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Determinants of Forest Extraction among Rural Households in Mt Elgon, Kenya

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Abstract

Forest extraction plays a vital role in the livelihoods of millions of poor rural households. Understanding the nature of forest dependence and determinants of forest extraction can prevent livelihood strains induced by forest degradation. This paper assesses the contribution, the nature, extent and determinants of forest extraction among rural households in Kenya. Data were collected from a random sample of 924 households in Bungoma and Trans-Nzoia counties in western Kenya. The level of forest extraction was analysed descriptively and measured in terms of the value of products extracted while a two-step Heckman model was used to assess the determinants of forest extraction. The results show that forest extraction is an important livelihood source for 48.9% of the respondents with other key sources being agriculture (84.6%), formal and informal employment (40.4%) and commercial business (9.5%). The results further show that participation in forest extraction was generally higher for households with lower asset value, higher membership and headed by males. The main products extracted were firewood (61.1%), food products such as wild fruits, vegetables and honey (31.8%) and herbal medicine (4.2%). The econometric results show that age of household head ($P = 0.048$), proximity to all weather roads ($P = 0.002$), and access to credit ($P = 0.007$) negatively influenced forest extraction decision while proximity to the market ($P = 0.000$), household size ($P = 0.073$) and membership in a forest user group ($P = 0.039$) had a positive influence. The level of extraction was negatively influenced by the age of the household head ($P = 0.000$), proximity to all weather roads ($P = 0.003$), membership in a farmer group ($P = 0.063$) and value of assets ($P = 0.068$) while proximity to market ($P = 0.000$), household size ($P = 0.000$), membership in a forest user group ($P = 0.003$), value of shocks ($P = 0.012$) and engagement in farming ($P = 0.016$) positively influenced the extent of forest extraction. The study findings indicate that households in Mt Elgon rely heavily on subsistence products such as firewood and wild vegetables suggesting the need to promote alternative sources of energy such as energy saving stoves (*jikos*) and alternative livelihoods.

Keywords: Degradation, forest extraction, Heckman model, Kenya, livelihoods