



ARI Regional Strategies and Priorities for Breeding and Capacity Development

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The Second Leadership Consultation
Meeting

NARES – CGIAR – AIDE Memoire
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Threats to the Progress of Regional Food Security



Population increase
2.5 billion people
by 2050



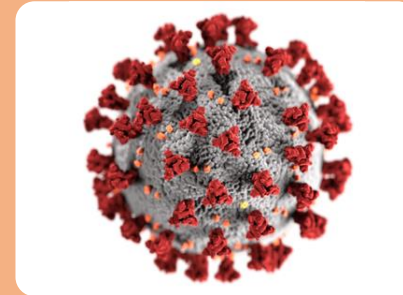
Low productivity in
farmers' fields



Food import bill
US\$ 110 billion by 2030



Climate change



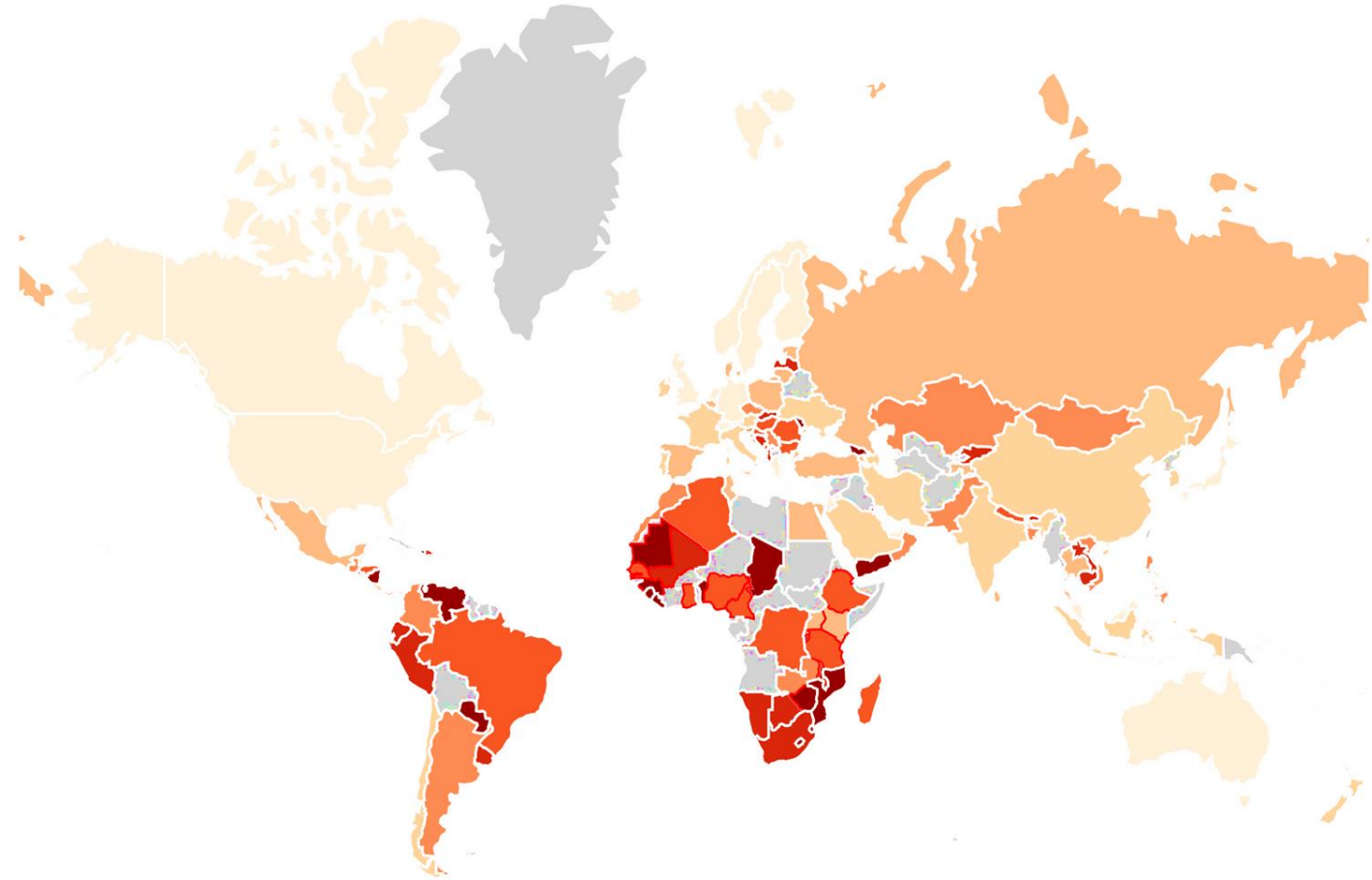
Covid-19 and other
Pandemics



Conflicts in Africa &
Russia-Ukraine war

Human Resource Capacity in SSA

- SSA lacks the critical mass of scientist and engineers to develop the continent
- Government investments in higher education in SSA generally $<0.3\%$ of GDP
- Returns on investments in higher education in Africa estimated at 21% (highest in the world)

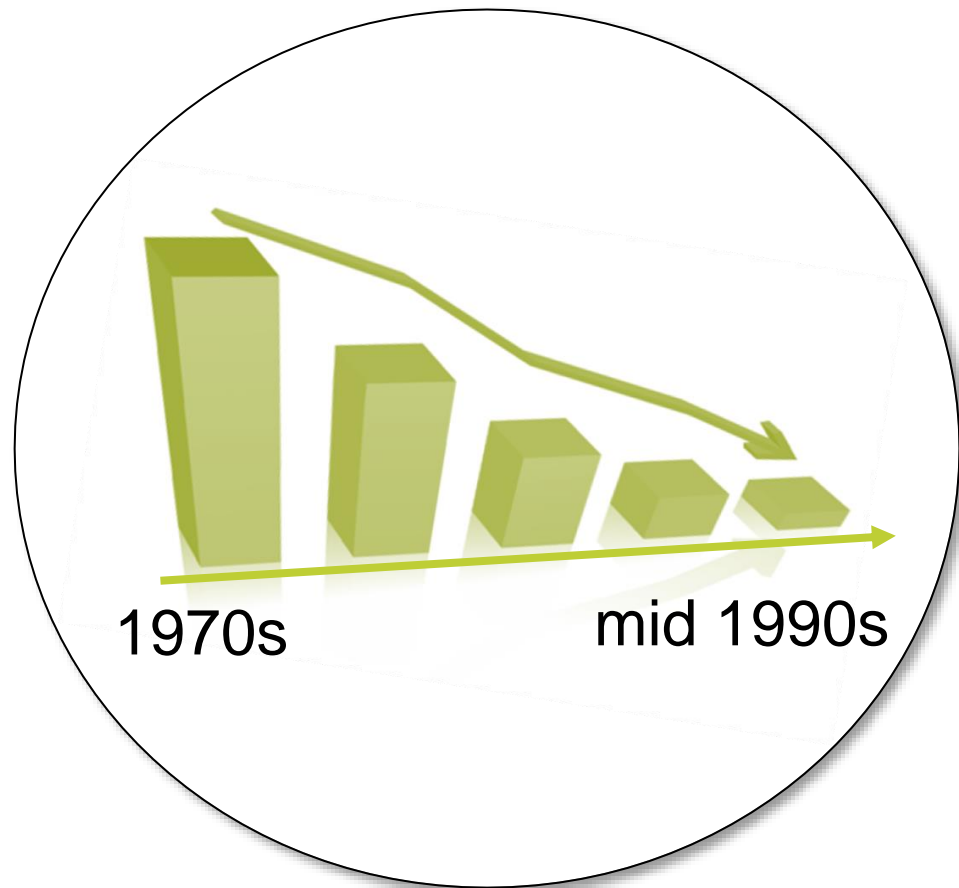


Availability of Scientists and Engineers, Ranking, 2017

1 - 20 20 - 40 40 - 59 59 - 79 79 - 98 98 - 118 118 - 137 No Data

Higher Education in sub-Saharan Africa

Standards in Agricultural Education in SSA (1970 - 1995)



Brain Drain



Poor Infrastructure



Inadequate Funding for R & D



Low Staff Morale



Weak Post Graduate Programmes

Commitments to Accelerated Agricultural Growth and Transformation

- **Comprehensive Africa Agriculture Development Programme (CAADP), 2003**
 - Achieving an annual agricultural growth rate of at least 6%.
 - Allocating at least 10% of national budgets to agriculture.
- **Malabo Declaration, 2014**
 - Doubling agricultural productivity.
 - Reducing post-harvest losses to half of current levels.
 - At least 30% of farm, pastoral, and fisher households being resilient to climate and weather-related risks by 2025.
- **CAADP Biennial Review, 2017, 2019, and 2021**
 - Tracks performance in key areas such as investment in agriculture, ending hunger, and halving poverty by 2025.



World Bank Africa Higher Education Centres of Excellence (ACEs)

- HEIs in STEM, Environment, Agriculture, applied Social Science/Education and Health
- **\$580** million disbursed in three phases of the ACE projects & **US\$72 M** from AFD
- **70** ACEs hosted in **50** Universities across **20** countries
- **33,435** students enrolled (**3,357** PhD; **9,631** MSc; **20,447** professional short courses)
- **3,103** articles published & **283** programmes accredited



THE WORLD BANK



ASSOCIATION OF AFRICAN UNIVERSITIES
ASSOCIATION DES UNIVERSITÉS AFRICAINES
رابطة الجامعات الأفريقي

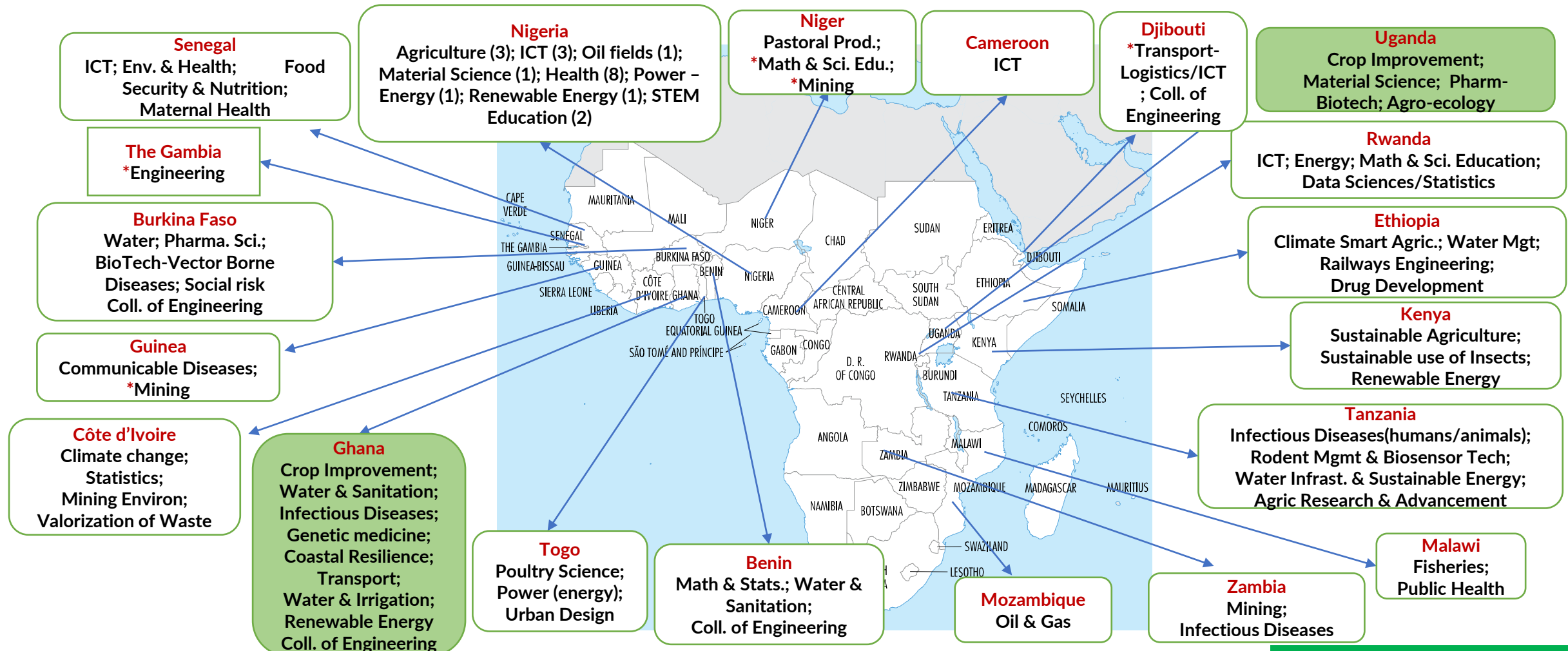


AFD
AGENCE FRANÇAISE
DE DÉVELOPPEMENT



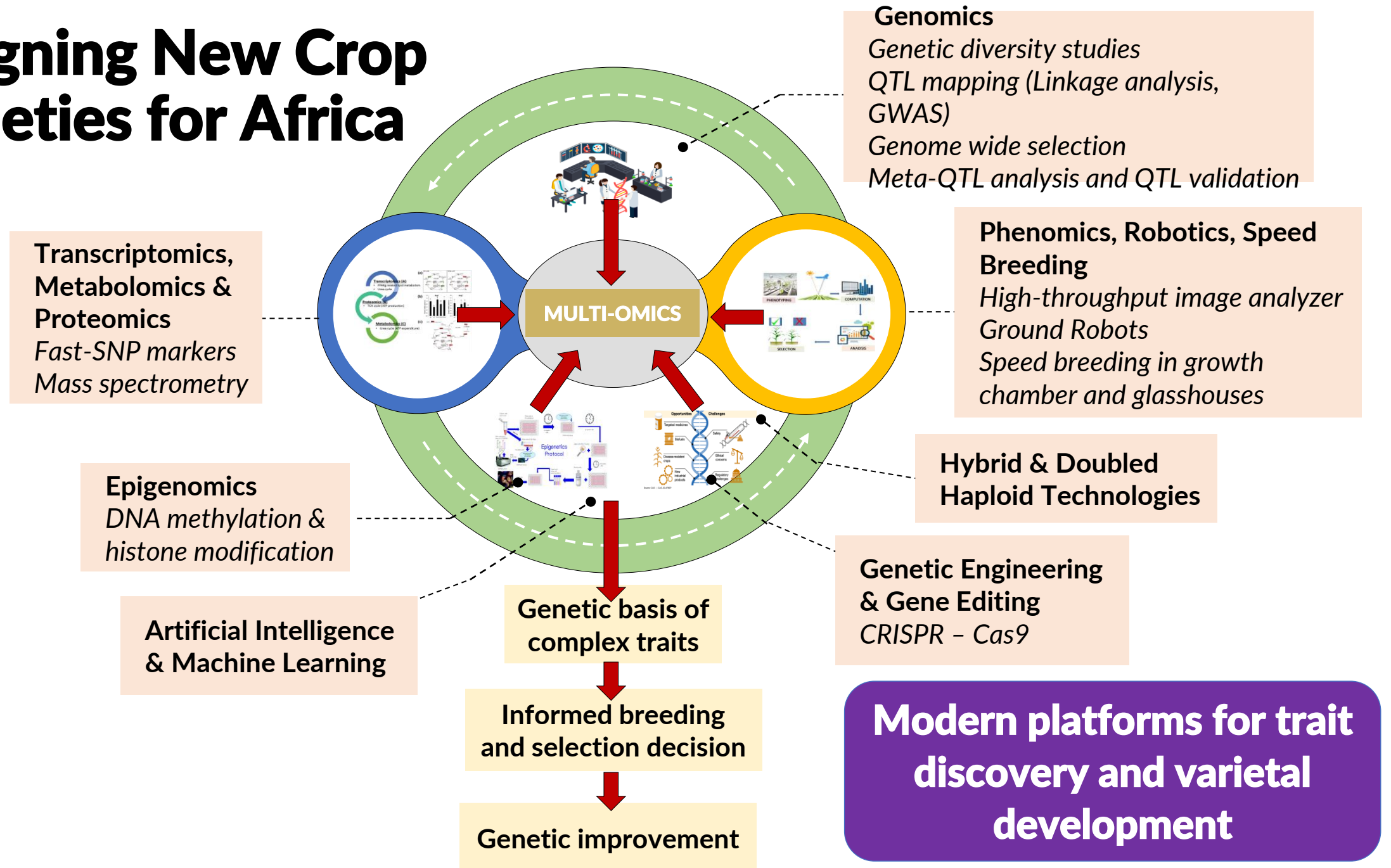
Institut de Recherche
pour le Développement
FRANCE

World Bank Africa Higher Education Centres of Excellence (ACEs)



*refers to Emerging Centers

Designing New Crop Varieties for Africa



The “NextGen” African Plant Breeders

Focus on Developing
Quality Crops

Open to
Modern Trends

Practical

Demand
Driven



Looking Ahead

**Africa Academy of
Leadership in
Agricultural Sciences**

US\$ 150 million Endowment

**ACCI
MaRCCI
WACCI**

**CGIAR, APBA & Other
advanced institutions**

Conclusion



We possess **vast lands** capable of **feeding the globe**, yet many of us remain impoverished and hungry. A self-sufficient Africa, free from hunger and poverty, is within reach by 2030. However, this vision requires **visionary leadership** that leverages the **power of science, technology, and innovation**. I urge our global development partners to re-evaluate their approach to collaboration in the agricultural sector. The potential benefits, measured in trillions of foreign exchange, highlight the importance of **fostering strategic partnerships**. Together, we can shape the **future of agriculture in Africa**, and by extension, the world.

– Eric Danquah, 2023 (Africa Food Prize Laureate, 2022)



Thank You





**WEST AFRICA CENTRE FOR
CROP IMPROVEMENT**

WACCI UNIVERSITY OF GHANA

Background

- Established in June 2007 as a semi-autonomous unit in the defunct College of Agriculture and Consumer Sciences to train Plant Breeders for West Africa (Seed grant of US\$ 5 m from AGRA)
- Became a unit of the College of Basic and Applied Sciences in 2014 and a World Bank Africa Centres of Excellence in 2015

Outputs and Outcomes of the WACCI Project



Africa Centre of Excellence for Agricultural Innovation and Entrepreneurship:
Developing talent in Africa for the future of Africa's Agriculture



Investments to date: US\$ **40+ million**



Enrolment from 20 African Countries
160 PhDs
90 MPhils



Graduates from 15 African Countries
105 PhD (36 F)
40 MPhil (18 F)



Total Grants Attracted by Alumni
> US\$ 62 million



Publications (students & faculty) **>259**



279 varieties released from **10** African countries



3 viable PPPs for scaling up seeds (*Soybean, Tomato, Maize*)



Training and Outreach: **> 5,474 farmers, 400 AEAs, 67 FFS, 53 Entrepreneurs**

African Centre for Crop Improvement (ACCI), UKZN



Established in 2002
at UKZN



150 plant breeders
trained since 2002



Alumni constitutes
40-50% of active NARS
breeders with **100%**
retention in Africa



Publications
(students &
faculty) **>400**



>200 varieties
released accross
20 countries

Enhanced public-private partnerships

- Climate-smart cultivars for a water-scarce future
- Pan Africa Demand led Breeding initiative
- Partnerships with NARES in 20 African countries

MaRCCI selected outcomes

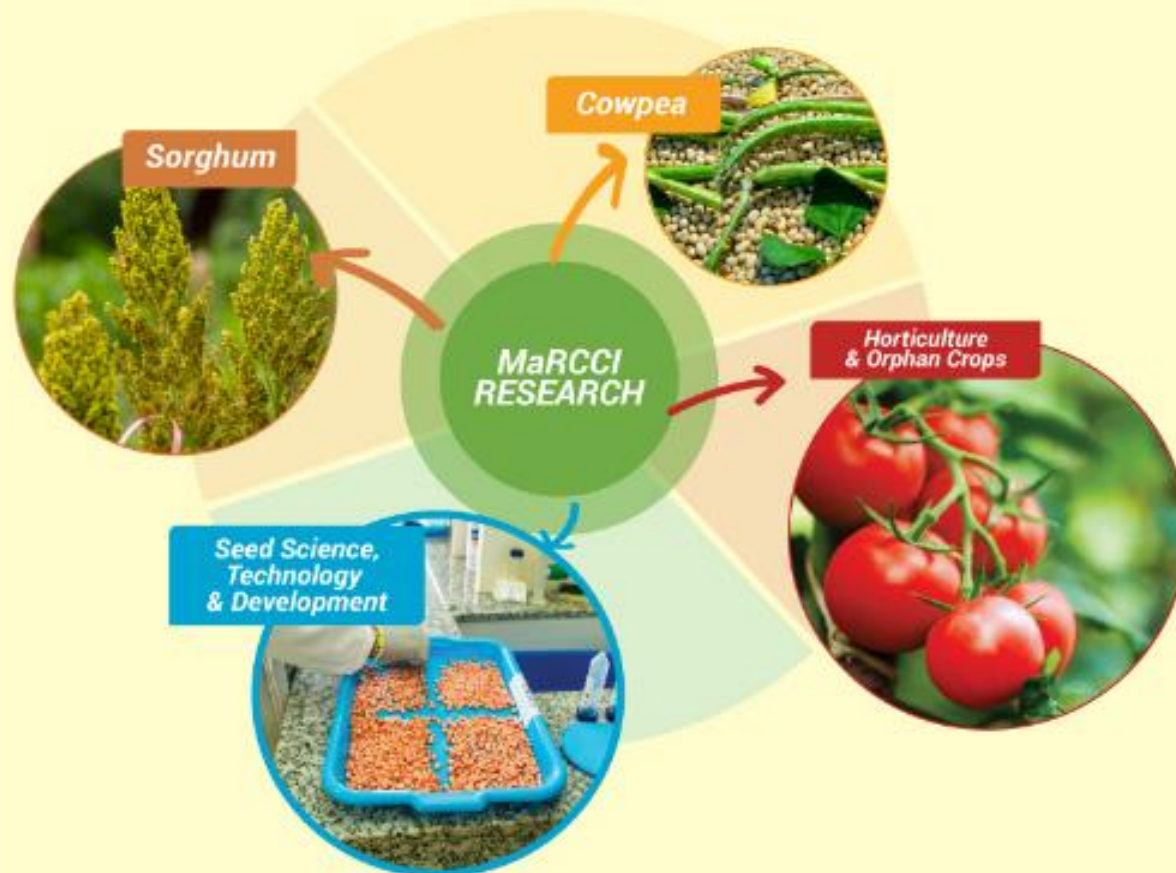
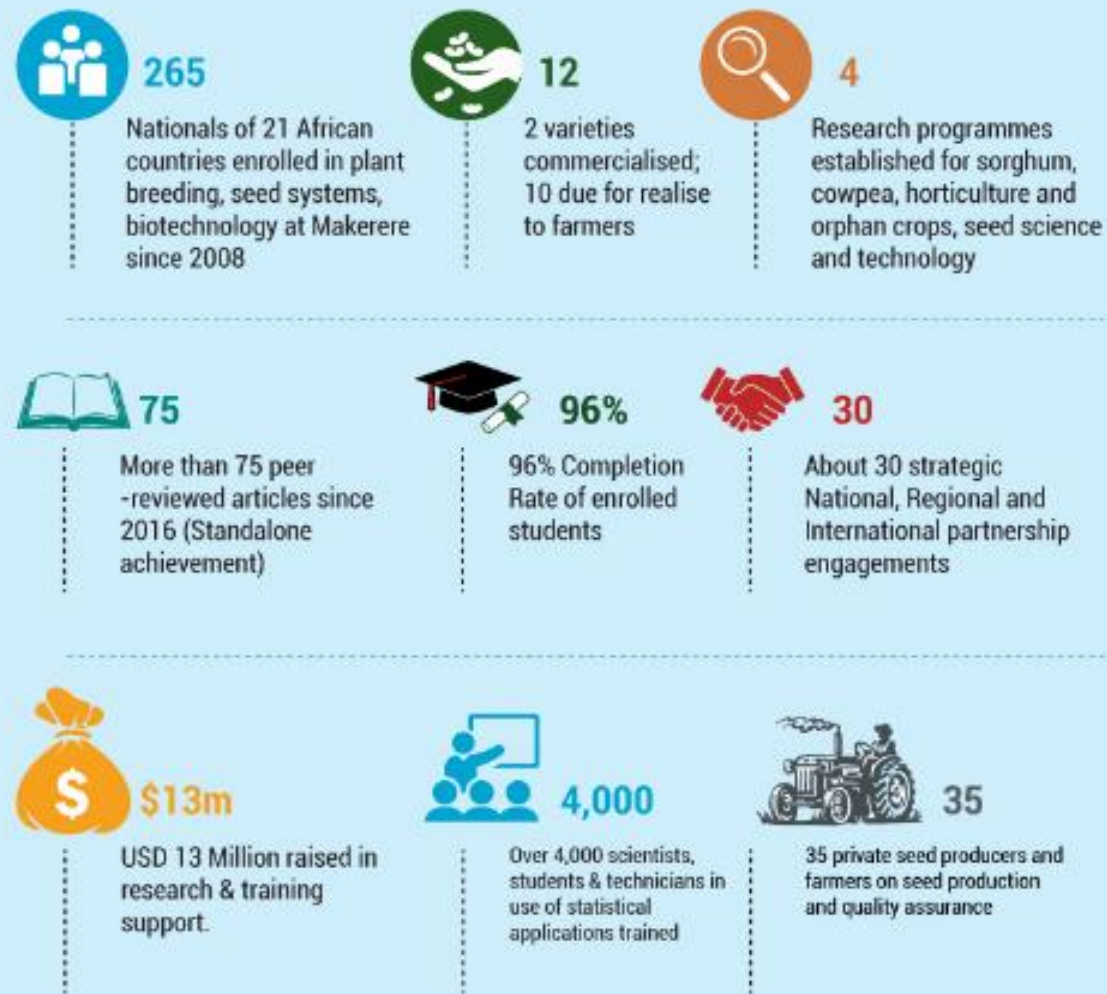
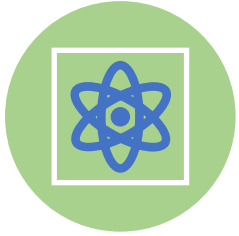


Figure 3: The four core areas of research (Sorghum, cowpea, horticulture and seed science and technology);

In numbers



Looking Ahead



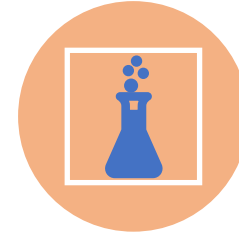
Urgent need for a revitalized higher education in agriculture: Entrenched in the trinity of Research, Development & Outreach



Strategic partnerships: Public-private partnerships for genetic innovations, development of seed systems and commodity value chains



Strengthen Extension Services: Equip farmers with the knowledge and skills needed to optimize yields in their fields



Harmonization of policies critical to development: Secure farmers rights, provision of access to credit and support seed innovations



Political will to deliver an Africa free from poverty and hunger by 2030: This should be backed by regional collaboration