

## **Estimation of Socio-Economic Costs and Benefits of Forest Reforestation in “*Hanthana*” Mountain Range, Sri Lanka**

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Forests are a significant aspect of nature that deliver ecosystem services for the betterment of living beings. Most ecosystem services of forest are unquantified in monetary terms due to the unavailability of direct market values. The study is conducted based on the economics of ecosystem and biodiversity framework to recognize, demonstrate and capture the values of forests with reference to *Hanthana* forest range. The two main objectives of the study are to determine the relationships among ecosystem services, demographic data and reforestation choice and to determine the costs and benefits of reforestation scenarios. The study population consists of three main segments; Villagers (*Uda-peradeniya, Mawelawaththa*), undergraduates (University of Peradeniya) and related stakeholders (around the *Hanthana* forest). The study sample consists of 85 respondents identified through convenience sampling. Face to face interviews guided by a structured questionnaire were used to obtain the primary data. The survey data were analyzed using descriptive analysis, multiple regression modelling and probit regression modelling. Benefit-cost analysis was conducted to obtain the economics of reforestation for three scenarios: ecotourism site, primary forest and participatory forest. Study revealed that the educational level of the respondents and the type of the respondent have significant ( $p < 0.05$ ) relationships with the expected ecosystem services. Gender and status of employment have significant ( $p < 0.05$ ) relationships with reforestation choice. The study revealed the average benefit-cost ratios for ecotourism site, primary forest and participatory forest are  $0.865(\pm 0.462)$ ,  $2.233(\pm 0.101)$  and  $6.20(\pm 2.509)$  respectively. The study serves as a feasibility study of comparative merits between reforestation project and community participation.

**Keywords:** Biodiversity, Community, Ecosystem services, Ecotourism, Reforestation

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