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Equitable agricultural mechanisation: A gender perspective of socio-economic benefits of grain shelling in Tanzania

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Abstract

Agricultural mechanisation of smallholder farms in Sub Sahara Africa (SSA) has received notable attention with most studies have focusing on the tillage operations and scanty attention to postharvest activities. Post-harvest threshing remains a labour-intensive and loss-prone activity for smallholder farmers. Using gender lens, this study analyses the socio-economic benefits that accrued to all the actors engaged in mechanical threshing services, including the service providers, equipment repairers, transporters, and small-scale farmers in Tanzania. It specifically, examines perceived changes associated with using multi crop thresher (MCT) on grain quality, labour drudgery, creation of employment, incomes and reducing post-harvest losses. Primary data was sourced from 442 farmers, 66 service providers, 30 repairers, and 31 transporters. Service providers (88%), repairers (97%), transporters (100%) and farmers (55%) were male, despite women seeking shelling services more frequently than men. This has made women participation in providing threshing services disproportionately skewed in favour of men. Farmers reported improved quality of grains, lower levels of labour drudgery, and reduced post-harvest losses associated with the use of MCTs. Postharvest losses were reported to be lower by 44%, 33% and 22% for maize, sunflower and sorghum, respectively, contributing to perceived improvements in the household food availability. Service providers recorded benefit to cost ratios greater than 1, indicating the potential financial viability of threshing service provision. Investment in MCTs can be recouped within a year if the service providers engage in threshing multiple crops rather than specialising in threshing a single crop. Therefore, strengthening linkages among service providers, repairers and transporters would enhance wider impacts. Upscaling training for repairs and service providers, with emphasis on women, would enable greater participation across mechanisation roles.

Keywords: Cost benefit analysis, gender, multi crop thresher, Post harvest, Tanzania