

*“Science and the Sustainable Development Goals: the role of academies”
Korea, April 2019*

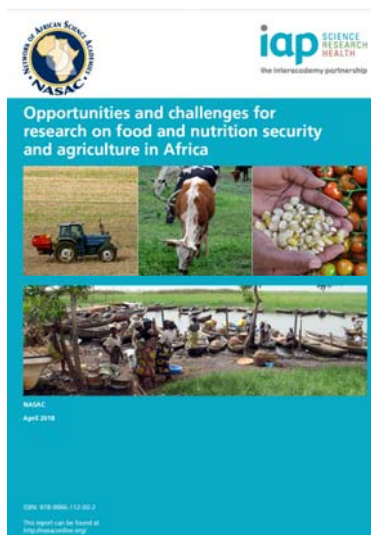
IAP and SDGs: Food and Nutrition Security and Agriculture Project: the Africa Region Report

A Report from the **Network of Academies of Science in Africa (NASAC)**

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Opportunities and Challenges for Research on Food and Nutrition Security and Agriculture in Africa



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Framing for the Africa report

Strong commitment to both agricultural growth as well as ensuring food and nutrition security for all on the continent, as set out in:

- Africa's Agenda 2063,
- The 2014 Malabo Commitments and the
- Comprehensive Africa Agricultural Development Programmes (CAADP) Framework.

As recognised by these policies, we argue that agricultural growth is a driver of broader development.

Agricultural transformation is essential if Africa is to achieve the continental and SDG targets related not only to food security and nutrition but the SDGs in general.



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Grounded in the SDGs



Source: Johan Rockström and Pavan Sukhdev,
Stockholm Resilience Centre, 2016



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Opportunities to generate, connect and use research in Africa

- How can scientific enquiry generate information for **evidence-based policy**?
- How can it advance and support transformation of the African agricultural sector and food system **to improve food security and reduce malnutrition**?
- Adopted an integrated approach to
 - Understand complexities and inter-relationships of agriculture and food systems in the African context
 - The influence these have on livelihoods and the diets of households and vulnerable individuals
- Identified the **most vulnerable people**



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Peculiar challenges of the African context that influence the priorities for FNSA

- **Significant progress** made in reducing hunger and malnutrition since 2000
- **Fragile state** of food security at the national and continental levels
- Most **severe food insecurity: natural and civil disasters**
- Many African famines: Partly a consequence of **inadequate development policies and process failure**
- Significant **population growth and a youth bulge**
- High **unemployment** (especially among youth) and **poverty** affects affordability of food



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FNSA Africa priority highlights – opportunities for Science, Technology and Innovation (STI):

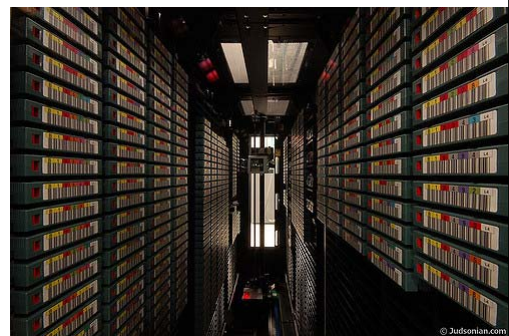
1. Strong political commitment informed by scientific evidence
2. Improved agriculture and food system efficiency
3. Improved farming system resilience
4. Improved food system efficiency, human health and well-being
5. Improved food safety and waste reduction
6. Stronger and much more human capacity

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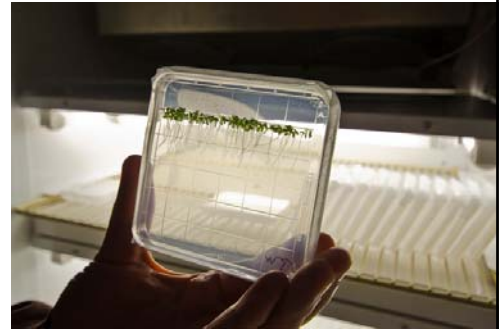
1. Strong political commitment informed by scientific evidence

- STI can support the achievement of **Africa's ambitious growth and development agenda** as set out in Agenda 2063 and the Malabo Declarations
- Researchers and policymakers need to **engage for mutual learning and benefit**
 - **Multi-sectoral and multi-institutional STI platforms** can support this engagement
- Closely **monitoring land use change and determining its impacts** on food security at different levels is essential for sustainability
- Advancing **ICT and multi-sectoral big data** platforms and capacity could support on-going monitoring and evaluation of FNS



2. Agriculture and food system efficiency

- **Efficiency of livestock and aquaculture rearing and feed quality**
- Advances in **appropriate modern technologies, biotechnology and biosciences**
- **Modern breeding technologies**
- Reduce **inequality** can be reduced by finding solutions to the drudgery in Africa's largely un-mechanised farming and food systems.



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3. Farming system resilience

- Research to improve **mixed farming systems** could improve food productivity amidst greater levels of uncertainty.
- Stakeholders (including farmers) need to work together to improve the **resilience of farm systems**
- **Soil and water mapping** can monitor changes and support agricultural production decisions at all levels – especially if put in the hands of farmers



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4. Food system efficiency, human health and well-being

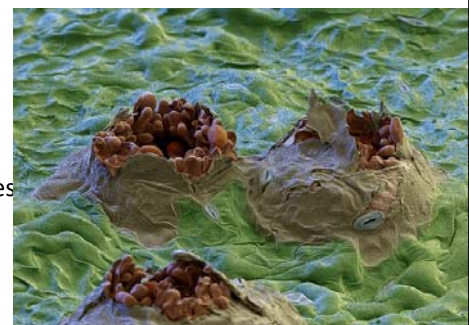
- STI research can promote:
 - Product diversification with nutritious foods;
 - **Processing** to extend shelf life and make healthy foods easier to prepare and
 - **Improved storage and preservation** to retain nutritional value; ensure food safety; extend seasonal availability and reduce post-harvest losses and food waste.
- **Solutions that shape the future of the African food system**
- Develop **processing and packaging technologies** for safe and healthy alternative foods with sustainably extended shelf life
- More research into the **fortification, biofortification and enrichment** of foods: harness indigenous knowledge and foods



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5. Food safety and waste reduction

- Shortage of cold storage and refrigeration in Africa – including solar energy
- Food regulations and standards and capacity
- Harmful agricultural chemicals
- Put digitised information on soil, weather, cropping and diseases the hands of farmers
- Conduct epidemiological research on mycotoxins
- Build more capacity to test and certify products; develop innovative and cheaper testing methods (including rapid digital assessments)
- Step up the enforcement of minimum quality standards in food products



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6. Human capacity

- African academic institutions must work to develop the **human and infrastructural capacity** for FNS capacity at all levels of society and across traditional disciplines (including extension).
- Deliberate action on the part of all stakeholders is needed to **empower the youth** with appropriate skills and **mainstream gender** in FNS programs.



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STI can overcome the challenges
and transform African food systems
to achieve the vision of Agenda
2063:

“The Africa we want” & the



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<http://www.iap.org>

For more information, visit
<http://www.interacademies.org/37646/Food-and-Nutrition-Security-and-Agriculture>

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