

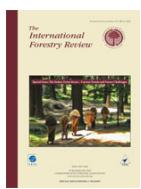
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Print ISSN: 1465-5489**Current:** Dec 2012 : Volume 14 Issue 4**BioOne Member Since:** 2010**Frequency:** Quarterly**Impact Factor:** 1.288**2011 ISI Journal Citation Reports® Rankings:** 21/59 - Forestry**Eigenfactor™:** *International Forestry Review*Title Tools  **Most Read Articles** [Biodiversity Conservation Issues of Northeast India](#)[Food Security: Why is Biodiversity Important?](#)[Empty Forests, Empty Stomachs? Bushmeat and Livelihoods in the Congo and Amazon Basins](#)[Disappearing Forests and Biodiversity Loss: Which Areas Should We Protect?](#)[Recent Asian Forest Transitions in Relation to Forest-Transition Theory](#) **Most Cited Articles** [Silvicultural Implications Arising from a Simple Simulation Model for *Endospermum medullosum* in Vanuatu](#)[Domestication of Native Tree Species for Timber Plantations: Key Insights for Tropical Island Nations](#)[Variation in Growth Traits and Wood Density in Whitewood \(*Endospermum medullosum*\): a Major Timber Species in Vanuatu](#)[Constraints to Whitewood \(*Endospermum medullosum*\) Plantation Development on Santo Island, Vanuatu](#)[Site Suitability and Land Availability for *Endospermum medullosum* Plantation on Espiritu Santo, Vanuatu](#)[More](#)**Sign up for e-alerts**

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International Forestry Review

Published by: Commonwealth Forestry Association

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International Forestry Review 10(2):376-386.

2008

doi: <http://dx.doi.org/10.1505/ifor.10.2.376>

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Assessing the Economic and Ecosystem Services Contribution of Forests: Issues in Modelling, and an Illustration

Evaluer la contribution des services économiques et d'écosystèmes des forêts: problèmes de modélisation et une illustration

Evaluación del aporte de servicios económicos y de ecosistema en los bosques: asuntos de modelación y un caso real

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This paper develops methodology for valuing forest ecosystem services. It reviews alternative approaches to modelling the forestry sector's contribution to well-being. It subsequently extends existing techniques of cost-benefit analysis to the forestry sector and illustrates the application of the methodology through a case study of the state of Himachal Pradesh in India. The extended methodology captures variations that occur because of ecological aspects of forests, sustainability concerns regarding extraction from forests and aggregation issues in valuing ecosystem services. It also incorporates concerns about biodiversity valuation, particularly in protected areas. The paper highlights the importance of recognising local variations in forest values, adopting a multi-disciplinary approach to valuation and the relevance of using more than one policy instrument for managing forest ecosystems.

Cet article développe une méthodologie pour évaluer les services d'écosystèmes des forêts. Il passe en revue des approches alternatives pour créer un modèle de la contribution du secteur de la foresterie au bien-être. Il étend ensuite les techniques existantes de l'analyse du coût-bénéfice du secteur de la foresterie, et illustre l'application de la méthodologie par une étude-cas de l'état de Himachal Pradesh en Inde. La méthodologie étendue observe les

variations prenant place du fait des aspects écologiques des forêts, les défis à la durabilité liés à l'extraction dans les forêts et les problèmes d'agrégat dans l'évaluation des services d'écosystème. Il incorpore également les soucis quant à l'évaluation de la biodiversité, en particulier dans les zones protégées. Cet article souligne l'importance de reconnaître les variations locales dans les valeurs des forêts, l'adoption d'une approche pluridisciplinaire de l'évaluation, ainsi que l'importance d'utiliser plus d'un instrument politique pour gérer les écosystèmes forestiers.

Este estudio desarrolla una metodología para la evaluación de los servicios de ecosistema forestal. Examina enfoques alternativos para la modelación del aporte del sector forestal al bienestar humano, y luego extiende las técnicas actuales de análisis de costos y beneficios al sector forestal y demuestra la aplicación de la metodología mediante el estudio de un caso real en el estado de Himachal Pradesh en la India. La metodología capta variaciones que ocurren como resultado de aspectos ecológicos de los bosques, de cuestiones de sostenibilidad relacionadas con la extracción de madera de los bosques, y del tema de la agregación en la valoración de servicios de ecosistema. Analiza además la valoración de la biodiversidad, sobre todo en áreas protegidas. El estudio demuestra la importancia de reconocer variaciones locales en los valores forestales, de adoptar una metodología multidisciplinaria para la evaluación, y de utilizar varios instrumentos de política para el manejo de ecosistemas forestales.

Keywords: economic valuation, methodology, cost—benefit analysis (CBA), sustainability, forest ecosystem services

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¹ There have been several attempts to identify ecological and economic benefits from forests. An early attempt, for instance, was by Singh and Nilsson (1974).

² Biodiversity in non-protected areas is given a weightage of 3/19 for dense natural forest, 1/14 for lopped natural forest and 1/19 for open tree savannah.

³ 1 lakh = 100 000