of active innovation platforms</td>
</tr>
</tbody>
</table>

Roll-out of the S3A to countries

The roll-out of the S3A to countries entails a concerted engagement with countries to deepen their ownership of the agenda, which is regarded as a pre-condition for the countries to effectively drive implementation of the agenda and achieve the expected impacts. The roll-out is co-led by FARA, the SROs and AFAAS.

The country engagement was primarily through three sets of activities, namely (a) regional consultations that brought together representatives of countries from each sub-region, (b) in-depth national consultations with tier one countries, and (c) a continental synthesis and validation workshop.

In addition, the roll-out of the S3A was presented and discussed by stakeholders at side event of the 13th CAADP Partnership Platform held from 30th May to 1st June 2017 in Kampala, Uganda.

Regional Consultations

The regional consultative processes culminated in three regional workshops, held from 12th April to 12th May 2017. These workshops were hosted by three tier one countries, i.e. Malawi, Rwanda and Ghana, working in close collaboration with the respective SROs and FARA.

Malawi hosted the workshop for Southern Africa, while Rwanda hosted the one for East and Central Africa, and Ghana the one for West and North Africa. Overall, 41 out of the 54 African countries were engaged through this process.

Participants were drawn from National Agricultural Research Institutions, CGIAR Centres, Agricultural Extension Agencies, NGOs, Universities, Agribusinesses (agro-dealers, processors, marketers and financial institutions), Farmer Organisations and Government ministries of agriculture, health, finance and planning (fig. 1).

The consultations were used as a platform to share the main features of the Science Agenda and to discuss strategies, challenges and opportunities for increasing the application of technology and innovation in the agricultural system of each country.
The consultations also discussed the theory of change and value addition of the S3A, the process for implementing the S3A and emerging tools to support this process in terms of: knowledge management, capacity development, policy practice and innovation platforms.

**National Consultations**

National consultations were held in all five tier one countries over a period of one month (21st June to 21st July 2017). Hosted by the National Agricultural Research Institutes, these consultations brought together all actors in the agricultural innovation system including researchers from national and international institutions, extension agencies, Universities, NGOs, Private sector/Agribusiness Enterprises, Farmer organisations and Cooperatives.

![Consultations involved participation of representatives of all actors in national agricultural innovation systems](image)

The main outcomes of the national consultations are the essential inputs for assembling a Science Agenda Investment Proposal and Financing Plan for the tier one countries. These are outlined in Box 2 below.

**Box 2 Outcomes of S3A National Consultation**

- Research priorities for achieving national agricultural targets and addressing emerging mega trends
- Elaboration of Country engagement processes aligned to ongoing initiatives and the CAADP country process
- Adoption of Innovation Platforms as the basic implementation approach to ensure demand-driven research, technology adoption, commercialisation and up-scaling
- The value-add of the Science Agenda
- Options for Sustainable financing of S3A
- Validation of tools for implementation of the S3A, namely
  - An online integrated knowledge Management system through the ‘FARADataInforms’
  - Assessment of agricultural policy practice
  - Capacity development including engagement of youth in agribusiness
  - Country theory of change and results framework

**Continental Validation and Synthesis**

Building on the regional and national consultations, FARA in collaboration with tier one countries, the SROs and AFAAS convened a continental synthesis and validation of outcomes emerging from the regional and national consultations. Held at the FARA Secretariat from 26th to 28th July 2017, this workshop also reviewed the building blocks of a proposal and financing plan for implementation of the S3A in the five tier one countries.

This workshop was attended by 62 participants drawn from the African Union Commission (AUC), NEPAD Planning and Coordinating Agency, Development Partners (IFAD, European Commission, African Development Bank, World Bank), CGIAR centres (ICRISAT, IFPRI, ILRI and IITA), AATF, Integrated Breeding Platform (IBP), FANRPAN, RUFORUM, NGOs, Farmers’ Organisations, FARA, SROs, AFAAS and country teams comprising actors in the agricultural innovation system.

The Synthesis workshop provided space for IFPRI to present some of the tools developed by some CGIAR centres to support countries in their implementation of the Science Agenda. It also provided space for the Director General of ICRISAT to situate the current ICRISAT strategy within the S3A.
The S3A Synthesis and validation workshop was attended by among others, Development partners (IFAD, European Commission, World Bank and African Development Bank), African Union Commission, NEPAD Planning and Coordinating Agency, Hon Deputy Minister of Agriculture Government of Ghana

Key Outcomes from the Country Engagement on the S3A

1. Reaffirmation by the African Union Commission and the NEPAD Planning and Coordinating Agency of their endorsement of the S3A as the main instrument for achieving the Malabo commitment of doubling agricultural productivity by 2025.

2. The five tier one countries are committed to driving the implementation of the S3A. They have elaborated their theories of change and results frameworks.

3. Countries recognise the value-add of the S3A as providing them with instruments and processes for:
   - harmonisation of ongoing agricultural research and development initiatives to eliminate duplication and fragmentation; priority setting;
   - improved policy practice;
   - strategic human capital formation;
   - increased and better targeted investments for research and innovation and their efficient utilisation; and
   - mutual accountability.

4. There is now a common understanding that the S3A is not a project that will compete with other existing projects. Rather, it provides ongoing mechanisms for achieving the value-add outlined above.

5. National actors are aware of the tools they need to effectively apply science, technology and innovation for agriculture to achieve national targets and subsequently the CAADP-Malabo targets.

6. The various actors have a clear understanding of their roles and responsibilities in implementing the S3A.

7. The countries have undertaken to strengthen private sector participation in research and innovation recognising that it is instrumental in sustaining the application of innovations and hence productivity growth.

8. A recognition by countries that sustainable financing for implementation of the S3A depends on increased funding of research and innovation from domestic sources.
Representatives of European Commission and IFAD and the (front far left and second from left) at the synthesis and validation workshop in Accra on 26th July 2017

Reference