

Short Communication

Improved post-harvest technologies for rice processing: Perspective of Women Processors in Nigeria

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DESCRIPTION

Rice is economically one of Nigeria's most important food crops as in any other developing country. The Federal Ministry of Agriculture and Rural Development [FMARD], (2016) reported that rice accounts for a significant proportion of the food requirements of the country's population because it was observed that Nigeria has a favourable market for rice thus the demand for rice has always exceeded the supply. (Ayoola, 2021), (Okunlola, Ajileye, and Owolabi 2020), established the fact that Nigeria is the largest producer of rice in Africa. Despite this progress, rice is still not sufficient enough to meet the increase in consumption by the population as the country imported about 2.4 million metric tons of rice in 2020, report indicates that rice imports increased by nine percent compared to 2.2 million metric tons in 2019. According to the National Bureau of Statistics [NBS], (2020) annual report, household expenditure on rice accounted for 8.69% of household food spending and 4.92% of total household spending in 2019 has dropped, compared to the 10% of household food spending and 6.6% of total household spending in 2010 as reported by NBS (2011) and compared to the annual rice consumption report of 32kg per capita as the highest of all staples in Nigeria in 2018 (Price Water House Coopers, 2018). However, on one hand, most women rice processors in Nigeria lack the adequate technologies to enable them to meet the international standards as locally processed rice contains a lot of stones and other impurities. On the other hand, there is an incessant rise in the demand for rice in Nigeria, which has been attributed

partly to increasing population, increased income levels, rapid urbanization, and associated changes in family occupational structures. Hence, the call for urgent need to meet the increasing demand for rice and curb the reliance on rice importation to complement the domestic supply and gross high demand through improved post-harvest technologies for rice (FMARD, (2016)).

Women rice processors in nigeria

Women play vital roles in rice processing in Nigeria; producing about 60-80 percent of food in the country and contributing about 70-80 percent of the agricultural labour force. Henceforth, they contribute to household well-being through their income-generating activities. Despite the immense contributions of women towards agricultural activities, findings reveal that women farmers particularly the Nigerian women, lack access to adequate processing resources such as innovation, credit, training, extension services, and appropriate information on new technology utilization due to socio-economic factors (African Development Bank (AfDB), (2015)).

Against this background, Nigeria's successive governments embarked on programmes such as Agricultural Transformation Agenda (ATA) and Agricultural Promotion Policy (APP) in a bid to curb the importation of rice increase the production and quality of locally processed rice, thereby, favour mass production and local processing of rice to end rice importation in Nigeria (Adisa, Famakinwa, Adeloye, 2020). Besides this, the post-harvest research efforts geared toward the reduction of post-harvest losses. Efforts were been directed towards the

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development of rice processing to meet the changing taste of the consumers and improve the environment. Therefore, different quality-enhancing post-harvest technologies were developed and disseminated to rice farmers in Nigeria by various Research Institutes such as the West African Rice Development Agency (WARDA), International Institute of Tropical Agriculture (IITA), and National Cereals Research Institute (NCRI) (Adisa et al., 2020). These technologies include improved threshing, winnowing, parboiling, drying, milling, storage and even polishing of local rice to reduce wastage and improve the quality of the rice. These would ensure the acceptability of local rice that would command a better price in the market and improve the country's foreign exchange in rice importation (Adisa et al., 2020).

Improved post-harvest technologies for rice (ipt4r) disseminated in nigeria

According to Danbaba et al. 2013, most of the rice processors in Nigeria, are faced with different constraints which could limit and hinder them from embracing improved agricultural practice and innovations with great potential for meaningful transformations of their livelihood. In 2009, research and developmental organization collaborated with women rice processor groups and local artisans to test, validate and transfer simple and adaptable rice parboiling techniques as a strategy for improving local processed rice quality to enhance its competitiveness.

According to (Okunlola et al. 2020), rural women's involvement in post-harvest rice production and processing activities, still largely lacks the opportunities compared to the men rice producers and processors in the agricultural sector. Scholars (Okunlola et al. 2020), (Danbaba, Ukwungwu, Josiah, Ernest, Sossou 2013), (Salami, Babtunde, Ayinde et al. 2017) opined that rice processing is seen as a women's trade-in Nigeria based on findings of their study 105 out of the 120 rice processors that participated in the training project were widows. This indicates a predominance of rice processing among women yet with less access to technology for improved parboiled rice processing. Similarly, a study conducted for a project by the Alliance for a Green Revolution in Africa (AGRA) (2020), funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) Special Initiative – "One World-No Hunger" Rice processor transforming Women farmers lives in Ghana. The women's rice processor has increased the quantity of her rice processed from 6.1Mt per day in 2017 to 10.2 Mt per day in 2018. Based on the availability of the improved technologies been used for parboiling and sorting rice, which also has improved the quality and quantity of paddy processed as well as kept the mill operating almost at full capacity (85%), (AGRA, 2020). Nasiru (2014) opined that the adoption of improved post-harvest for rice processing technologies is only significant among the women rice processors in the association. This is because members in an association can easily be convinced by the pragmatic results, therefore adopting technologies more easily than non-group members due to influence from colleagues and groups are the focal points for all government and non-governmental organization interventions now. Besides, there

is a quick awareness and motivation of new technologies and success in a group than in a non-group. Though, the success or failure of a group depends on the extent to which members of the group derive the expected benefits from the activities of the group. When the expectations of the group members are readily met such as access to credit from group facilitation; regular meeting attendance and types of activities engaged it is certain that they will all be committed to ensuring the sustainability of the group through effective participation (Afolami et al., 2012). This implies that members of social groups ensure continued use of improved post-harvest technologies as long as it allows them to obtain, and sell processed quality and quantity to meet the domestic trade as well as international trade with which they can meet their needs. Therefore, a special lens must be taken when addressing market access issues for women to achieve secure livelihoods for women rice processors.

CONCLUSION

In conclusion, even though the people's qualities desired for rice vary from one geographical region to another. However, parboiled rice exhibits several advantages over the un-parboiled ones such as improved kernel strengthening, increased milling recovery; prevention of loss of nutrients associated with milling, and improved shelf life. More so, from the economic point of view, the quality of milled rice is of paramount importance. In general, efficient mills produce better quality rice whereas inefficient mills waste energy and result in losses. To improve the quality of rice, two main factors have to be considered: one, the quality of paddy that goes in for milling, and two the milling technique, though, Bhattacharya (1985) argued that the ultimate cause of breakage in rice milling resides more in the rice kernel than in the milling methods and equipment.

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