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Comparing Farmers’ Willingness to Pay and Multiplication Costs for Clean Sweetpotato Seed: Evidence from Kenya

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Abstract

The production of orphaned crops such as sweet potato (*Ipomea batatas*) has the potential to promote ecosystem resilience and address food insecurity and malnutrition in the context of climate change. However, sustainable production of the crop is hampered by poor access to quality seed. Production of sweet potato is currently dominated by use of recycled planting materials often sourced from local social networks. Efforts to improve access to quality seed in Kenya have mostly focused on varietal improvement through quality seed selection, breeding and scaling up of clean seed multiplication. However, success and sustainability of the efforts will largely depend on the farmers’ willingness to pay for clean seed. In this article, we assess the level and determinants of farmers’ willingness to pay (WTP) for clean seed among smallholder sweet potato farmers in Kenya. We then compare the estimated WTP with the cost of seed multiplication – to determine whether the clean seed business would be economically viable in the context of smallholder production systems. Data for the paper were collected among 383 sweet potato farmers and 30 sweet potato seed multipliers in Kenya. WTP was estimated using the double bounded contingent valuation method while the determinants of WTP were analysed using an ordered probit regression model. Results show that the mean WTP for clean seed was KES 647.74 (about US\$ 6.35) for a 90 kg bag with variations in WTP observed across geographical regions, gender and wealth categories. Results further show that WTP increases with prior use of clean seed and experience in sweet potato production. Conversely, WTP declined with age and household size. The cost of clean seed multiplication was KES. 594.78 (US\$ 5.83), which is lower than the estimated WTP. This implies that what the farmers would be willing to pay or can at least meet the cost of seed multiplication. These results suggest that seed multiplication business may be economically viable but this will depend on other transaction costs and establishment of efficient distribution systems.

Keywords: Climate change, cost of clean seed multiplication, double bounded contingent valuation, economic viability, ordered probit, willingness to pay