

Keywords

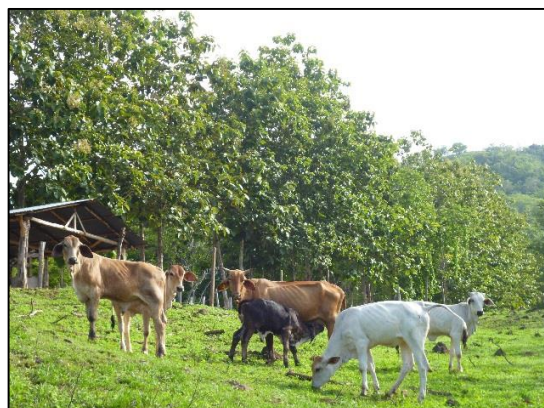
Costa Rica, PES, biodiversity and ecosystem impact, ecosystem service values, effectiveness, Marxan, modeling

Main research question

What are the spatial congruencies among important areas for ecosystem services provision and with areas of greater deforestation risk? How much does actual PES contract distribution agree with ecosystem services and greater deforestation risk areas?

Research finding in brief

Our results show differences among the distribution of selected sites for biodiversity, water and carbon. Important areas for biodiversity showed positive correlation with carbon, and carbon with water. Between biodiversity and water the correlation was negligible. When targeting ecosystem services considering additionality, the correlation and overlap among the services decreased. Ecosystem services and additionality may be jointly addressed but at the expense of selecting more fragmented forest areas. When comparing the distribution of actual contract PES allocation with the planning scenarios – with and without additionality – we observed some spatial overlap, but there was a slightly better overlap when solely targeting ecosystem services. Although this is an exploratory analysis, we show the potential of spatial policy benchmarks as a tool for evaluating the effectiveness of PES targeting, and for exploring potential synergies and tradeoffs between alternative conservation objectives.



Source: Jose Cardenas. Programa GAMMA/CATIE

Polycmix approach

Costa Rica's nation-wide Payment for Environmental Services (PES) program is built on the main assumption that forestland uses provide a bundle of desired ecosystem services. The functional outcome of this assumption is that 'avoided deforestation' has become a proxy for assessing the impact of the PES scheme on achieving conservation goals. However, this proxy may not offer an appropriate measure of the effectiveness of PES. We used a conservation planning tool for developing spatially explicit 'policy benchmark' scenarios based on ecosystem services distribution and additionality value for preventing forest loss.

Reference:

Ramos-Bendaña et al. 2014. Evaluating spatial targeting of payments for forest ecosystem services: Using 'policy benchmark scenarios' derived from conservation planning tools

Website:

Forthcoming at <http://polycmix.nina.no/>

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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:

3 458 312 €

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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