

RESPONDING TO CONSUMERS' PREFERENCE IN AFRICAN RICE MARKETS: EXPERIENCES OF AFRICA RICE CENTER

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ABSTRACTS

1. Background

The AfricaRice Center (AfricaRice) is a pan-African intergovernmental research association of 25 member countries. It is also one of the 15 international Centers that are members of the CGIAR Consortium. Through research for development with partnership, AfricaRice attempts to increase the quantity and quality of rice grown on the continent to meet the needs of African consumers through reduction of yield gaps and post-harvest losses, and ensuring better quality end-products. These actions should improve access to markets, incomes of value chain actors, and ensure food and nutrition security. To reach its objective, the Center has adopted strategies for upgrading participatory rice value chains, starting from end-markets to farmers and including processors using the multi-stakeholder innovation platforms (IPs) of the rice sector development hubs. This study focuses mainly on end-markets analysis to gather information on what the market requires in terms of rice produced locally on the continent. In a recent baseline study conducted by AfricaRice on markets and consumers' preference, imported brands remain dominant in most African markets. Consequently, preference for imported rice appears to be common across Africa, especially in urban centers (for instance, Demont et al., 2012; Naseem et al., 2013; and Fiamohe et al., 2014). Therefore, matching the quality of imported rice can be an excellent target for the improvement of locally produced rice (Futakuchi et al., 2013).

2. AfricaRice's response to consumers' demand for rice in Africa

AfricaRice, through its policy task force (TF), has developed market analysis tools which are being used across African countries to analyse and gather information on rice demand. These tools comprise:

- Market surveys to understand consumers' buying decision process and Identify the popular types of rice sold in the markets. These surveys provided an overview of the types of local and imported rice, their attributes and socio-economic information guiding consumers' purchasing decision;
- Evaluation of the quality of rice sold in markets by consumers in major African urban areas using the experimental auctions (EA) approach. EA is a mechanism for evaluating products and price discovery with the elucidation of willingness to pay by consumers for the most preferred products.

Based on the information gathered so far, the following strategies are being used to upgrade the quality of milled and parboiled rice:

- Development of women-friendly parboiling technologies and management options to increase post-harvest yields. This has been done through the Africa-wide Processing and Value-Addition TF working in close collaboration with the Gender and Mechanization TFs. These technologies have been shown to produce parboiled rice whose quality is similar to that of premium imported rice;
- Support with branding and packaging to the direct actors in IPs to improve the attractiveness and image of rice produced locally using novel processing facilities;
- Promotion of rice products in Africa through trade fairs, conference and development exhibition events for the visibility of products;

All available scalable technologies and innovations, including those mentioned in this paper are documented on the AfricaRice "Rice-ehub".

3. Relevant AfricaRice products

The research and development products currently being developed comprise:

- Maps of the most preferred rice (local and imported rice) by urban consumers in relation to their attributes (Figure 1);
- Rice parboiling plants installed in IPs to improve the quality of locally produced rice (Figure 2);
- Value chain actors' capacity strengthened for market-oriented production (Figure 3);
- Branding and packaging of quality rice produced using the novel processing units (Figure 4);
- Increase in the visibility of African rice through trade fairs, scientific conferences and exhibition events.

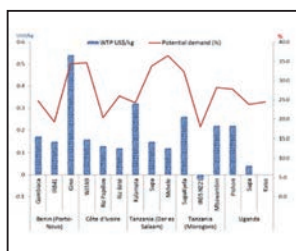


Figure 1: The most preferred rice and estimates of the potential for local rice in 5 African urban markets.



Figure 2: Internal view of parboiling shed with stoves, tanks, steaming baskets and rail-chain.



Figure 3: The value chain actors' capacity strengthened for market-oriented production.



Figure 4: Branding and packaging of quality rice.

4. Conclusions and way forward

Rice varieties grown locally in many African countries have good organoleptic and nutritional attributes that meet urban consumers' preference if properly processed and branded. The improved rice processing plants developed by AfricaRice is playing a significant role in the upgrading of the quality of locally produced rice (Ndindeng et al. 2015). In addition, investments in post-harvest technologies to address the physical appearance of rice in terms of sorting, grading, branding and attractive packaging will catalyze the sector and improve rice value chain actors' access to the large urban markets that are currently dominated by imported brands.

For the sustainability of AfricaRice's interventions in the rice sector development hubs, there is a strong need to strengthen the Center's existing partnerships with strategic partners in the rice value chain. Furthermore, there is the need for stakeholders to build new collaborative partnerships and networks in the area of post-harvest. This will improve the rice value chain, quality of locally produced rice, as well as impact in terms of an increase in local rice consumption in Africa and beyond.

To achieve all these, however, partners and resources for scaling-up are needed to further improve on the technologies and innovations, as well as out-scaling in a sustainable manner across the entire value chain. Establishment of marketing contracts between processors in the IPs and promoters of supermarkets, food shops, etc. will be required to increase the sale of locally produced rice in marketing chains. This should lead to the strategic re-positioning of locally produced rice in competitive urban markets in Africa and beyond.

KEYWORDS

Consumers' preference, women-friendly parboiling technologies, branding and packaging, local rice, Africa.

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Outline

- An overview of popular rice varieties grown in Africa
- Prevalence of imported and locally produced rice in rural and key urban markets
- Key challenges in locally produced rice marketing in Africa
- AfricaRice's response to consumers' demand for rice in Africa
- Relevant AfricaRice products
- Conclusions and way forward



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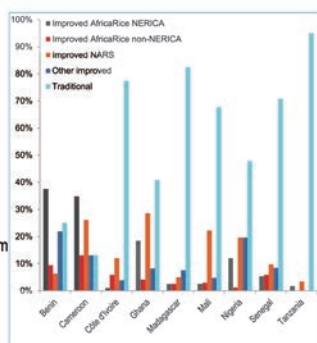
An overview of popular rice varieties grown in Africa

- Large number of rice varieties grown in hubs of 9 selected countries

- ✓ Traditional varieties dominate except in Benin and Cameroun,
- ✓ NERICA varieties dominate in Benin and Cameroun,

- Low adoption rate of improved varieties calls for an increasing effort on seed system development to assure:

- ✓ increase in rice production,
- ✓ and thus food security.



Source: AfricaRice baseline survey, 2013



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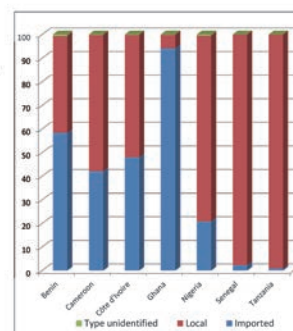
Prevalence of imported and local rice in rural and key urban markets

- Imported rice brands remain dominant in most African urban markets (Demont et al., 2013a,b; Naseem et al., 2013; Ruttaert et al., 2013 and Fiamohe et al., 2014, etc.)

- Imported rice brands are still prevailing in hubs and key urban markets near the hubs;

- ✓ They are very dominant in Benin & Ghana markets,
- ✓ About equal proportions of imported and local rice in Cameroun and Cote d'Ivoire markets,

- Senegal and Tanzania are increasingly dominated by locally produced rice in rural and key urban markets.



Source: AfricaRice baseline survey, 2013



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Key challenges in rice marketing in Africa

- Locally produced rice is not frequently found in markets in major African towns,
- When local rice is available it is generally sold in bulk and not branded to attract consumers,
- This means that African rice does not have 'an identity brand' that is easily recognizable and attractive to consumers,
- This is a huge drawback compared to imported rice.



Fig 1: Sale of locally produced in market

Fig 2: Sale of imported brands and bulk of locally produced rice in the same market

Source: Rice characterization survey by AfricaRice, 2013



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Response of AfricaRice to consumers' demand for rice in Africa

- 1) Development of tools to analyze consumers' buying decision and identification of popular types of rice sold in markets;
- 2) Evaluation of the quality of popular rice (both local and imported) by consumers in major African urban areas using experimental approach to elicit the willingness to pay by consumers for the most preferred products;
- 3) Strengthening of the capacity of value chain actors in the market-oriented production;
- 4) Development of women-friendly parboiling technologies and management options to increase post-harvest yields and grain quality to the standard of imported rice.



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AfricaRice response to consumers' demand for rice in Africa (Cont.)

- 5) Support to value chain actors at action sites (IPs) to improve the attractiveness and image of rice produced locally using novel processing facilities;
- 6) Promotion of rice products in Africa through trade fairs, conference and development exhibition events for the visibility of products;
- 7) Establishment of marketing contracts between processors at action sites (IPs) and supermarkets, food shops, rice importers, school canteens, etc.



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Relevant AfricaRice products (1/7)

Product 1: Marketing tools to evaluate the quality of rice by urban consumers to identify the most preferred rice (Demont et al., 2012; Fiamohe and Mujawamariya, 2014)



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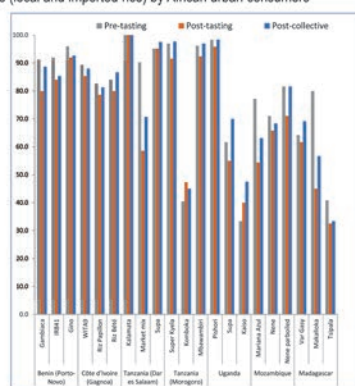
Relevant AfricaRice products (2/7)

Product 2: Insight on the most preferred rice (local and imported rice) by African urban consumers

- Locally produced rice is clearly more preferred than the benchmark and imported rice in pre-tasting and post-tasting rounds:

- ✓ WITA 9 for Cote d'Ivoire;
- ✓ Makalioka for Madagascar;
- ✓ Nene parboiled for Mozambique;
- ✓ Sipi (Faro44) for Nigeria;
- ✓ Kalamata & Supakyela for Tanzania;
- ✓ Pishori for Uganda

- Exception in Benin where imported brand was preferred.



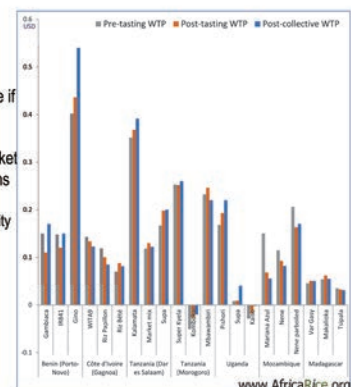
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Relevant AfricaRice products (2/7)

Product 2 (Cont.): Insight on the most preferred rice (local and imported rice) by African urban consumers

- Urban consumers were willing to pay high premium for locally produced rice if properly processed
- This 1st analysis reveals different market segments of urban consumers in terms of:
 - ✓ paying high price premiums for quality
 - ✓ price sensitive consumers (trying to feed their families at lowest cost)



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Relevant AfricaRice products (2/7)

Output 2 (Cont.): Determinants of urban consumers' choice for rice

- In addition to the preference for rice free of impurities, the following key criteria determine urban consumers' choice for local or imported rice:

- ✓ 1st: Taste
- ✓ 2nd: Whiteness
- ✓ 3rd: Aroma

Country	Rice	Most preferred characteristics				
		Taste	Aroma/Small	Whiteness	Swelling	Stickiness
Benin	Gambica	1 st	3 rd	2 nd		3 rd
	POH1	1 st	3 rd	2 nd		
	Gino	1 st	2 nd	3 rd		
Côte d'Ivoire	WITA9	1 st	3 rd	2 nd		
	Riz Papillon	2 nd		3 rd	1 st	
	Riz Bébé	1 st	3 rd	2 nd		
Tanzania (Dar es Salaam)	Kalamata	2 nd	1 st	3 rd		
	Supa	3 rd	1 st	2 nd		
	Mchele		2 nd	1 st	3 rd	
Tanzania (Morogoro)	Supakyela	1 st	2 nd	3 rd		
	Komboka	1 st	2 nd	3 rd		
	Mwambani	1 st	3 rd	2 nd		
Uganda	Pishori	1 st	2 nd	3 rd		
	Supa	1 st	3 rd	2 nd		
	Kaiso	1 st	2 nd	3 rd		
Mozambique	Mariana Azul	2 nd	3 rd	1 st		
	Nene	1 st	2 nd	3 rd		
	Nene parboiled	1 st	2 nd	3 rd		
Madagascar	Makalioka	1 st	3 rd	2 nd		
	Vary Gasy	1 st	2 nd	3 rd		
	Tapiata	1 st	2 nd	3 rd		

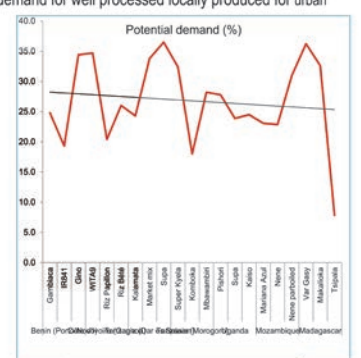


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Relevant AfricaRice products (3/7)

Product 3: Existing of high potential demand for well processed locally produced for urban consumers

- The field auction experiment revealed:
 - ✓ high demand for well processed locally produced rice over the average in Cote d'Ivoire, Tanzania, Uganda and Madagascar
 - ✓ Except in Benin where the higher demand is observed for imported brand Gino due to urban bias.



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Relevant AfricaRice products (4/7)

Product 4: GEM Parboiling technology producing quality parboiled rice similar to premium imported rice



Advantages of GEM parboiling technology

- Volume of production increased by **54% per month** compared to traditional one,
- High quality rice (> 95 % whole grain),
- Energy efficient (fuel consumption reduced by 33 %),
- Durable and labor-saving (Ndindeng et al. 2015).

More information: <http://www.ricehub.org/RT/post-harvest/parboiling/improved-parboiling-technologies/gem-parboiling-technology/>

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Relevant AfricaRice products (5/7)

Product 5: Capacity strengthening for value chain actors and youth agripreneurs in Innovation Platform (IP) on market oriented-production and locally produced rice quality improvement

- The capacity strengthened for value chain actors in IP on market oriented production in collaboration with AfricaRice partners from NARIs:
 - ✓ In Benin, Cote d'Ivoire, Senegal and Tanzania
- The capacity strengthened for women rice parboilers and agripreneurs' youths on the use of improved parboiling technology to upgrade the quality of local rice:
 - ✓ In the IP of the rice hub in Glazoue, Benin



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Relevant AfricaRice products (6/7)

Product 6: Branding & Packaging to improve the attractiveness and visibility of locally produced rice through the innovation platforms (IPs)

- Branding and packaging developed for the women rice processors in Benin, Cote d'Ivoire (in progress) and Senegal:
 - ✓ To improve the attractiveness and visibility of locally produced rice in marketing chains,
 - ✓ To increase locally produced rice access to urban markets,
 - ✓ Increased revenue of rice value chain actors.



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Relevant AfricaRice products (7/7)

Product 7: Promoting locally produced rice in urban markets through the innovation platforms (IPs)

- Promoting local rice at trade fairs, exhibitions and conferences,
- Advertisements for rice products' visibility of commercialization,
- Rice producers (Uniriz-C) and women rice parboilers (URFER-C) participation in the 2015 Benin independency trade fair:
 - ✓ 89.7% - 173.0% increased sales of rice products (milled and parboiled rice) in 2015 compared to 2014 Trade Fair,
 - ✓ Increased revenue of rice value chain actors.



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Conclusions and way forward

- Rice varieties grown in many African countries have good organoleptic and nutritional attributes that meet urban consumers' preference if properly processed, branded and well packaged,
- Improved rice processing plants developed by AfricaRice are playing a significant role in the rice quality upgrading through innovation platforms (IPs) in the rice sector development hubs,
- Investments in postharvest are needed to address physical appearance of rice in terms of sorting, grading, branding and attractive packaging to improve rice value chain actors' access to the large urban markets that are currently dominated by imported brands,
- Private sector partners and entrepreneurs are needed to out-scale technologies and innovations for sustainable rice market development in Africa,



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Conclusions and way forward

- Active engagement of mini and supermarkets, restaurants, school canteens, etc. will increase the sale and consumption of locally produced rice in Africa,
- There is a need for a strategic re-positioning of locally produced rice in urban markets thereby contributing to the CAADP goals of food and nutrition security in Africa,
- Research and development will continue to focus on:
 - ✓ The field auction experiments to gather overall picture of the most preferred locally produced rice,
 - ✓ Installation of improved rice processing plants and training of processors on its use,
 - ✓ Branding and packaging development to increase the attractiveness and visibility,
 - ✓ Advertisement and promotion of locally produced rice in major African town to increase the visibility of locally produced rice,
 - ✓ Establishment of marketing contracts between processors of the IPs and supermarkets, food shops, rice importers, school canteens.
 - ✓ Publication of research outputs,



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Thank you!

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