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Willingness to Pay for Postharvest Technologies and its Influencing Factors among Smallholder Mango Farmers in Kenya

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Abstract

Global food security for the over 9.1 billion people by 2050 remains a key policy challenge. Focus on increasing productivity is unsustainable due to the inelasticity of land and the expected pressure on it. There is consensus across the globe that focus should shift to reduction of postharvest losses, estimated at 30% globally and at least 40% in the fruit subsector in Kenya. Reduction of these losses require adoption of postharvest loss reduction technologies which are acceptable to smallholder farmers. Thus, this study sought to assess the acceptability of brick coolers, charcoal coolers and solar driers in Kenya. Multistage sampling technique was used to select 320 respondents in Embu and Machakos Counties from which empirical data was collected. A double hurdle model was used to estimate WTP for these postharvest technologies and the conditioning factors. Marital status, initial bid, agricultural group membership, market access and income from mangoes significantly and positively influenced probability to pay for the postharvest technologies. Probability to pay for postharvest technologies was significantly influenced by gender negatively and positively in Embu and Machakos, respectively. Factors that were found to positively and significantly influence the WTP amount for postharvest technologies were initial bid, agricultural group membership and income from mangoes. On the flipside, experience, credit access, market access, land tenure and age significantly influenced the WTP amount negatively. Further, we found low access to extension and awareness on the postharvest technologies. To intensify adoption of more effective postharvest technologies, there is need for the government to intensify extension programmes to create awareness on the need for the postharvest technologies. The estimated WTP amount for all the postharvest technologies suggested that most of the farmers would prefer the technologies to be offered at lower than the current market prices. Short term price subsidies could spur awareness on postharvest technologies that were found to be low and eventual adoption of the technologies. Farmers who operate under informal land tenure systems were not willing to pay for postharvest technologies. The government needs to strengthen tenure security to avert uncertainty.

Keywords: Double hurdle, Kenya, postharvest loss, postharvest technology, WTP