



RICE VALUE ADDITION THROUGH PARBOILING

CAPITALISING FROM KEY ACHIEVEMENTS AND EXPERIENCES MADE

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Parboiling of rice could contribute significantly to increased income and employment amongst poor, vulnerable groups in rural areas as well as to improved nutrition of people consuming parboiled rice.

BACKGROUND

From July 2017 to July 2020 HELVETAS Swiss Intercooperation implemented the EU-funded initiative Empowering Smallholder Youth and Women Farmers on Rice Postharvest Management and Marketing (**RIPOMA**) in the two districts of Kilosa and Mvomero in Morogoro region, Tanzania. The project aimed at increasing competitiveness and improving postharvest management (PHM) of smallholder farmers, in particular women and youth, in the rice value chains in Morogoro region. RIPOMA was implemented by HELVETAS in partnership with CODERT, a local NGO specialized in micro-finance, i.e. savings & credit, and other key value chain actors. During its implementation the project reached out to 3,338 smallholder rice farming households organized in 113 groups across 40 villages and involved 132 specific rice value chain actors such as farmer associations, cooperatives, rice millers, traders, agro-dealers and various service providers.

CORE CHALLENGES IN THE RICE PROCESSING

Although hardly known, Tanzania has seen a slow, but steady increase in demand for “healthy” rice. As a result, it has been forced to import parboiled rice from Asian countries, for which consumers paid in shops up to TZS 10,000/= (EUR 4) per kg. The RIPOMA project saw an opportunity to promote parboiling of rice in the country with the first processing steps taken at the producers’ level itself. However, parboiling and rice processing in general was faced and continues being faced in Tanzania with several challenges: Low productivity due to limited knowledge and skills of farmers on land preparation, selection of quality seeds, use of water as well as timely and appropriate application of fertilizer. E.g.

- Many rice producers lack proper post-harvest handling and processing skills and hence are confronted with considerable crop losses
- The challenge is aggravated among producers due to the lack of proper equipment to handle and process the rice
- Subsequently, quality of processed rice is poor due to lack of processing knowhow and technology; and products often do not meet the requirements of the Tanzania Bureau of Standards (TBS) for certification
- Poor, inadequate packaging and branding of produce hampers the marketing
- There is no reliable market information for producers/processors on their produce; as a result, farmers often fetch low prices when selling at their farmgate
- Weak linkages between rice farmers, small-scale processors, rice millers and other value chain actors (traders, buyers) are affecting marketing and revenues from sales
- Parboiling of rice was not known by smallholder producers/processors; and only very few consumers in Tanzania knew/know parboiled rice

KEY ACHIEVEMENTS

Through training and support from DBB and SIDO, lead farmers and their fellow group members as well as rice millers have been able to produce and process quality parboiled rice as follows:

- 11 farmer groups and 6 individual farmers have become champions of producing and selling parboiled rice; their income has significantly increased as they sell 1 kg of parboiled rice for TZS 2,500 to 3,500 (EUR 1.0 – 1.4) as compared to normal rice sold at TZS 1,200 to 1,800 (EUR 0.5 - 0.7). Their parboiled rice is found on the shelves of high-end markets in Dar es Salaam, Mwanza, Zanzibar, Dodoma, Mbeya, Arusha
 - However, a first attempt to set up community parboiling centres at village level, where rice producers/processors could parboil rice failed, mainly due to logistical and organisational matters. Producers/processors found it difficult to go with their rice and fuel (charcoal) to this village parboiling centre and spend there several hours away from their households processing their paddy (boiling-drying-boiling-drying); later, parboiling equipment was installed at the household of an individual processor or a group member
- The trained millers improved their business operations, including scheduling of regular machine maintenance and cleaning to improve the quality of processed rice, and they engaged in proper record keeping, paddy storage and general compound sanitation; four millers, two from Kilosa and two from Mvomero district, acquired national standard registration and certification
- The four mills referred above have become model processing and packaging centres, which are now used as referral mills for learning by other processors and millers
- Post-harvest losses decreased because of value addition through rice parboiling and reduced rice breakage due to quality milling and regular machine maintenance
- The project contributed to a successful campaign of the Ministry of Health to promote parboiled rice with focus on its health and nutrition merits; there is some evidence from people with previous health issues that their health status has improved by consuming parboiled rice



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KEY LESSONS LEARNED

- Based on the results achieved, the selected champion farmer groups and individual farmers, as well as KUPO Investment Company, a private sector rice mill, have the potential to become significant actors within the country's parboiled rice sub-sector
- Parboiling of small quantities of rice by many small-scale processors, however, remains critical and needs continuous attention (e.g. by a rice miller):
 - Significant variations of the quality of parboiled rice processed by different small-scale farmers affect product quality and consumer satisfaction (one reason for these quality variations are different temperatures used during the parboiling process; to improve processing, the project supported the distribution of thermometers and moisture meters)
 - As transport and handling are issues, small-scale processors prefer to do the parboiling in their farmyard which, however, requires the right equipment
 - Parboiling requires fuel (charcoal) for boiling and space (drying yard) for drying the rice; both these requirements form potential challenges for small-scale processors
 - Since parboiling is only one step in the process, and small-scale processors still need to have their parboiled rice milled at a rice mill, parboiled rice cannot be produced by small-scale processors without involvement of a rice mill
- Yet, to access the technology is an opportunity for rice producers and processors to produce parboiled rice in larger volumes
- Supporting farmers' participation in various exhibitions such as Saba Saba, Nane Nane and SIDO zonal exhibitions helps linking farmers to other farmers, buyers and consumers, increasing their network and connecting them to potential new buyers and markets
- Parboiled rice has proven to be an effective way to reduce post-harvest losses, improve nutrition and health status and increase household income of smallholder farmers and processors
- The inclusion of the parboiled rice technology in the National Rice Development Strategy II, to which the project contributed, has shown the commitment of the government to acknowledge the benefits of parboiled rice and to promote it

RECOMMENDATIONS

Based on the achievements and lessons learnt, the most important recommendations to successfully engage smallholder farmers and processors in rice parboiling initiatives in Tanzania are as follows:

- Smallholder farmers, processors and millers who are producing parboiled paddy/rice should work in partnership to ensure a high quality of rice (no downgrading during milling, no mixing of parboiled rice with other rice); such partnerships will create win-win situations for the further production and promotion of parboiled rice
- If small-scale processors want to turn successfully to parboiling of rice, technical advice through rice mills, specialised service providers or a governmental agency like SIDO must be ensured; such technical advice should include advocacy for and promotion of affordable packaging material to ensure quality packaging by smallholder farmers, processors and millers
- Local government authorities in collaboration with millers, SIDO and the Ministry of Health should continue promoting parboiled rice through widely disseminating information to consumers on the nutritional value and health benefits of parboiled rice
- SIDO and financial institutions should support processors and millers to improve their businesses by raising their working capital which will enhance competition and sustainability among producers and processors in the parboiled rice sub-sector

