



Tropentag, September 15-17, 2021, hybrid conference

“Towards shifting paradigms in agriculture  
for a healthy and sustainable future”

## Challenges and Opportunities Toward Sustainable Consumption and Value addition of Cashew Apples in Tanzania

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### Abstract

Cashew apple is an important healthy fruit and yet is highly underutilised in developing countries. This study explored factors affecting utilisation of cashew apple among farmers in Lindi and Mtwara regions. Semi-structured questionnaire was used on 600 cashew farmers to collect information on cashew apple consumptions, processing and utilisation constraints. In addition, dried cashew apple product was developed, in which full matured, ripe and intact fruits were plucked from the cashew tree. Then they were washed, blanched, sliced and immersed in 70 % sucrose prior to drying on an oven or solar drier. As a result, majority of farmers reported to consume raw cashew apples. The frequency of consumption was more than five fruits a day (61.87 %) and almost every day (55.98 %) during the season. Traditional technologies for processing cashew apple porridge and alcohol were employed by about 43.7 % of farmers. Lack of knowledge on post-harvest handling (86.2 %) and processing technologies (82.7 %) were mostly claimed to hamper cashew apple utilisation. Both dried products showed no significant different ( $p > 0.05$ ) on carotenoids (0.28–0.33g/100g), vitamin C (0.73–0.85g/100g) and tannins contents (266.59–267.95 mg/100g). During storage at ambient temperature for 60 days: total phenolic, tannins and vitamin C were significantly reduced ( $p < 0.05$ ) in both oven and solar dried products. Furthermore, both dried products showed similar ( $p > 0.05$ ) overall sensory acceptability. The combination of blanching, osmotic dehydration and solar or oven drying provide economically feasible value added products that can be reproduced in both urban and rural settings to enhance reduction of postharvest losses of the fruit.

**Keywords:** Cashew apple, Hot air drying, Osmotic dehydration, post-harvest losses, Solar drying, Utilisation constraints, Value addition