

AfricaRice's achievements and perspectives in post-harvest management through industrialization in sub-Saharan Africa

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Presentation outline

- **Achievements in understanding the conditions for post-harvest management through industrialization in sub-Saharan Africa**
 - Establishment of the state-of-the-art rice quality laboratory to support post harvest industrialization in sub-Saharan Africa
 - Market studies to understand the demand for rice quality traits – consumer preferences.
 - Valuation of rice quantitative and qualitative post-harvest losses and implementation of strategies for loss reduction.
- **Rice innovation processing centers enhancing post-harvest industrialization**
 - Reaper and mini-combine harvesting
 - ASI-Threshing
 - GEM Parboiling centers
 - Solar- rice husk fuelled dryers
 - Combine rice mills
 - Hermetic storage with Ecowise[®] monitoring system
 - By-product processing.
 - Improved packaging, labelling and branding
- **Perspectives**

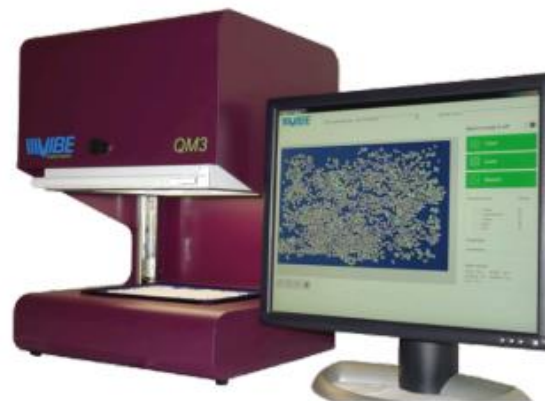
Establishment of the state-of-the-art rice quality laboratory to support post harvest industrialization in sub-Saharan Africa



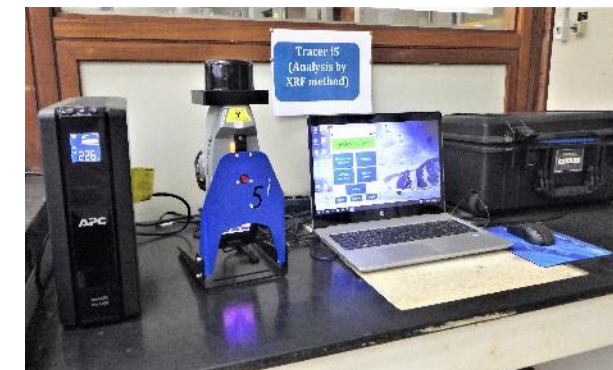
Rice Testing Mill



Rice statistical analyzer



Vibe QM3i Seed/Grain Analyzer



X-Ray Florescence Spectrometer



Texture analyzer



Viscosity Analyzer



NIRS Rice Composition Analyzer

Elucidation of rice quality traits sought by consumers in West Africa will drive industrialization

- Hedonic pricing models have steadily shown that consumers are willing to pay price premiums for **head rice, rice that cooks fast, slender grains, low-intermediate amylose, parboiled rice, and rice with high swelling capacity**. But they strongly discount rice that is **chalky, high in amylose and with impurities**.

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RESEARCH ARTICLE

Hedonic Pricing of Rice Attributes, Market Sorting, and Gains from Quality Improvement in the Beninese Market

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RESEARCH ARTICLE

Pricing Rice Quality Attributes and Returns to Quality Upgrading in Sub-Saharan Africa

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Reduction of post-harvest loss through mechanization is essential for industrialization

- Total PHL (quantitative and qualitative) for rice in SSA in 2018 is estimated at about US\$ 10.24 billion representing 47.63% of the value of rice trade.



Letter

Valuation of Rice Postharvest Losses in Sub-Saharan Africa and Its Mitigation Strategies ☆, ☆☆

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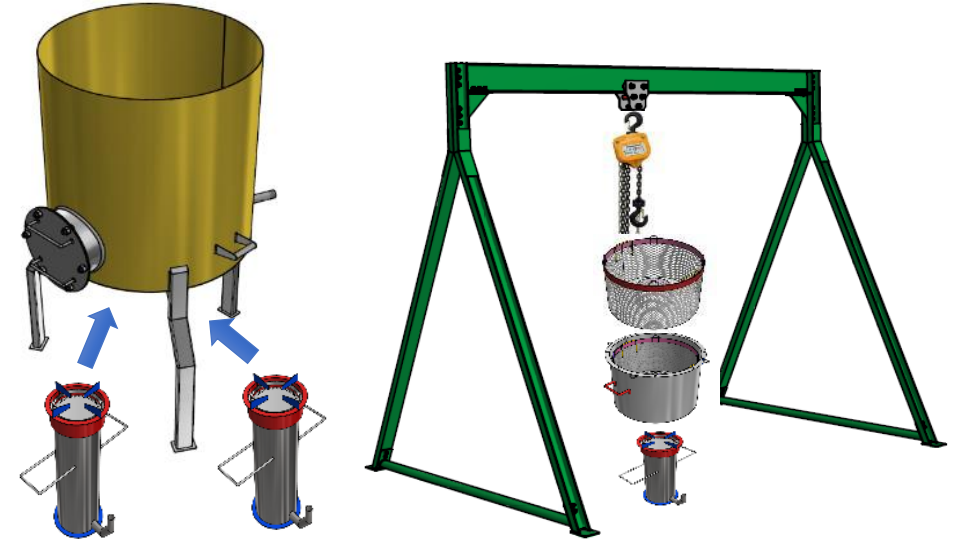
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Value chain segment	Loss as a percentage of total PHL (%)
After crop maturity and during harvesting	43.76
Qualitative loss along the entire value chain	28.8
Quantitative milling loss	15.5
Quantitative parboiling loss	6.1
Quantitative threshing loss	5.1
Quantitative drying loss	0.8

39 small-scale rice innovation processing centers enhancing post-harvest industrialization setup



Medium scale rice milling facilities upgraded with milled rice destoners, Moisture meters, Mini-GEM parboilers and improved packages to enhance market access.



In 2022 in Cote d'Ivoire

- 19 Destoners
- 30 moisture meter
- 6 ASI-Threshers
- 9 GEM parboilers
- 96200 hermetic packages

The industrialization of the rice processing has started with mass fabrication of processing equipment by trained private companies



Perspectives

- Small and medium scale post harvest industrialization can be effective in sub-Saharan Africa but need to be strengthened with the right post-harvest innovations especially equipment and the right partnerships.
- Large scale post-harvest industrialization has started in several countries but unable to thrive due to unreliable quantity and quality of paddy, unstable and high cost of electricity supply and poor road infrastructure linking rural areas where production occurs to urban centers where premium prices exist.
- The rice market is available to absorb increase outputs due to post-harvest industrialization.



Thank you
Merci