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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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SUMMARY

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

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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

REFERENCES

- Bann, C. 1998. *The economic valuation of tropical forest land use: a manual for researchers*. EEPSEA Research Report Series.
- Bishop, J.T. 1999. (ed.). *Valuing forests: a review of methods and applications in developing countries*. International Institute for Environment and Development (IIED) London, UK.
- Chaturvedi, A.N. 1992. *Environmental value of forest in Almora in Anil Agarwal. Prices of forests*, Centre for Science and Environment, New Delhi, India.
- Chopra, K. B., Bhattacharya, B. and Kumar, P. 2002. *Contribution of forestry sector to gross domestic product (GDP) in India*. , Institute of Economic Growth, New Delhi, India.
- Dasgupta, P. 2001. *Human well-being and the natural environment*. , Oxford University Press, Oxford, UK
- Dasgupta, P. and Maler, K.G. 2000. Net national product, wealth and social well-being. *Environment and Development Economics* 5, 69–93. [CrossRef](#)
- EXPERT COMMITTEE 2006. Report of the Expert Committee on NPV, submitted to the Supreme Court of India, April, 2006.
- Freeman III, A. M. 1993. *The measurement of environmental and resource values: Theory and methods*. *Resources for the Future*.

Washington, DC, USA.

Hamilton, K. and Clemens, M. 1999. Genuine savings rates in developing countries. *World Bank Economic Review* 13(2), 333–356.

Haripriya, G.S. 2000 Accounting for carbon in the national accounting framework of India. In J.R. Hicks (ed.) 1946. *Value and capital* (second edition). Clarendon Press, Oxford, UK. See <http://hpforest.nic.in/wsant2.htm>. Hicks, J.R. 1940. The valuation of social income. *Economica* 7, 105–124.

Hicks, J.R. 1946. *Value and capital* (second edition). Clarendon Press, Oxford, UK.

IIED 2000. *Himachal Pradesh forest sector review. Main Report*, International Institute for Environment and Development, June.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 2003. *Good practice guidance for land use, land use change and forestry. 2nd workshop on GHG inventories in the Asian Region (WGIA), held 7–8 February*, Shanghai, China.

Kadekodi, G. K. 2004 (ed.). *Environmental economics in practice: case studies from India*. Oxford University Press, New Delhi, India.

Lele, S. and Venkatachalam, L. 2003. *Assessing the socio-economic impact of changes in forest cover on watershed services*, Centre for Interdisciplinary Studies in Environment and Development, ISEC, Bangalore, India.

MEA 2005. *Ecosystems and human well-being: our humanplanet. Millennium Ecosystem Assessment, Summary for Decision-Makers*, Island Press, Washington, DC, USA.

Murty, M. N. and Goldar, B.N. 2006. *Economic evaluation of investment projects in India*. , Institute of Economic Growth, Delhi, India

NSSO 1999. *Common property resources in India. NSS 54th Round Report*, National Sample Survey Organisation, India.

Singh, K. D. and Nilsson, N. E. 1974. *On the problem of identification and evaluation of environmental functions of forests*. , Report of the FAO/ECE ad hoc meeting of forest inventory experts, Geneva, Switzerland.

Vincent R. J. 1999. A framework for forest accounting. *Forest Science* 45(4), 552–561. *Data and Information Sources for Empirical Exercise*

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