



2nd NARES-CGIAR leadership meeting
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**Better alignment between NARES-CGIAR breeding networks
and the priorities of SRO's in Sub Saharan Africa**



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CORAF's Research priorities drawn from various sources

- **ECOWAS**

Through ECOWAP which is a strategy for the West Africa region at the 2025 horizon

- **ECCAS**

PAC = Politique Agricole Commune

Common Agricultural Policy

- **UEMOA**

PAU = Politique Agricole de l'Union

Agricultural Policy of the Union

- **CEMAC**

Stratégie agricole commune

Common Agricultural Strategy

- **CORAF**

Strategic Plan 2018-2027 (Operational Plan 2023-2027)

Regional level



PRIASAN

Plan Régional d'Investissement
Agricole et de Sécurité Alimentaire et
Nutritionnelle

***Regional Plan for Agricultural
Investment and Food and
Nutritional Security***

PNIA-SAN

Plan National d'Investissement Agricole et de Sécurité
Alimentaire et Nutritionnelle



Genetic Resources

Continental level

Under the auspices of the African Union

- African Seed and Biotechnology Platform (ASBP) – Several working groups

Seeds

Genetic resources

Biotechnology

Plant Genetic Resources Management Working Groups (PGRM-WG)

Regional level

Under the auspices of IITA

West and Central Africa for climate-smart agriculture, food and nutrition security

WECAN-PGR

Ambitions to safeguard sustainably PGR diversity in WCA and improve their exploitation

Priority areas

- **Priority Crops** = Rice, Maize, Millet, Sorghum, Cowpea, Cassava, Groundnut
- **Cross-cutting priorities** = Gender – Youth employment - Climate change – Food and nutrition security

Strategy

- **The Strategy is being operationalized through two planning documents**

Medium Term Operation Plan 1 (MTOPI-1: 2019-2023)

Medium Term Operation Plan 2 (MTOPI-2: 2024-2028)

Strategy (cont'd)

4 Thematic Areas

1. Theme 1: Partnerships and Capacity Strengthening
2. Theme 2: Agricultural Transformation Technologies and Innovations
3. Theme 3: Enabling Policies, Functional Markets, and Supportive Institutions
4. Theme 4: Knowledge Management and Information Communications

Strategy (cont'd)

4 Sub-themes

1. Climate Change
2. Nutrition
3. Gender
4. Pest and disease resistance

ASARECA

- **Focus Crops** = Wheat, Sorghum, Maize, Sweet potato, Irish potato, Cassava, Pearl Millet, Rice, Banana, Beans, Chickpeas, Palm dates, Cashew nuts Grapes, Oil crops (Sunflower, Simsim, Groundnut)
- **Livestock types** = cattle, goats, sheep, camels, sheep pigs, poultry
- **Cross-cutting priorities** = Climate change – Nutrition - Gender – Pest and disease resistance

- Strategic thematic areas or pillars for the period 2020 – 2029
 1. Agricultural productivity and food and nutrition security
 2. Resilience to emerging agricultural risks, namely environmental, climate change and transboundary pests and diseases
 3. Commercialisation of the agricultural sector and market access
 4. Women, youth and social inclusion
 5. Knowledge and information management, communication and policy support; and,
 6. Capacity strengthening of CCARDESA and AR4D institutions

CCARDESA’s theory of change is premised on hierarchical progression and relation of actions, outputs and outcomes at different levels. Thematic areas are the basis upon which the interventions / activities are planned and implemented. A set of interventions leads to generation of outputs that produce outcomes for each thematic area. The combined effects of outcomes generate final impacts of CCARDESA’s interventions, which is expressed in its vision of “sustainable agricultural growth and socio-economic development in the SADC.” :-

Outcomes under Strategic Pillar 1	Outcomes under Strategic Pillar 2	Outcomes under Strategic Pillar 3	Outcomes under Strategic Pillar 4	Outcomes under Strategic Pillar 5	Outcomes under Strategic Pillar 6
<ol style="list-style-type: none"> New and existing technologies, innovations and management practices developed and promoted by AR4D institutions and productivity increase. Nutrition-sensitive agriculture integrated into AR4D institutions programmes and resilient national and regional food systems improved. 	<ol style="list-style-type: none"> Enabling regional environment for effective management of pests and diseases as well as natural resources created. Farmers and other value-chain actors supported to sustainably manage the environment and resilient value chains promoted. The impact of climate change and risk of pest and diseases on farmers and natural resources mitigated. AR4D institutions capacitated to support disaster risk reduction initiatives at national level. 	<ol style="list-style-type: none"> Foresight on market trends for regional priority agricultural commodities to enhance market-driven production provided. Integration of smallholder farmers into value chains and their capacity to access capital to invest in market-driven production supported. Value-chain actors access to technologies, innovations and management practices (TIMPs) improved. Participation of women and youths in commercialisation and markets linkages improved. 	<ol style="list-style-type: none"> AR4D technologies and innovations specifically targeting women, youth and vulnerable groups developed and promoted. AR4D institutions supported to develop interventions that will increase participation of women, youth and other vulnerable groups in agricultural value chains. Principle of inclusiveness in the planning and execution of AR4D interventions promoted. 	<ol style="list-style-type: none"> Knowledge management hubs to foster collaboration and information sharing among various stakeholders in different countries created. Access to audience-specific agricultural knowledge and information through CCARDE SA’s ICKM and the Southern Africa Agriculture Information and Knowledge System (SAAIKS) enhanced. NARES institutions strengthened in information packaging and use of digital innovations and ICT with potential to transform agriculture. 	<ol style="list-style-type: none"> Regional AR4D agenda developed and foresight provided to AR4D institutions. Governance, management, funding and resource mobilisation systems for CCARDESA strengthened. New strategic partnerships established and existing ones strengthened. AR4D institutions’ programmes supported and managed efficiently

Strategies for crop breeding and support for collaborative breeding efforts

- Breeding strategies espouse CCARDESA Strategic Pillar 1: **Agricultural productivity and food and nutrition security**;
- Breeding strategies espouse CCARDESA Strategic Pillar 2: **Resilience to emerging agricultural risks**; namely, environmental, climate change and transboundary pests and diseases;
- Breeding strategies espouse CCARDESA Strategic Pillar 3:
Commercialisation of the agricultural sector and market access. This particularly applies to **demand led breeding** with intended impact on (a) **Foresight on market trends for regional priority agricultural commodities to enhance market-driven production provided.**

Strategies for crop breeding and support for collaborative breeding efforts

- **At the national level, breeding strategies are informed by national policies and frameworks of member States.**
- Some are premised on conventional breeding technologies.
- In other member States, such as the Republic of South Africa there is GMO Act of 1997 has been of great use in improving crops for farmers, applying technology that involves insertion of novel DNA into the host organism, hence, duly regulated. The technology requires large volumes of data / information in the regulatory process of issuance of authorisation of new products. However, this technology creates some limitations for small breeding programmes to produce genetically modified crops for licensing for commercial cultivation in South Africa, thus the technology is mostly available to well funded breeding programmes.
- New breeding technologies present an untapped opportunity to produce novel genetic variation that is useful, for example in crop improvement for healthier foods, drought tolerance or disease resistance. In this regard, some crop breeding programmes in the SADC region collaborate on new breeding technologies, even though at a small scale at present. However, there is sufficient awareness that some of the new breeding technologies are transgenic in nature (type 1), while others (type 2) are not, and it is “type 2” that researchers are keen to pursue in a targeted manner in collaboration projects so that only desired traits are introduced taking advantage of decreased time taken to improve agronomic organisms.

- **Food Systems Resilience Programme (FSRP)** under which CCARDESA focuses on activities that can improve the extent to which the food systems of the SADC region can maintain satisfactory level of production under the pressure of climate change.
- The **Agricultural Productivity Programme for Southern Africa (APPSA)** which is a regional project that originally started with three countries (Malawi, Mozambique and Zambia), and has now extended to Lesotho and Angola. Specifically, APPSA aims to increase the availability of improved agricultural technologies in participating countries in the SADC region through:
 - Establishing Regional Centres of Leadership (RCoLs) on commodities of regional importance;
 - Supporting regional collaboration in agricultural research, technology dissemination, and training; and
 - Facilitating increased sharing of agricultural information, knowledge, and technology among participating countries.

- **National Agricultural Investment Plans => identify priority crops**
- **AGRA priority crops are staple crops** that include maize, rice, sorghum, millet, soybean, beans, cowpeas, cassava and sweet potatoes among others

AGRA is not a research organisation however supported many breeding programs in various countries

Over 700 improved varieties released with 70% of them commercialised through mainly seed companies

Breeding programs supported were identified through national priorities and aimed at solving specific smallholder farmer production problems

Strategy is Participatory Rural Appraisal

Human capacity building --- Training of students (> 500 MSc & PhD) --- mid-level plant breeders on modern plant breeding techniques (UC Davis >40) short term training of more than 150 research technicians

- **Alignment of strategy**
- **No breeding strategy** -- pick the released technologies and use our networks of multiple partners such as seed companies, Agro dealers and village-based advisors to take to millions of smallholder farmers.
- **Need for stronger collaboration with CG centres** with modalities in place to ensure research results get to farmers

AGRA's comparative Advantage/ Opportunity



Levels of Partnership Engagements by AGRA & Opportunities

Engagement Level / Scale	Description
One-CG Governance Level	<ul style="list-style-type: none"> • Top management to establish an MoU for synergistic and complementary collaboration between AGRA and One CG
Partnerships and Advocacy Global Group (cross cutting) Level	<ul style="list-style-type: none"> • Engagement to define a framework for partnerships institutional collaboration
Action Areas: e..g. Genetic Innovation area level	<ul style="list-style-type: none"> • Key stakeholder • Participate in partnership activities of Genetic Innovation Area forum: <ul style="list-style-type: none"> • To define priorities, review contributions of Initiatives identify gaps. • Define complementary opportunities by Initiatives and strengths of partners
Regional Integrated Initiative Level	Participate in activities ranging from strategic planning to tactical implementation (e.g. co-investment) to coordinated multi-stakeholder action (e.g. innovation hubs etc.).
Global Thematic Initiative Level	<ul style="list-style-type: none"> • Key entry point for AGRA through Accelerated Breeding and SeEdqual initiates. • Leadership as scaling partner in demand-driven mandate crops • SeEdqual has proposed to: <ul style="list-style-type: none"> • implementation of its activities in the AGRA priority countries • Align with key partner priority setting, such as gaps identified by AGRA-led SeedSAT initiative • Leverage AGRAs expertise in capacity building and technical assistance to

Concluding Remarks

- All SROs based their breeding intervention on priorities defined either by regional bodies (REC) or on Strategic Plans
- Strategies are developed for crop improvement in each SRO
- For collaborative breeding efforts, One CGIAR Genetic Innovation could link up with NCoS/RCE or alike, under the auspices of the SROs, for efficiency
- Alignment could be done around major crops in each agroecology of the SROs
- Cross-cutting issues are similar for all SROs thus, alignment can easily be done at regional level
- Genetic resources : Regional networks are already in place and could be tapped into to boost breeding activities



Thank you for your kind attention

