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Contingent Valuation Analysis of Rural Households’ Willingness to Pay and Contribute Labor for Frankincense Forest Conservation

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Abstract

Frankincense from *Boswellia papyrifera* forest (BPF) is a traded non-timber forest product (NTFP) used in pharmaceutical, food, cosmetic and chemical industries. It is widely used for rituals in different religions and as a fragrance during coffee ceremonies in Ethiopia. Moreover, the collection of frankincense is a source of income to rural people and the country gets foreign currency from exporting the product. However, in northeastern Africa the resource is under continuous degradation due to a number of human induced factors. The public good nature of the resource has contributed to the continuous degradation of the resource and has led to this ‘the tragedy of the commons’ and requires conservation measures. We used data from contingent valuation study with discrete choice responses to assess the factors influencing rural households’ willingness to pay (WTP) and willingness to contribute labour (WTCL) for BPF conservation in Ethiopia. We relied on different regression techniques to estimate households’ WTP and WTCL. We found household income, education and gender as the most important factors affecting WTP whereas household income and household size as the most important factors affecting WTCL. Households are willing to pay at least US\$ 4.97 per year or contribute 7.18 labour days for the conservation of BPF and this amount does not differ between users and non-users of BPF. Therefore, this study indicated that, people are willing to contribute for conservation of the resource despite the fact that Ethiopia is a low-income country. Moreover, the study also indicated that free labour contributions can be used to estimate the valuation of non-market benefits of environmental amenities of income constrained rural households in developing countries.

Keywords: *Boswellia papyrifera*, conservation, contingent valuation, willingness to pay