

Keywords

Norway, NINA, WP4, Scenario analysis, Challenges, context and gaps, ecosystem service values, institutional fit, PES, protected area

Main research question

The paper conducts a comprehensive cost-benefit analysis of the question of whether to increase forest conservation in Norway for biodiversity protection in particular. First, we assess the benefits of biodiversity conservation based on a national contingent valuation (CV) survey of a large, representative sample of Norwegian households that are asked to value three alternative conservation plans increasing the conserved forest area from the status quo. These plans are based on actual policy alternatives that have been or are under consideration. Then, we investigate the main social cost component, which is the opportunity costs of not using the land for timber production, in two ways. First, we scale up total compensations that would have to be paid to private forest owners based on actual compensation payments made from the start of the conservation program. Second, we conducted a CV survey of forest owners' willingness to accept (WTA) compensation to set aside their forests for reserves. WTA may be different from actual compensations, as many forest owners derive personal utility from reserve establishment. To these costs, we also add the efficiency loss of collecting taxes (marginal costs of public funds) to fund conservation, and the transaction costs of implementing the plans.



Photo: Typical old-growth forest in Norway

Research finding in brief

Results show that social benefits outweigh costs of the three conservation plans by a large margin. The middle option of 4.5% conservation of the productive forest land has the highest net present value. The results for the two smaller plans are robust to a range of assumptions, including considerations of potential hypothetical bias in benefit estimates. The results of this cost-benefit analysis reflect the preferences of the general population, the authorities and the forest owners with respect to biodiversity and ecosystem services conservation, and supplement the expert opinion of ecologists.

Polycymix approach

This study precedes polycymix analysis in the way that its main purpose is rather to analyse what level of conservation gives the highest net social benefits. This can form the basis for choosing single instruments (such as using only the voluntary forest conservation program in Norway) or combine this with other instruments in a mix.

Reference:

Lindhjem, H., K. Grimsrud, S. Navrud and S. O. Kolle (forthcoming) "The Social Benefits and Costs of Preserving Forest Biodiversity and Ecosystem Services". Forthcoming in special issue on Forest of Journal of Environmental Economics and Policy.

Website:

Forthcoming at
<http://www.tandfonline.com/toc/teep20/1/U3-VOSiGtsI#.U3-VXiGtsI 004>

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ASSESSING THE ROLE OF ECONOMIC INSTRUMENTS IN POLICYMIXES FOR BIODIVERSITY CONSERVATION AND ECOSYSTEM SERVICES PROVISION



Project objectives

POLICYMIX has developed an integrated evaluation framework for assessing economic instruments that considers multiple policy assessment criteria – biodiversity and ecosystem service provision indicators; valuation of their economic benefit and policy implementation costs; social and distributional impacts; and legal and institutional constraints – at different levels of government.



Methodology

POLICYMIX focuses on the role of economic instruments for biodiversity conservation and ecosystem services provided by forest ecosystems. The cost-effectiveness and benefits of a range of economic versus regulatory instruments are being evaluated in selected POLICYMIX case studies in Norway, Finland, Germany, Portugal, Brazil and Costa Rica. Comparative analysis evaluates the possibilities for transfer of policy success stories between Europe and Latin America, and promoting learning from policy failures.



Training and dissemination

POLICYMIX actively used advisory boards including land users, local managers and national policy-makers, who collaborated with our researchers in the feasibility assessments of economic instruments. A web-based [POLICYMIX TOOL](#) encompassing policy impact assessment guidelines, case stories and demonstrations of policy assessment methods is aimed at supporting dissemination and learning.



Results

POLICYMIX research discusses improvements in the design, targeting and implementation of economic instruments for biodiversity conservation through better understanding of (i) the linkages and complementarities between impact assessment tools, (ii) complementarities between different policy instruments in a policy mix, and (iii) trade-offs in design of a policy mix between economic, environmental and social impact criteria.

EC Contribution:

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Duration:

2010-2014

Consortium:

9 partners from 8 countries

Project Coordinator:

Norwegian Institute for Nature Research (NINA) (Norway)

Project Web Site:

<http://policymix.nina.no>

Key Words:

Biodiversity, ecosystem services, policy mix, social ecological systems, economic instruments, payments for environmental services, ecological fiscal transfers

Partners:

- Norwegian Institute for Nature Research (NINA), Norway
- Helmholtz Centre for Environmental Research (UFZ), Germany
- Foundation of the Faculty of Sciences and Technology, New University of Lisbon (FFCT-UNL CENSE), Portugal
- Institute for Environmental Studies, Vrije Universiteit Amsterdam (IVM), Netherlands
- International Institute for Environment and Development (IIED), UK
- Finnish Environment Institute (SYKE), Finland
- Rede de Desenvolvimento, Ensino e Sociedade (REDES), Brazil
- Fundação de Apoio a Pesquisa Agrícola (FUNDAG), Brazil
- Tropical Agricultural Research and Higher Education Center (CATIE), Costa Rica

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