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A Discrete Choice Experiment to Measure the Malawian Potential Market for Baobab Fruit Shell Briquettes: Evidence from Consumer Preferences in Mzuzu City

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Abstract

Our research aims to analyse consumer preferences for baobab fruit shell briquettes, as a potential alternative to substitute current fuel sources for cooking in Mzuzu City, Malawi. The main objective of this work is to determine the parameters for a successful implementation of an alternative energy source for firewood and charcoal. Therefore a discrete choice experiment is designed with 8 attributes and 3 levels in a local conducted survey, where the willingness to pay according to the characteristics of the new product is estimated. Attribute choices were made focusing in important daily use of fuel sources, such as waiting time until cooking can be started, burning time of fuel, help from children in collection, health and comfort when using cooking fuel, price, among others. The results show which characteristics baobab fruit shell briquettes should have in order to meet local consumer needs, and increase the chance of market acceptance. The more useful characteristics the alternative product has, the higher the user adoption, and willingness to pay increases. A positive correlation of income and education with willingness to pay for baobab fruit shell briquettes is expected. The resulting findings may lead to better planning and success assessment of the alternative product. These findings are particularly relevant for investors and policy makers, as a reliable analysis of the accomplishment potential leads to investments and subsidies, which makes a successful establishment of an alternative energy resource more likely. As a result, forest resources may get a higher chance to be secured in the long term, which has a positive effect on the environment, economy and society in Malawi.

Keywords: Baobab fruit shell briquettes, Discrete choice Experiment, Malawi, Willingness to pay