



805/F

Household preferences for cleaner energy alternatives in Sri Lanka: A discrete choice model application

P.K.D. Vishmani¹, J.M.M. Udugama^{1*}, D.P.N. Ranadewa¹ and K.A.N.A. Appuhami²

¹*Department of Agribusiness Management, Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka, Makandura, Gonawila, Sri Lanka*

²*Agribusiness promotion, Research and Development Center, Mahaweli Authority of Sri Lanka, System-H, Niraviya Farm, Thabuttagama, Sri Lanka*

Transitioning to more efficient energy alternatives, particularly cleaner cooking facilities can lead to positive outcomes in terms of poverty elimination, health, and livelihood development which cannot be underestimated. Therefore, the aim of this study is to explore the household behavior and choices for switching to cleaner alternatives from traditional cooking stoves. We applied an environmental economics approach; a discrete choice experiment with the local community in the Anuradhapura district of Sri Lanka where a considerable number of households use traditional cook stoves. Data were collected from a randomly selected sample of sixty households using a structured questionnaire followed by the choice experiment. A conditional logit model was used to estimate the determinants and willingness to pay. The attributes considered include reduction in fuel wood usage, amount of smoke and stove costs. Results highlight that monthly usage cost of fuel, and the amount of smoke were significant determinants affecting transition. Households were concerned about the health impacts as well as convenience and durability of the new stoves. Relative strength of factors was assessed by computing marginal willingness to pay, which highlighted that respondents were willing to pay more for improved stoves emitting less smoke. Households also emphasized the importance of government support in various forms. The positive affinity among households to switch to cleaner alternatives signal the need for promotion and awareness of these sources. Moreover, it is important that governmental and non-governmental organizations incentivize them with monetary and non-monetary support as this transition also contributes to greenhouse gas emissions reduction from biomass burning.

Keywords: Cleaner energy, cooking stoves, choice experiment

E-mail: menukaudugama@gmail.com