Competitive African Rice Initiative (CARI)
Empowering small-scale rice farmers in Sub-Saharan Africa
Rice is one of the most important staple foods in Africa. In recent years, demand for rice has been growing faster than anywhere else in the world and far outstripping the sub-region’s population growth. This trend is predicted to continue for the next years due to population increase, urbanization and changes in consumption patterns.

In West Africa, local production covers only 60% of current demand and yield growth does not match population growth; in some cases the supply gap even increases. Average yields in Sub-Saharan Africa are the lowest in the world. There is insufficient knowledge of modern farming techniques, limited access to high-quality seeds, poor soil fertility and inadequate crop protection practices. In addition, 90% of all locally cultivated rice is produced on small fields with an acreage of less than one hectare. The competitiveness of this locally produced rice is often low due to poor production, processing and marketing infrastructure and weak market organization; necessary infrastructure for efficient storage, transport and processing is also often inappropriate. Given that production costs are relatively high and prices for the lesser quality products are low, smallholder farmers have been left with low-income margins while consumer preferences are biased towards imported rice varieties. As a result, most of the rural population in rice producing areas remain poor or live below the poverty line, while Africa imports more rice than any other region globally.

African governments have realized the importance of the rice subsector to safeguard food security, to save foreign currency and to foster rural economic growth and value addition within the country. Several governments are promoting import substitution policies for rice and have earmarked rice for rapid expansion and modernization in their national strategies for food security, self-sufficiency and rural development. The program Competitive African Rice Initiative (CARI) was commissioned to significantly improve the livelihoods of smallholder rice farmers by increasing the competitiveness of domestic rice supply and to meet increasing regional demand. CARI’s technical and financial assistance is based on a value chain approach. The principal aim is to improve coordination, to create better linkages among rice value chain actors, and as a result, increase the expected economic returns for all stakeholders. By doing so, the program strongly contributes to the Sustainable Development Goals.

To document the results and impacts of the program and to share best practices is the purpose and intention of this booklet.

The CARI team would like to thank all of their partners and colleagues for the tremendous contributions made, the support provided and encouragement given to make the first phase of CARI successful. We are looking forward to maintain linkages and to create new partnerships with the objective to be able to share and scale the positive experience.
Overview Value Chain Programs

Success Factors

Scalability
Regional outreach and adaptability resulting in “economies of scale”

Learning
Institutionalized exchange among the projects plus adoption of best practices between projects and countries

Governance
Board structure involving African and International private and public partners = institutionalization of the idea of public private partnerships (PPP)

Impact
Joint M&E to report aggregated achievements

Impacts at a glance

2 mio. newly trained farmers
450,000 (~23%) trained women
>200 mio. € from private partners
>30 mio. € from national public partners
>56 mio. € official development assistance (oda)
>30 mio. € private and public partners
up to 287% income increase
>150 private and public partners
approximately 760,000 job opportunities created
status 03.2018

Proven Approaches for Upscaling

Farmer Business School (FBS)
Agripreneurship for farmers

Matching Fund
An integrated development partnership model

Master Training Program
Creating a pool of experts for sector development

Good Agricultural Practices (GAP)
Demand orientation
**Competitive African Rice Initiative**

**Commissioned by**

Federal Ministry for Economic Cooperation and Development

**Co-funded by**

Bill & Melinda Gates Foundation

Walmart Foundation

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**Project Countries**

- Ghana
- Burkina Faso
- Nigeria
- Tanzania

**Project Duration**

November 2013 – June 2018

**Project Budget:**

€ 21.04 Million

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**Objectives**

1. **Improved Productivity**
   - Improved productivity and quality of paddy rice based on sustainable and competitive rice production systems

2. **Established Value Chain Linkages**
   - Increased efficiency of local rice sourcing, processing and marketing through structured value chain linkages, improved technology and process management

3. **Improved Access to Financial Services**
   - Improved access to financial services for all value chain actors

4. **Improved Policy Framework for the Rice Sector**
   - Improved enabling environment at national and regional level including policy framework and strengthening of rice sector initiatives
Matching Fund Mechanism

1. Concept Development
2. Technical Proposal
3. Implementation
4. Results: Viable long-term relationships for a sustainable rice value chain
5. Matching Fund

**INPUTS**
- Linkages to quality seeds / Inputs sources

**PRODUCTION**
- GAP & FBS
- Organisation of cooperatives
- Linkages to off-takers, e.g. millers & aggregators

**PROCESSING**
- Development of linked farmers into viable out-grower schemes for steady sourcing of quality paddy
- Business plan development support

**MARKETING & TRADE**
- Improve marketing of locally produced rice

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**Investments into the Rice Value Chain**

"The Matching Fund Mechanism is the best way of implementing projects between donors and grantees. The grantees invest money, which at the end of the day they would like to see it unlocks profits. With an assistance of matching funds from the donor, business between off-takers and smallholder producers grows quickly."

<table>
<thead>
<tr>
<th>Contributions in million €</th>
<th>CARI</th>
<th>MF partners</th>
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<tbody>
<tr>
<td>5.2 mio €</td>
<td></td>
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<tr>
<td>8.1 mio €</td>
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**Number of Matching Fund Projects**

36
Achievements

Beneficiaries have increased their income and improved their food security (including indirect beneficiaries)

Yield increase overall

Rainfed: up to 185%

Irrigated: up to 136%

Total additional paddy traded through structured markets

484,000 Mt/ha

178,663
Smallholder farmers have received trainings in good agricultural practices (GAP)

137,281
Smallholder farmers have received trainings in Farmer Business School (FBS)

30% Dry Season

70% Wet Season
Land preparation
Farmers prepare their plots before starting rice cultivation, as it holds the benefits of controlling weeds, recycling plant nutrients, and transplanting seedlings in soft soils.

Transplanting
Farmers use transplanting instead of broadcasting including planting in rows.

Improved Inputs
Farmers use improved and more adequate quantities of inputs.

Water management
Introduction to dry season farming: Farmers can farm 2 seasons per year (especially in Nigeria).

GAP adoption studies and farmer reports have shown that major improvements can be observed in the following practices:

23,282 full-time job equivalents created
6,876 full-time job equivalents in irrigated production systems
16,406 full-time job equivalents in rainfed production systems

143,903 Farmers engaged in 4 countries

Countries: [Flag of Burkina Faso] [Flag of Ghana] [Flag of Nigeria] [Flag of Tanzania]
Beneficiaries have increased their income and improved their food security (including indirect beneficiaries).

Smallholder farmers have received trainings in good agricultural practices (GAP) and in Farmer Business School (FBS).

Income increase (in %)
- Irrigated: 351%
- Rainfed: 334%

Yield increase per ha
- Baseline/Endline:
  - 0: 2
  - 1: 4.2
  - 2: 5.7
  - 3: 110%
  - 4: 90%

4,900 Farmers engaged in value chain through contracts with off-takers.

3,476 Smallholder farmers have received trainings in Farmer Business School (FBS).

1,560 Full-time job equivalents created.

Names of MF Partners:
- Faso Malo
- RWB
- UNERIZ
- Wend Konta

Number of MF Projects: 4
Ghana

110,650
Beneficiaries have increased their income and improved their food security (including indirect beneficiaries)

Smallholder farmers have received trainings in good agricultural practices (GAP)
26,346

Smallholder farmers have received trainings in Farmer Business School (FBS)
27,552

Income increase (in %)

Rainfed:
246%

Yield increase per ha

Baseline/Endline

Full-time job equivalents created
3,641

Number of MF Projects
10

Names of MF Partners:
Christian Aid | CRAN | Farmer Lane | Fysso | Okata Farms and Food Processing | SATCO | Savban | Tamanaa | Wienco | Worawora

18,894 Farmers engaged in value chain through contracts with off-takers
**Nigeria**

417,140
Beneficiaries have increased their income and improved their food security (including indirect beneficiaries)

Smallholder farmers have received trainings in good agricultural practices (GAP)
99,320

Smallholder farmers have received trainings in Farmer Business School (FBS)
74,100

90,000
Farmers engaged in value chain through contracts with off-takers

259%
Income increase (in %)

571%
Irrigated: Rainfed:

136%
Baseline/Endline

15,194
Full-time job equivalents created

Names of MF Partners:
Ajifa | Atafi | Babban Gona | Danmodi | eHealth | GSARDI | Labana | KARDA | Klysat | Mascoc | OLAM | Onyx | NSRIC | NAMDA | PFML | WACOT | WOFAN

Number of MF Projects
14
Names of MF Partners:
- Biosustain
- G2L
- Kilombero Plantation
- Kimolo
- Super Rice
- Mamboleo Farm
- Musoma Food Company
- Raphael Group
- ZANRICE

Smallholder farmers have received trainings in good agricultural practices (GAP)
39,700

Smallholder farmers have received trainings in Farmer Business School (FBS)
32,138

Beneficiaries have increased their income and improved their food security (including indirect beneficiaries)
166,735

Income increase (in US$)
- Baseline/Endline
- Semi-Irrigated: from $113 to $368
- Rainfed: from -$31 to $429

Yield increase per ha
- Baseline/Endline
- 140%

Full-time job equivalents created
2,887

Farmers engaged in value chain through contracts with off-takers
30,043
Access to Finance

16 mio US $
Pre-financed inputs

93,300 Farmers have access to pre-financed inputs

12 mio US $
Capital investment

Findings of stocktaking missions in Nigeria, Burkina Faso and Ghana

- The complex nature of agricultural finance: bringing two sectors together – the world of banking and the world of agriculture.

- Bankers and farmers speak different languages: this creates misunderstanding and preconceptions maintain.

- Understanding the needs of bankers and farmers and create a real partnership.

- High interest rates and over-collateralization are facts: Risk-mitigation and confidence-building measures can lead to a gradual improvement.

- Capacity building: make farmers bankable and bankers agriable.

- Agricultural finance, micro finance and value chain finance: A cross-mix of financial service providers as partners for CARI is key.

- Collaboration with banks: Identify financial service providers who have an appetite to engage with the agricultural sector.

- Develop tailor-made products to finance agricultural activities.

- Blended finance in the rice sector: How to combine public and private funds in an efficient and sustainable way.

- Develop suitable business and financing models to foster agricultural mechanization.

- Transparency of government programs and agri-funds: Support rice farmers and processors to get access.
Established dialogue platforms for policy advocacy

Different actors of the rice value chain meet, discuss and agree on advocacy strategies and actions and carry out advocacy activities.

Registered bodies
Members are:
• representatives of associations of farmers
• associations of input dealers
• associations of service providers
• associations of millers and others.

State level
National level
Regional level

Nigeria
Rice Policy Advocacy Platform of Nigeria

17 platforms from 6 geopolitical zones

>12,000,000 members

Tanzania
Rice Council of Tanzania (RCT)

4 area platforms

Burkina Faso
Comite Interprofessionnel du Riz du Burkina (CIRB)

Ghana
Ghana Rice Interprofessional Body (GRIB)

Africa Rice Advocacy Platform (ARAP)

11 countries are represented:
Benin
Burkina Faso
Côte d’Ivoire
Ghana, Mali
Niger
Nigeria
South Sudan
Tanzania
Togo
Uganda

4
area platforms

>12,000,000 members

17 platforms from 6 geopolitical zones

Registered bodies
Members are:
• representatives of associations of farmers
• associations of input dealers
• associations of service providers
• associations of millers and others.
Policy Priorities

Thematic issues highlighted in position papers on policy rice priorities and recommendations reflected in policy strategies.

**Nigeria – 2016-2020 National Agriculture Policy Road Map**
- Finance
- Extension Services
- Climate Change
- Post-harvest losses
- Pesticides

**Additional Support:**
- Advocacy for the Anchor Borrower Program

**Burkina Faso – National Rice Development Strategy**
- Access to Finance
- Mechanization
- Rice Quality and Markets

**Additional Support:**
- Advocacy for the procurement of local rice in government institutions
- Support for the Review of the National Rice Development Strategy

**Ghana – National Rice Development Strategy**
- Finance
- Standards
- ICT
- Mechanization
- Pesticides

**Additional Support:**
- Advocacy for the development of Paddy Grain Standards and Milled Rice Standards
- Support for the Review of the National Rice Development Strategy

**Tanzania – Policy Support**
- Non-tariff barriers
- Export ban
- Pesticides

**Additional Support:**
- Advocacy for lifting of ban of Tanzania Rice to Rwanda
- Advocacy for ban on importation of Rice

17 Policy briefs developed and published
Gender

Women trained in nutrition: 42,000
Women trained in improved parboiling techniques: 30,000

Share of women in GAP and FBS trainings: 30%

Countries where projects were implemented:

“Now, I am a businesswoman. I used to make 250 Naira per week, parboiling for other millers. But now, I make an average of 1,500 Naira per week from my own parboiling business.”

Female Farmer, Nigeria

Names of MF Partners:
Christian Aid | CRAN | eHealth | WOFAN

Number of MF projects in collaboration with Walmart Foundation: 4
**Mobile APP**

*RiceAdvice*

Advice on field-specific rice management practices: recommendations on fertiliser management, general good agricultural practices and provision of a specific cropping calendar.

- **>20,000 Farmers reached**
- **92 Service Providers trained**
- **66% Yield increase**
- **40% Income increase**
- **>75 Service Providers trained**
- **98,958 Messages sent**
- **11 Languages offered**
- **686 Farmers reached**

**Voice Messaging**

*Farmerline* (implemented only in Ghana)

Support to African rice farmers to find the most effective and cost-efficient weed management strategies, considering specific farming conditions and available resources.

- **98,958 Messages sent**
  - Covering GAP, FBS, weather forecast, nutrition and post-harvest tips
- **686 Farmers reached**
- **Languages offered**
- **more than 60% youth**
All the impact achieved by CARI would not have been possible without our lead matching fund partners, and the consortia partners in various contexts. It is therefore our pleasure to express our sincere gratitude to all people that have dedicated time and resources to the achievements and the results over the past four years.

### Burkina Faso
- Rizerie Faso Malo
- Union Nationale des Etuveuses de Riz du Burkina (UNERIZ)
- Rizerie WendYam de Bobo (RWB)
- Wend Konta

### Ghana
- Christian Aid
- Christian Rural Aid Network (CRAN)
- Farmer Lane
- Fyss
- Okata Farms and Food Processing
- Savannah Agricultural & Trading Ltd (SATCO)
- SAVBAN Processing and Marketing Company Ltd
- Tamanaa
- Wienco
- Worawora

### Nigeria
- Ajifa
- Atafi
- Babban Gona
- Danmodi Rice Mill
- eHealth
- Green Sahel Agricultural and Rural Development Initiative (GSARDI)
- Kebbi Agricultural and Rural Development Authority (KARDA)
- Klysat Food and Beverages Ltd.
- Labana Rice Mills Ltd
- Masco Agro Allied Industries
- OLAM
- Onyx Rice Mill
- Niger State Rice Investment Consortium (NSRIC)
- Niger State Agricultural Mechanization Development Authority (NAMDA)
- Popular Farms and Mills Ltd (PFML)
- WACOT Rice Limited
- Women Farmers Advancement Network (WOFAN)

### Tanzania
- Biosustain
- G2L Company Ltd
- Kilombero Plantation
- Kimolo Super Rice
- Mamboleo Farm
- Musoma Food Company
- Raphael Group Ltd
- Zanzibar Ministry of Agriculture and Natural Resources
Knowledge management and cooperation

Objective:
The exchange of experiences related to productivity, business models, use of production inputs, financial services and policy-making to foster the rice value chain has increased.

• Develop and expand Multi Actor Partnerships (MAP) and provide support for further indirect implementation of MF
• Organise semi-annual learning events and involve all stakeholders (regional partners, national forums)
• Use virtual exchange platforms more to exchange information
• Ongoing adaptation of the M&E systems and ensure the vision of success.

Inclusive business models and productivity

Objective:
The viability of the business relationships has been sustainably improved

• Foster inclusive business models as part of out-grower schemes and contract farming
• Encourage symmetrical power relationships in the business models (business support for producer associations)
• Advise participating companies following a business and technical assessment
• Improve quality of rice processing (at smallholders and in rice mills)
• Develop marketing strategies
• Hold nutrition training sessions
• Promote ICT applications.

Financial services

Objective:
Access to financing opportunities has improved for main stakeholders in the rice value chain.

• Advise financial institutions on how to access the agricultural sector and on adaptation of products
• Strengthen the integrability of the stakeholders in the rice value chain (credit worthiness) and involve them in government financing programmes
• Develop innovative financing options for agriculture-based services in rural areas
• Identify the need for financing as part of the business models and fund advisory services for business development.

Policy advice

Objective:
Private sector interests are reflected in all project countries’ national rice policies.

• Advice national and regional rice platforms / forums on organisation
• Support regional policy-making with respect to standards and trade
• Shape regional dialogue between platforms and stakeholders in the public and private sector.