TAAT Rice Compact

West Africa Technology Fair

Ernest Asiedu, Sidi Sanyang. Bah Saidu, Sali Atanga Ndindeng, Saito Kazuki, Aminou Arouna, Messou Edja

(*The Rice Compact Team*)

- **25th to 30th October 2020**
- **Dakar, Senegal**

Technologies for African Agricultural Transformation

Presentation Outline

Background

- *Rice Compact Objectives and Countries Covered*
- *Production-Consumption-Imports and Rice Self Sufficiency*

Technologies and Mechanism for Up-Scale

- *Climate-Smart Market Responsive Varieties and Hybrids*
  (P. P. P. Arrangement for Seed Deployment)
- *Good Agricultural Pactices*
- *Post-Harvest Technology and Market Access*

Conclusions and Way forward

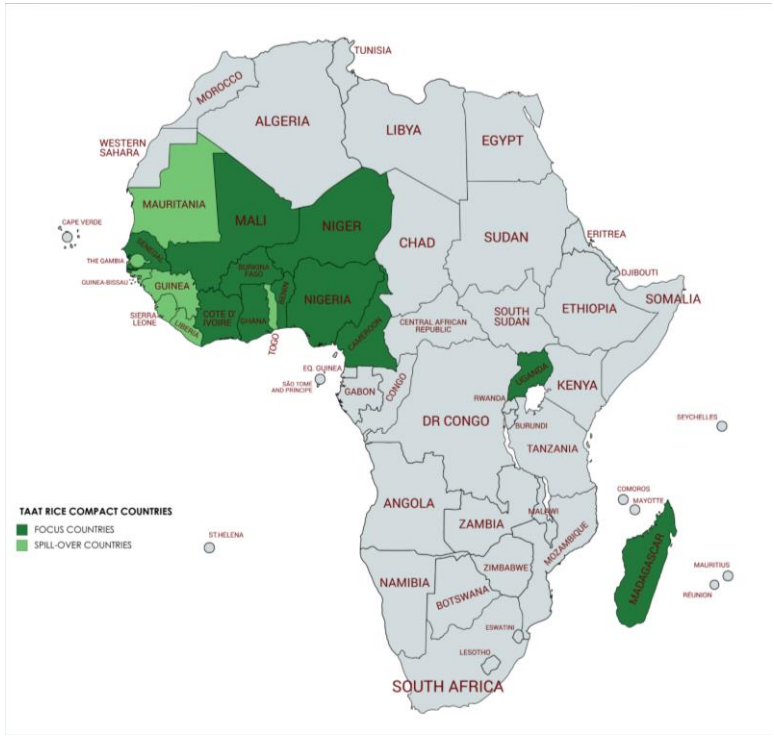
Background: Objective and Countries

- 18.628 million tons of milled rice produced in SSA
- 32.925 million metric tons consumed
- 13.985 million tons imported (2018)
- US$ 5.9 billion cost of imported rice (2018)
- 42% production-consumption gap;

Development objective:
Access of smallholder farmers to high yielding agricultural technologies to improve their food production – Assure food security and raise rural incomes,

Nine Focus Countries:
Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mali, Madagascar, Nigeria, Senegal, Uganda

Four Spill-Over Countries:
Burkina Faso, CAR, Gambia, Guinea, Guinea Bissau, Mali, Mauritania, Niger and Sierra Leone



Technologies for African Agricultural Transformation

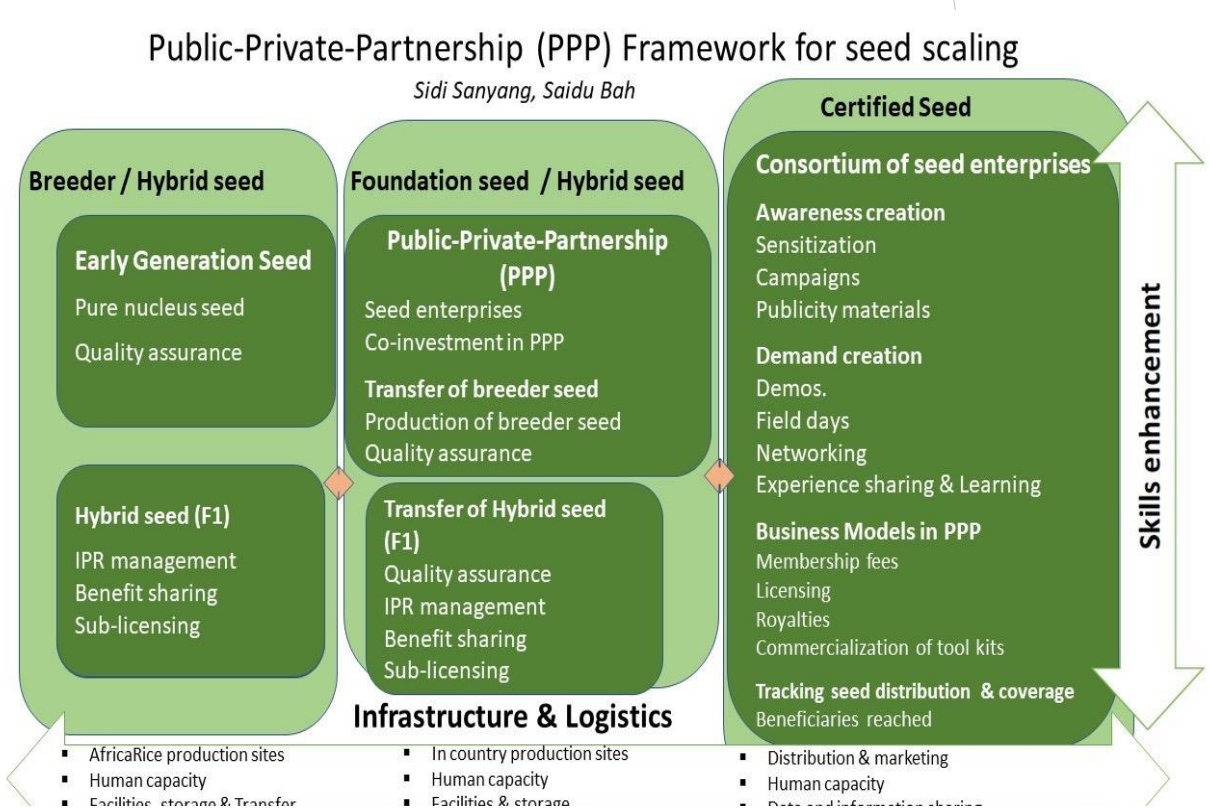
	Country	Rice Self-Sufficiency Ratios in 2020	Rice Self-Sufficiency Ratios in 2019	Difference
1.	Egypt	96	99	-3
2.	Tanzania	93	92	1
3.	Madagascar	85	87	-2
4.	Mali	82	85	-3
5.	Chad	80	80	0
6.	Nigeria	76	72	4
7.	Guinea	74	74	0
8.	Sierra Leone	70	67	3
9.	Uganda	67	63	4
10.	Mauritania	66	67	-1
11.	Congo (Kinshasa)	53	56	-3
12.	Cote d'Ivoire	53	53	0
13.	Senegal	44	43	1
14.	Guinea-Bissau	43	40	3
15.	Morocco	43	44	-1
16.	Ghana	37	32	5
17.	Liberia	31	30	1
18.	Burkina Faso	27	28	-1
19.	Cameroon	26	25	1
20.	Togo	23	24	-1
21.	Benin	22	23	-1
22.	Mozambique	22	26	-4
23.	Niger	16	17	-1
24.	Ethiopia	14	13	1
25.	Kenya	11	11	0
26.	The Gambia	8	9	-1
	Sub-Saharan Africa	58	57	1

TAAT
Technologies for African Agricultural Transformation

Climate-Smart Market Responsive Varieties and Hybrids

1. NERICA L19 & NERICA L19sub1 in Nigeria as FARO 67)	5.7 MT/Ha; Flood and Fe toxicity tolerant, Resistant / stem borers, bacterial leaf blight and blast. Good grain quality.
2. ORYLUX 6	4.5-6.5 MT/Ha Aromatic long grain; good grain quality; short duration (100 days)
3. NERICA 4	3-4 MT/Ha; Early maturity, drought and *Striga* tolerant.
4. WAB 638-1 (AKADI in Côte d'Ivoire)	4-5 MT/Ha; Aromatic variety
5. IR841 (AGRA rice in Ghana)	4-6 MT/Ha; long grain
6. FARO 44;	3-4 MT/Ha; long grain; preferred and produced in Nigeria
7. Bouake AM	3-4 MT/Ha Grown in Cote d'Ivoire
8. Four hybrids AR032H; AR051H; AR708H; AR606H	8-14 MT/Ha – Hybrids - aromatic long grain, good grain quality. (40-100 % yield increase)

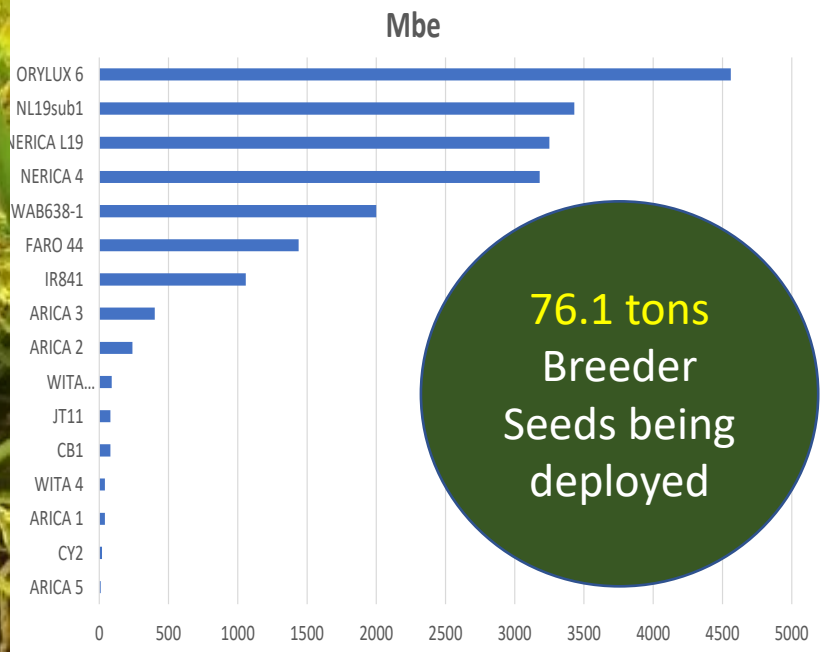
Rice Hybrid AR051H Released as ISRIZ-09 in Senegal, Yielding over 10MT/Ha



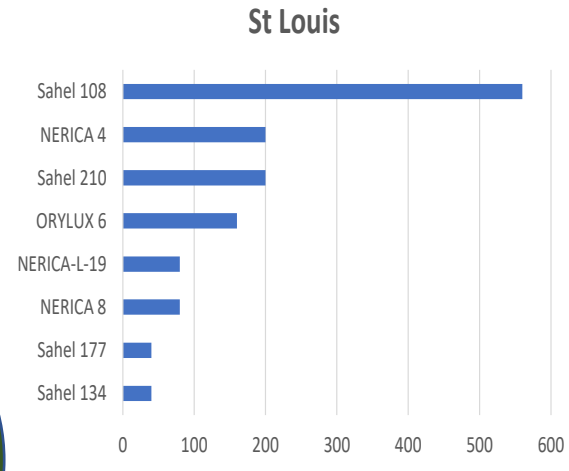
P. P. P. Arrangement for Seed Deployment

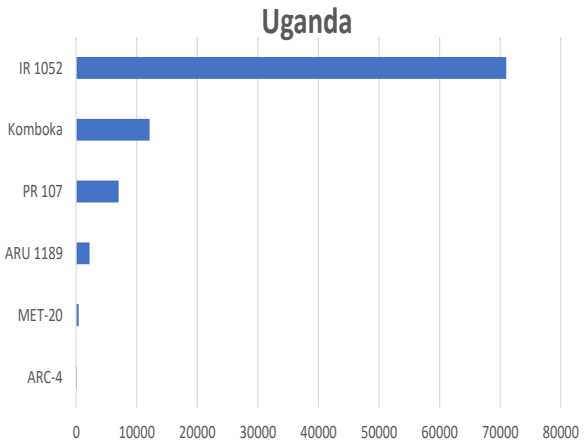
Technologies for African Agricultural Transformation

Popular Varieties highly demanded by the Regional Seed Market



76.1 tons Breeder Seeds being deployed





Core and Satellite seed Production Platforms

15 countries so far

Project(s): AfDB-TAAT, USAID Seed Scaling

Business Models in Partnership with COSEM-Riz

Quality Rice Seed of Improved Varieties, Hybrids, and Toolkits	Membership Fee Annual Cost $			Royalty $	Licensing / Sub-Licensing $	Benefits
Breeder, Hybrid seed production, and Toolkit dissemination	**Platinum $**			% on volume of seed	Fixed Annual Cost	*Breeder seed, Hybrids Toolkits Market intelligence Capacity building*
Foundation Seed Production and Toolkit dissemination				NA	NA	
Certified Seed production and Toolkit dissemination		**Gold $**		NA	NA	*Foundation seed, Hybrid seed Toolkits Market intelligence Capacity building*
Dissemination of Certified and hybrid seed and Toolkit			**Silver $**	NA	NA	*Certified seed, Hybrid seed Toolkits Market intelligence Capacity building*

Good Agricultural Practices and RiceAdvice

Technologies for African Agricultural Transformation

- **Q**uality Seeds,
- Nursery management
- Smart-valley soil & water management;
- Plant spacing; weed and insect control,
- Soil fertility management
- Harvesting and post-harvest management)
- Rice-Fisheries integration

Led to yield of 3.3 t/ha in upland and 7.5 t/ha in lowland by farmers in Madagascar

Joshua Jonathan – IP Nakarawa State, Nigeria

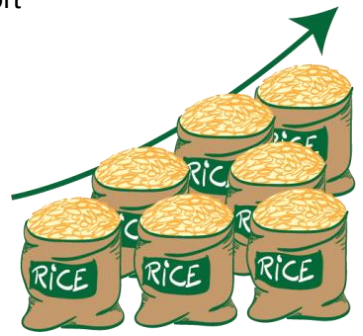
By adopting the RiceAdvice and improved seed, I increased my rice yield from 4.3 t/ha to 6.7 t/ha (56% increase) on the same farm.

Benefits of using RiceAdvice

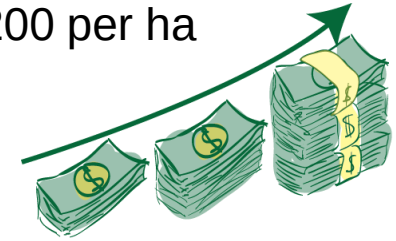
Technologies for African Agricultural Transformation

Farmers using RiceAdvice report

- Yield gains of
  0.6 up to 1.8 t/ha



- Income gains of
  US$100 up to $200 per ha



It also improves farmers' knowledge
of good agricultural practices
(GAPs)

Post-Harvest and Market Access

ASI Thresher being Demonstrated at the IP in Nasarawa State, Nigeria

ASI Thresher is smaller size, pre-cleans paddy, affordable small-scale farmers; easy to move from field to field; gender friendly

- ❑ Mechanically separates rice grains from panicle without damaging the grains.
- ❑ Adapted to the conditions of manual harvesting.
- ❑ Reduces post-harvest losses (estimated at 35% when manual)
- ❑ High threshing capacity (2.5 ton/h), Low operating costs, reduces drudgery

- ➢ Women using the GEM parboiling technology do not suffer from heat burns and smoke related sicknesses exposure
- ➢ Provides hygienic conditions, reduces drudgery and eliminates the use of firewood (environmental-friendly)
- ➢ Parboiled milled rice has high contents of B-Vitamins, minerals, slower digestive and lower glycemic properties and has a premium price, compared to white milled rice.
- ➢ In the IP in Nigeria, over 65 million Naira (US$181,800) was generated in 2019 by women group, from quality parboiled rice.

Parboiling Rice by RINA SARL Enterprise in Cote d'Ivoire – conditioning paddy for milling

Technologies for African Agricultural Transformation

Market Access

Consumer Preference, Quality Standards & Packaging

Rice processed by Women Group (enterprise) on the Glazoue IP in Benin ready for market

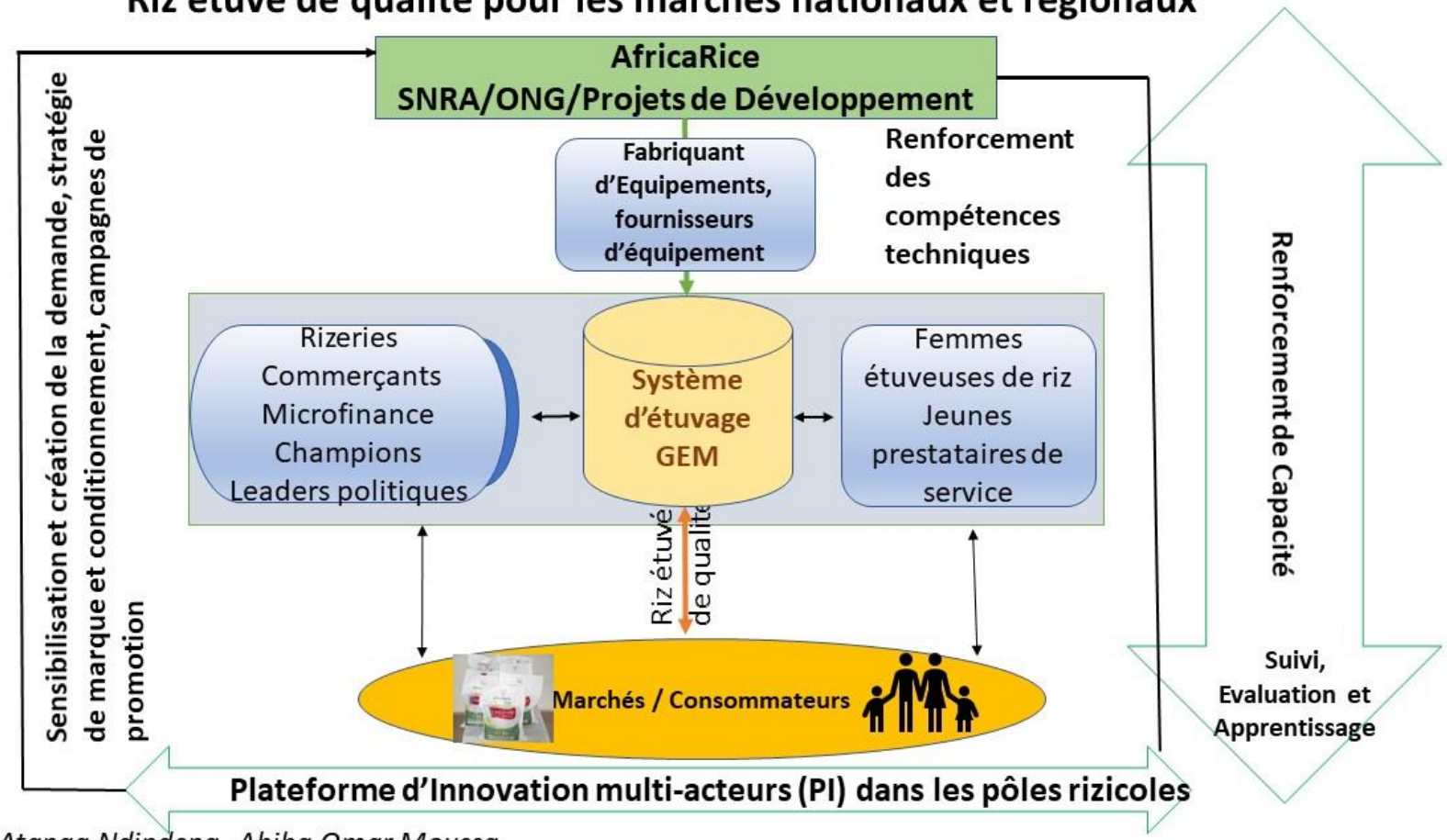
Bukan Sidi Lafia IP n Nasarawa State in Nigeria transformed to an enterprise

AfricaRice

Technologies for African Agricultural Transformation

Business Model - Processing and Marketing

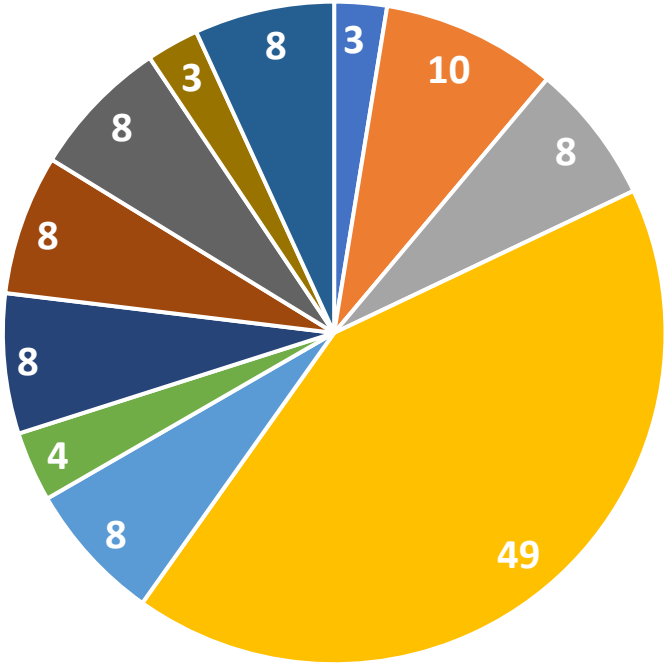
Cadre pour la création d'entreprise avec la technologie d'étuvage du riz GEM:
Riz étuvé de qualité pour les marchés nationaux et régionaux



Sidi Sanyang, Sali Atanga Ndindeng, Abiba Omar Moussa

Partneship for Technology Deployment

Technologies for African Agricultural Transformation



117 Partners

- Policy Makers (MoA)
- Research/ Universities
- Extension
- Seed Enterprises
- Women Processing - Marketing
- Millers and Aggregators
- Equipment Fabricators
- Farmer Organizations
- Donor Projects/NGOs
- Micro-finance
- Media

Conclusions and the Way Forward

The approaches adopted to deploy the Rice Compact technologies has shown strong pointers towards the Development Objective: In going forward

- ❑ *Strengthen the seed systems of the target rice producing countries and build the capacity of the private seed enterprises in seed production practices and agri-business management*
- ❑ *Up-scale the deployment of more Climate-Smart varieties and hybrids*
- ❑ *Strengthen the rice value chain in support of the emerging women and youth enterprises*
- ❑ *Empower women processors and youth to produce and supply quality rice*
- ❑ *Sustain and strengthen the existing Innovation Platforms and establish additional ones to up-scale proven technologies and innovations*

Technologies for African Agricultural Transformation

Thank You

Contact

www.africarice.org
E.Asiedu@cgiar.org
WhatsApp: +233 55 066 3653
Tel: +255 05 95 417 413