Valuing forest ecosystem services and disservices-Case study of a protected area in India

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Abstract

This study seeks to estimate the value of forest ecosystem services provided by a protected area in a biodiversity hotspot in India. The novelty of the study rests in that it addresses some of the shortcomings identified in existing literature by also estimating the value of several intangible benefits ignored in most valuation studies as well as estimating the value of disservices of forests such as wild life damages and forest fires, and the added value obtained by intact forests as compared to from alternative landscapes for selected services. Using primary and secondary data, and economic valuation techniques the study suggests that the total (net) economic value of ecosystem services provided by the Nagarhole national park in Karnataka, India is quite high and significant. The total net value of benefits (i.e. value of services minus disservices) provided by the park ranges between US$13-148 million per annum or US$204-2294 per ha per annum using alternate valuation methods. More significant is that the added value of benefits from the park is higher as compared to from alternative landscapes considering just three ecosystem services i.e. water and soil conservation, and carbon sequestration services. If these are factored in decision making it could strengthen the economic case for conserving forests in bio-rich tropical countries such as India where there is great pressure to relax forest laws and divert forests to meet pressing development needs.

Keywords: Economic valuation, forest ecosystem services, disservices, added value, net benefits

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