

**Improved management practices**

- Collaborative research by AfricaRice, CIRAD and FOFIFA has confirmed that growing a legume cover crop, such as *Stylosanthes guianensis* following a zero-tillage approach, is an efficient strategy to control the deadly parasitic weed *Striga asiatica* in upland rice. This strategy is being widely promoted through a farmer-learning video, available in local languages.
- Madagascar has also greatly benefited from an innovative farmer learning tool developed by AfricaRice – known as Participatory Learning and Action Research for Integrated Crop Management (PLAR-ICM) – which has helped double average rice yields in farmers' fields in northern Madagascar.
- The RiceAdvice app developed by AfricaRice and its partners is being field tested in Madagascar.
- Malagasy participants benefitted from a series of training workshops on integrated rice management (IRM) to help bridge gaps that currently exist between actual farmers' yields and attainable yields through better crop management.

**Postharvest technologies**

- Partnership activities also aimed at enhancing the quality and marketability of locally produced rice through improved postharvest technologies.

**Rice statistics**

- Accurate and reliable rice statistics database were established in Madagascar and FOFIFA staff were trained in nationally representative rice statistics survey methodologies.
- To improve the accuracy and timely release of rice statistics for Africa, AfricaRice has adopted a method combining 'dot sampling with Google Earth' and 'crop cutting', developed in Japan, and adapted it to African conditions. This method has been piloted in Madagascar

**Policy advice**

- Madagascar has participated in AfricaRice-FAO meeting on seed policy and stressed the need to formulate, adopt and implement coherent strategies and policies at regional and national levels for the rapid development of viable seed enterprises, which would help increase the steady supply of quality seed.
- Madagascar has been actively participating in the training courses on rice policy conducted by the Africa Rice Policy Task Force.

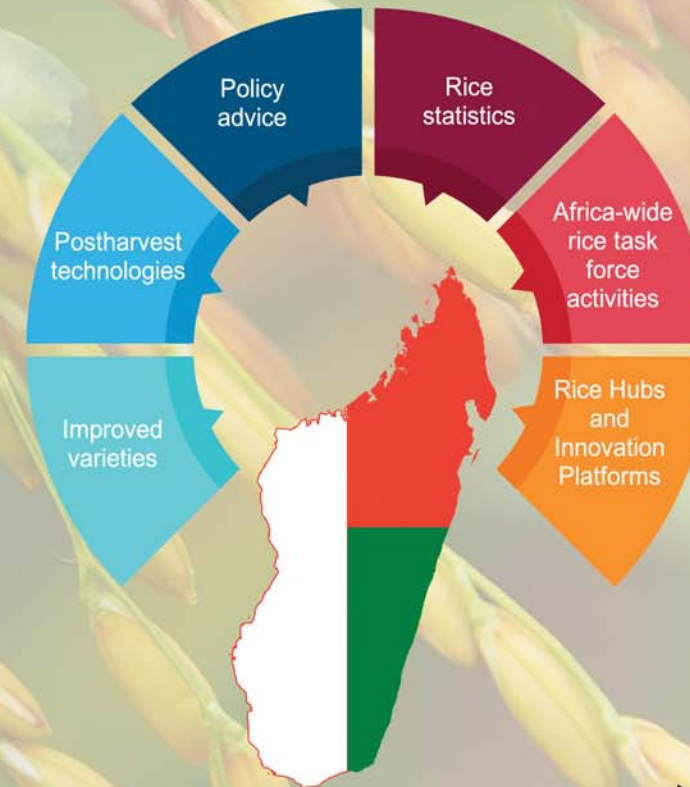
**Africa-wide rice task force activities**

- Madagascar has been an active member and benefited from the activities and funding of the six Africa-wide Rice Task Forces coordinated by AfricaRice – Breeding, Agronomy, Gender, Mechanization, Policy, and Processing & Value Addition.
- The Task Forces have provided a unique opportunity for Malagasy researchers to interact and partner with their counterparts from other AfricaRice member countries.
- Funds contributed to Madagascar through the Task Forces have complemented government allocations significantly and ensured the continuation of research and the training of scientists and value chain actors.

**Rice Hubs and Innovation Platforms**

- Two rice sector development hubs were identified by FOFIFA - Ambohibary (Rainfed lowland + Irrigated lowland) and Ankazomiriotra (Upland)
- The rice hubs serve as field laboratories where research outputs and products are being tested, adapted and integrated – with feedback provided to researchers on technology performance.

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## Madagascar - AfricaRice Partnership

June 2017

- ▶ Madagascar joined AfricaRice (ex-WARDA) in 2010.
- ▶ The national research center for agricultural development (FOFIFA) is one of the most important national partners of AfricaRice.
- ▶ As a member country, Madagascar takes part in statutory meetings of the AfricaRice Council of Ministers, which is the Center's highest governing body.
- ▶ Madagascar is also a member of the AfricaRice National Experts Committee.

“Rice is global and it is big business. Rice is life in Africa.”  
 -- Dr Harold Roy-Macauley,  
 AfricaRice Director General



### Contributions by AfricaRice to Madagascar

- ▶ Between 2009 and 2016, Madagascar has benefited from 10 donor-funded projects, coordinated by AfricaRice.
- ▶ AfricaRice, in partnership with FOFIFA, has contributed to boosting Madagascar's rice sector in terms of policy and technical advice, improved seed, cropping practices and processing technologies, capacity development and support to rice value chain development.

### Capacity strengthening

- ▶ Between 2009 and 2016, 4 PhD and 5 MSc scholars from Madagascar were trained. About 97 Malagasies participated in group training workshops on marker-assisted selection techniques, experimental design, data collection and analysis, quality seed production, integrated rice management, and impact assessment.

### IMPORTANCE OF RICE IN MADAGASCAR

Madagascar is one of the largest rice-growing economies in Africa. It is the second biggest rice-producing country in sub-Saharan Africa after Nigeria. Rice is the preferred staple of the Malagasy people and an integral part of Malagasy culture.

The Malagasies rank among the biggest consumers of rice worldwide with about 138 kg per year per person. Rice provides over 50% of calories consumed in the country and rice production involves about 85% of rural households. The rice self-sufficiency ratio was about 95.8% in 2009. However, the country is importing about 200,000 t of rice every year to meet its growing demand.

Madagascar has a long tradition of rice cultivation and great ecological diversity. Extensive terraced paddies fill the inland valleys of Madagascar. The main rice growing ecologies are irrigated lowland, upland, and rainfed lowlands.

The irrigated system is the most important, both in terms of cultivated rice area (53%) and total paddy production (56%). Potential yields of irrigated lowland rice in Madagascar are estimated at about 11.4–14.9 t/ha, while on-farm yields range from 2.6 t/ha to 9.9 t/ha.

Due to the key role played by rice in the country's food security strategy, the government has developed its own National Rice Sector Development Strategy (NRDS), which has six priorities: (i) Develop the seed sector (ii) Develop a fertilizer market with the private sector (iii) Further develop irrigation schemes for rice (iv) Boost agricultural mechanization (v) Develop rural credit schemes (vi) Enhance linkages between research and extension and ensure wide-scale diffusion of agricultural technologies and knowledge.

FOFIFA has been collaborating with AfricaRice to develop improved rice technologies to increase rice productivity. Given the importance of rice in Madagascar and in response to the government's request, AfricaRice has established a country office to give more prominence to rice R4D.

Rice Statistics for Selected Indicators					
Source: USDA					
Indicator	2015	2016	2017	Average 2001-2016	Annual growth rate, 2001-2016 (%)
Paddy production (t)	3,978,000	3,722,000	3,816,000	3,587,500	3.64
Area (ha)	1,500,000	1,450,000	1,475,000	1,348,938	1.70
Yield (t/ha)	2.65	2.57	2.59	2.64	1.91
Consumption (t)	2,746,000	2,562,000	2,642,000	2,507,438	3.30
Import (t)	200,000	180,000	200,000	211,500	-0.35

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### Madagascar-AfricaRice Partnership: Achievements and Impacts

#### Improved varieties and seed system

- As part of the partnership, AfricaRice is initially concentrating on the medium- and high-elevation areas, particularly the Amoubary-Ivory hub, which covers both 'lowland' and upland rice. A particular focus is on red forms of *Oryza glaberrima* with an aim to evaluate all red-rice landraces available in the genebank and the hubs.
- The collaboration also includes participatory varietal selection (PVS) activities in the hubs, especially with red-rice farmers. AfricaRice is providing backstopping and training to FOFIFA rice breeders.
- Two high-elevation cold-tolerant rice varieties developed by AfricaRice and its partners were released in Madagascar in 2015.
- Five potential flood-tolerant varieties developed by AfricaRice and its partners are under testing in Madagascar in collaboration with FOFIFA.
- Between 2013 and 2014, an estimated 40,800 t of NERICA rice paddy was produced on 14,300 ha.