



Tropentag, September 10-12, 2025, hybrid conference

“Reconcile land system changes
with planetary health”

Grain quality, pricing, and rice millers’ preferences for improved agricultural development in Tanzania

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Abstract

The rice milling sector plays a crucial role in adding value to the agricultural development serving as a vital link between rice producers and the consumer market. By transforming raw paddy into polished rice and generating by-products such as bran and husks, milling increases the market value of rice, creating income opportunities for various stakeholders.

Grain characteristics such as size, shape, colour, and moisture content significantly influence rice quality, pricing, and marketability—factors that not only shape consumer preferences but also affect the sourcing behaviour of rice millers. These preferences, in turn, send important signals to farmers, influencing their production decisions, post-harvest handling practices, and willingness to adopt improved varieties and technologies.

A cross-sectional survey of 214 rice processors was conducted across the Kilombero, Kilosa, Mvomero, and Ulanga districts in Tanzania to collect information on rice milling operations, capacity, millers’ preferences, and sourcing practices. The results indicated that the two-step milling process is predominant in all districts, while multistage rice mills are also common. Millers across the districts prioritise grain quality and price when sourcing rice. Moisture content and the quality of milled rice are the main criteria for evaluating both sourced and milled rice.

The insights underscore the need for coordinated interventions across the value chain. Strengthening rice value chains requires not only investment in market differentiation, technology, and finance but also a deeper integration of farmer needs into policy and breeding programs. By aligning varietal development with processor and consumer demands, and by enhancing farmers’ access to price incentives and capacity-building programs, stakeholders can foster innovation adoption, risk management, and inclusive agricultural growth.

Keywords: Agricultural development, milling, preferences, rice processor