

# Update of AfricaRice's contributions to the CARD objective

## Africa Rice Center (AfricaRice)



8th Coalition for African Rice Development (CARD) General Meeting,  
6-7 October 2021

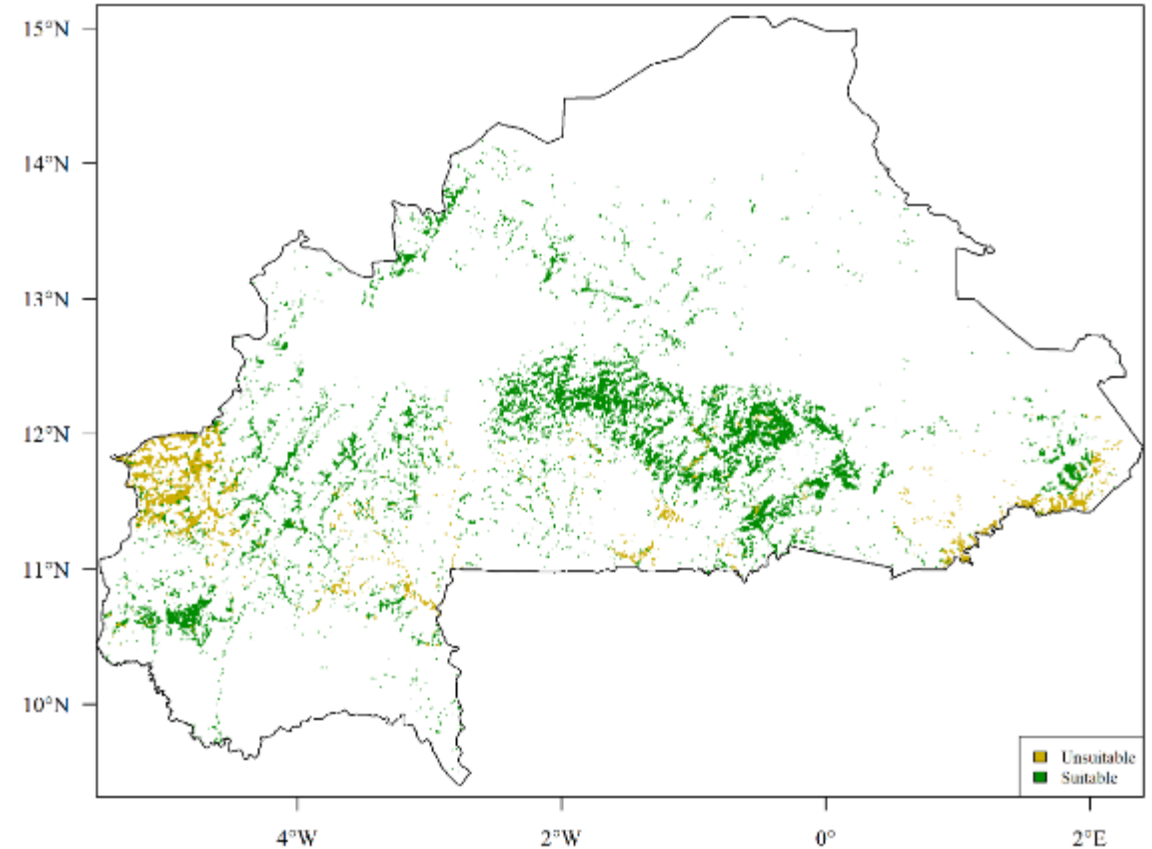


# AfricaRice's recent achievements in accordance with the RICE Approach (Highlights)

- Resilience:
  - Water-saving technology
  - Upgraded flood-tolerant variety
  - RiceAdvice
  - Smart-valleys
- Industrialization:
  - Small-scale equipment developed with private sector:  
Involvement of private sector (adapted motorized weeder)
- Competitiveness:
  - Deployment of improved seed
  - Development / introduction of post-harvest technologies
- Empowerment:
  - Rice-fish/vegetable integrated systems to improve incomes and nutrition
  - Intensification with labor-saving technologies (ratoon cropping by perennial rice) to increase incomes
  - (Pre-)breeding to improve human health
  - RiceAdvice
- Cross cutting:
  - Capacity building for technology introduction
  - Public-private partnerships
  - Situation analysis for prioritization and demand-driven technology development

## Expanding irrigated rice cultivation with water-saving technology

- Irrigated systems most promising in terms of productivity and management of floods and droughts
- Need to expand irrigated rice area under water-saving techniques.
- Alternate Wetting and Drying (AWD) water-saving method with 30% less water, while maintaining grain yield.
- AfricaRice developed, and validated approach for identifying suitable irrigated schemes for AWD.



Map of schemes suitable for AWD scaling using Burkina Faso as a case study

# Flood tolerant versions of local variety FOFIFA 160 developed in Madagascar

No.	Designation	Flowering date	Plant height(cm)	Grain yield (Kg/ha)	Flood tolerance score (SES)
1	ART1418-8-10-1-1-b	142	92	4868.0	1
2	ART1418-8-10-1-4-b	143	87.9	4406.1	3
3	ART1418-8-10-1-5-b	141	91.7	3441.8	3
4	ART1418-8-10-6-3-b	142	90.4	3830.9	3
5	ART1418-8-10-6-5-b	140	92	4340.4	1
6	<b>FOFIFA160 (check)</b>	<b>144</b>	<b>96.3</b>	<b>2009.4</b>	<b>7</b>

- Seasonal cyclones are persistent threats to rice farmers due to flooding of paddy fields
- Sub 1 gene conferring flood tolerance transferred into popular local variety FOFIFA 160
- Five lines developed from the process were affected by flash floods and submerged for seven days but showed resilience and gave good yields under stress

# Smart-valleys



- Smart-valleys: simple approach to enhance farmers' resilience to drought and flooding through improved land and water management
- Adopted in 6 countries: Benin, Burkina Faso, Liberia, Nigeria, Sierra Leone and Togo.
- From 2014 to 2020, number of Smart-valleys sites increased from 139 to 241, total area covered from 474 ha to 1615 ha, number of beneficiaries from 1,486 to 14,027 farmers. More than 60% of the adopters are women.

# Adapted Motorized Weeder

A small-scale mechanization option for weeding

**Target:** irrigated and rainfed lowland where line sowing/transplanting is practiced, and large weed-inflicted yield loss occurs.

## Impact

Labor requirement for weeding reduced by 80% without yield reduction in Tanzania

## Scaling approach

- Demand based production and selling by private manufacturers.
- Service provision by youth

## Being introduced in

- Tanzania, Kenya, Uganda and Madagascar

## How to apply this innovation?

**Phase 1: Development and testing**  
Import, development and testing on the two-row motorized weeder on-farm



**Phase 2: Adaptation and validation with farmers in many locations**



**Phase 3: Demand-based production and selling by private sector; service provision by youth**



# Seed production in bilateral projects

Competitiveness

- CORIS project for Burkina Faso, Benin, Cote d'Ivoire, Nigeria
- USAID Seed Scaling for Senegal
- TAAT Seed Project: Sierra Leone, Guinea Bissau, Liberia, Burkina Faso, Central Africa Republic, Senegal...
- Rice Value Chain Project-Niger
- Rice Value Chain Project-Gambia

## Consortium of Rice Seed Enterprises and Millers (COSEM-Riz)

To catalyze Public-Private-Partnership (PPP) model in production and deployment of quality rice seed and toolkits for the benefit of smallholders and commercial farms.

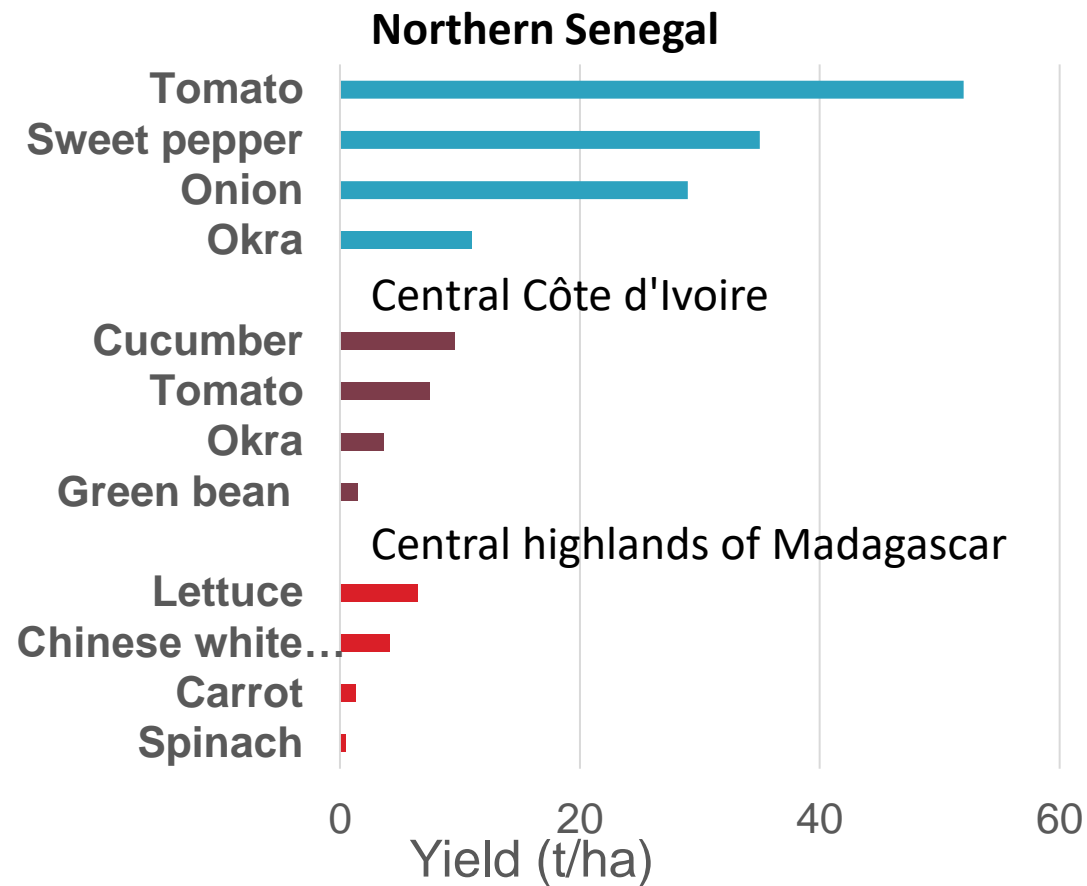


Women seed producer association's certified seed stock for the newly released varieties at Bas Mangoky irrigation scheme, Madagascar

# Sustainable diversification options in rainfed lowlands

**Empowerment**

- Promising crops/vegetables identified through participatory evaluation in three countries.



Rice yield equivalent of most promising off-season crops



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# RiceAdvice App

Empowerment



- Provides customized guidelines for optimal fertilizer management
- Adapted for use in Benin, Burkina Faso, Ethiopia, Ghana, Guinea, Madagascar, Mali, Mauritania, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Tanzania.

**By the end of 2020  
over 100,000  
recommendations  
from RiceAdvice had  
been generated for use  
by farmers.**



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# 2021-2025 Research-for-Development Strategy for Africa

Theory of change: 7 intervention areas to address pervasive challenges

Developing an integrated Rice Breeding Platform

Facilitating PPPs to build resilient seed systems

Diversifying rice-based agri-food system

Fostering inclusive landscape management to increase resilience

Professionalizing rice-based agri-food systems

Building capacities in youth and women entrepreneurship

Develop best-fit investment plans, policy measures & institutional innovations

AfricaRice is leading the development of this strategy.

3 broad-based outcomes

1. Breeding Platform fully integrated, PPPs ensuring uptake of quality seed
2. Resilient, inclusive rice-based systems transformed, able to:
  - Substitute imports
  - Improve climate adaption
  - Provide balanced & safer diets
3. Transformative policy environment ensuring
  - Adoption of rice-based innovations at scale
  - Thriving entrepreneurship
  - Increased investment
  - Employment for youth & women

# Thank you



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