Issue No. 4

POLICY BRIEF

POLICYMIX - Assessing the role of economic instruments in policy mixes for biodiversity conservation and ecosystem services provision

POLICYMIX contribution to Mid-Term Review EU 2020 Biodiversity Strategy





POLICYMIX Policy Briefs bring work in progress to policy makers. Available online: http://policymix.nina.no

About POLICYMIX. POLICYMIX focuses on the role of economic instruments for biodiversity conservation and ecosystem services provided by forest ecosystems. POLICYMIX evaluates the cost-effectiveness and benefits of a range of economic versus regulatory instruments in a variety of European and Latin American case studies.

Title of project: Assessing the role of economic instruments in policy mixes for biodiversity conservation and ecosystem services provision

Instrument: FP7-ENV-2009-1: Collaborative project. Small or medium-scale focused research project

Grant Agreement number: 244065

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The EU FP7 project POLICYMIX (2010-2014) focused on assessing the role of economic instruments in a policymix for biodiversity conservation and ecosystem service provision. POLICYMIX evaluated the implementation processes and outcomes for a selection of economic instruments in seven case studies in Europe and Latin America. In particular, the project evaluated payment for ecosystem services (PES), agro-ecological measures (AEM), tradable development rights (TDR) and ecological fiscal transfers (EFT). The Brazilian and Costa Rican case studies provided important insights into enabling conditions of PES, TDR and EFT, the analysis of which is also relevant for EU Member States. The POLICYMIX project aimed to shift policy assessment away from a focus on 'the cost-effectiveness of individual instruments', towards understanding of how instruments interact with one another on biodiversity conservation and ecosystem service provision. POLICYMIX provided important insights into enabling conditions of PES, TDR and EFT, the analysis of which is also relevant for EU Member States. The POLICYMIX project aimed to shift policy assessment away from a focus on 'the cost-effectiveness of individual instruments', towards understanding of how instruments interact with one another on biodiversity conservation and ecosystem service provision. Website: https://policymix.nina.no/

EU Biodiversity Strategy – which targets and actions did POLICYMIX address?

Target 2 Maintain and restore ecosystems and their services

Action 7 Ensure no net loss of biodiversity and ecosystem services (e.g. through compensation or offsetting schemes)

- ⇒ **POLICYMIX** has evaluated conservation effectiveness and costs of tradable development rights in São Paulo State. Brazil.
- ⇒ **POLICYMIX** reviewed biodiversity offsets and habitat banking schemes

Target 3b increase the contribution of forestry to maintaining and enhancing biodiversity

Action 8a CAP direct payments will reward the delivery of environmental public goods that go beyond cross-compliance (e.g., harvest and planting regulations, ecological set-aside, Natura 2000).

- ⇒ **POLICYMIX** has evaluated trade-offs between payment levels and other characteristics agroecological measures under the CAP in Germany, the Netherlands and Portugal.
- ⇒ **POLICYMIX** has analysed the institutional conditions for protecting biodiversity in managed forests in Finland and under different institutional regulatory frameworks

Action 9a Integrate quantified biodiversity targets into Rural Development strategies and programmes, tailoring action to regional and local needs.

⇒ **POLICYMIX** has used conservation planning tools and spatial multi-criteria analysis to evaluate regional biodiversity conservation targets and the spatial targeting of conservation instruments across forest landscape mosaics in Norway, Finland, Portugal, Costa Rica and São Paulo, Brazil.

Action 11b Encourage forest holders to protect and enhance forest biodiversity; foster innovative mechanisms (e.g. Payments for Ecosystem Services) to finance the maintenance and restoration of ecosystem services provided by multifunctional forests.

- ⇒ **POLICYMIX** has evaluated the effectiveness of PES in combination with protected areas in Costa Rica, the spatial complementarity of voluntary forest conservation and public protected areas in Norway, and the institutional evolution of PES in a policymix in Finland and Costa Rica.
- ⇒ **POLICYMIX** has evaluated the economic costs of avoided deforestation in Brazil and Costa Rica as a cost-effective means to combat climate change
- ⇒ **POLICYMIX** has evaluated ecological fiscal transfers in Brazil and Portugal as an innovative financing mechanism for compensating municipal government for their costs of conservation, and has evaluated its potential in Germany.

Action 12 Integrate biodiversity measures in forest management plans

- ⇒ **POLICYMIX** has evaluated the use of biodiversity indicators such as dead wood, species and site indexes to evaluate the cost-effectiveness of voluntary forest conservation in Norway
- ⇒ **POLICYMIX** has evaluated the opportunity costs to forestry of preserving wilderness areas in Norway
- ⇒ **POLICYMIX** has studied development of PES incentives for afforestation with regards to diversity of species and climate change adaptation needs in Costa Rica
- ⇒ **POLICYMIX** has evaluated the institutional conditions of integrating biodiversity conservation into forest management planning

Target 6 Help avert global biodiversity loss

Action 17c Reduce indirect drivers of biodiversity loss; provide the right market signals for biodiversity conservation, including work to reform, phase out and eliminate harmful subsidies and to provide positive incentives for biodiversity conservation and sustainable use.

⇒ **POLICYMIX** has conducted policymix reviews in its 7 case studies including the role of subsidy removal as a 'policy instrument'. Examples of successful reform of forestry subsidies towards PES include Costa Rica.

Mobilising resources

- ⇒ **POLICYMIX** has reviewed the feasibility of diversifying funding from public and private sources, (EFT, PES, biodiversity offsets)
- ⇒ **POLICYMIX** has critically reviewed the assumptions that market-based instruments are inherently more cost-effective than regulatory or information instruments, with an emphasis on transaction costs.
- ⇒ **POLICYMIX** has tested spatially explicit conservation planning tools and impact evaluation methods to assess the efficient use of financial resources for conservation.

Partnerships for biodiversity

⇒ **POLICYMIX** has evaluated the potential of monetary valuation of ecosystem services to move beyond mere awareness raising of biodiversity values towards contributing to policy design and instrument targeting

Developing a common implementation framework

- ⇒ **POLICYMIX** has developed a stepwise approach 'policymix analysis', contributing to a better definition of the role of economic instruments in a clear and logical governance framework for conservation
- ⇒ **POLICYMIX** analysis aims at minimising the duplication of effort and maximising synergies between instruments implemented at different levels and by different actors and stakeholders;

Source: adapted from The EU Biodiversity Strategy to 2020

References (peer reviewed published per May 2015)

- Barton, D.N., Blumentrath, S. Rusch, G. (2013) Policyscape—A Spatially Explicit Evaluation of Voluntary Conservation in a Policy Mix for Biodiversity Conservation in Norway, Society & Natural Resources: 26:10, 1185-1201, DOI:10.1080/08941920.2013.799727
- Brouwer, R., Tesfaye, A. and Pauw, P. (2011). Meta-analysis of institutional-economic factors explaining the environmental performance of payments for watershed services. Environmental Conservation, 38(4), 380-392, DOI:10.1017/S0376892911000543
- Gebara, M., L. Fatorelli, P. May, and S. Zhang. 2014. REDD+ policy networks in Brazil: constraints and opportunities for successful policy making. *Ecology and Society* **19**(3): 53. http://dx.doi.org/10.5751/ES-06744-190353
- Imbach, P., Molina, L., Locatelli, B., Roupsard, O., Mahé, G., Neilson, R., Corrales, L., Scholze, M., Ciais, P. 2011: Modeling potential equilibrium states of vegetation and terrestrial water cycle of Mesoamerica under climate change scenarios. Journal of Hydrometeorology. 665-680. Vol. 13. Issue 2 DOI: 10.1175/JHM-D-11-023.1
- Klassert, C. and Möckel, S. (2013) Improving the Policy Mix: The Scope for Market-Based Instruments in EU Biodiversity Policy. Environmental Policy and Governance, Env. Pol. Gov. 23, 311–322 (2013). DOI: 10.1002/eet.1623
- Lienhoop, N., Brouwer, R., 2015. Agri-environmental policy valuation: Farmers' contract design preferences for afforestation schemes. Land Use Policy 42, 568-577.
- Lindhjem, H. and Y. Mitani (2012) Forest owners' willingness to accept compensation for voluntary conservation: A contingent valuation approach. Journal of Forest Economics 18(4): 290-302, http://dx.doi.org/10.1016/j.jfe.2012.06.004
- Möckel, S. 2013. Berücksichtigung von Umwelt- und Naturschutzaufgaben bei der Verteilung von Staatsfinanzen zwischen Bund und Ländern Erfordernisse und Möglichkeiten im Rahmen des Finanzausgleich, der Bundesauftrags- und bundeseigener Verwaltung oder den Gemeinschaftsaufgaben. Zeitschrift für Europäisches Umwelt- und Planungsrecht (EurUP), 85-94.
- Paloniemi, Riikka and Vainio, Annukka (2011) 'Legitimacy and empowerment: combining two conceptual approaches for explaining forest owners' willingness to cooperate in nature conservation', Journal of Integrative Environmental Sciences, 8: 2, 123 138. DOI:10.1080/1943815X.2011.576682
- Primmer, E. 2011. Analysis of institutional adaptation: integration of biodiversity conservation into forestry, Journal of Cleaner Production, 19:16, 1822-1832.
- Primmer, E., Paloniemi, R., Similä, J., Barton, D. 2013. Evolution in Finland's forest biodiversity conservation payments and the institutional constraints on establishing new policy. Society & Natural Resources. Vol. 26/Issue 10. 1137-1154. http://dx.doi.org/10.1080/08941920.2013.820814.
- Primmer, E., Paloniemi, R., Similä, J., Tainio A. 2014. Forest owner perceptions of institutions and voluntary contracting for biodiversity conservation: Not crowding out but staying out. Ecological Economics 103, 1-10.
- Raitanen, E., Similä, J., Siikavirta, K., Primmer, E. 2013. Economic Instruments for Biodiversity and Ecosystem Service Conservation & the EU State Aid Regulation. European Environmental & Planning Law 10(1), 6-28. DOI: 10.1163/18760104-01001002
- Robalino J., C. Sandoval, D.N. Barton, A. Chacon, A. Pfaff (2015) Evaluating Interactions of Forest Conservation Policies on Avoided Deforestation. PLoS ONE 10(4): e0124910. doi:10.1371/journal.pone.0124910
- Santos, R., Ring, I., Antunes, P., Clemente, P. (2012): Fiscal transfers for biodiversity conservation: the Portuguese Local Finances Law. Land use policy 29(2): 261-273. http://dx.doi.org/10.1016/j.landusepol.2011.06.001
- Santos, R., P. Antunes, P., I. Ring, P. Clemente (2015). Engaging Local Private and Public Actors in Biodiversity Conservation: The role of Agri-Environmental schemes and Ecological fiscal transfers. Environment Policy and Governance, 25, 83-96
- Santos, R., C. Schröter-Schlaack, P. Antunes, I. Ring, P. Clemente (2015). Reviewing the Role of Habitat Banking and Tradable Development Rights in the Conservation Policy Mix. Environmental Conservation, thematic section on Tradable Rights in Conservation. Published online, doi:10.1017/S0376892915000089
- Sverdrup-Thygeson A, G. Søgaard, GM Rusch, DN Barton (2014) Spatial Overlap between Environmental Policy Instruments and Areas of High Conservation Value in Forest. PLoS ONE 9(12): e115001. doi:10.1371/journal.pone.0115001

- Schröter M, GM Rusch, DN Barton, S Blumentrath, B Nordén (2014) Ecosystem Services and Opportunity Costs Shift Spatial Priorities for Conserving Forest Biodiversity. PLoS ONE 9(11): e112557. doi:10.1371/journal.pone.0112557
- Schröter, M. R. P.Remme, E. Sumarga, D.N. Barton, L. Hein (2014) Lessons learned for spatial modelling of ecosystem services in support of ecosystem accounting. Ecosystem Services, http://dx.doi.org/10.1016/j.ecoser.2014.07.003i
- Schröter-Schlaack, C., Ring, I., Koellner, T., Santos, R., Antunes, P., Clemente, P., Mathevet, R., Borie, M., Grodzińska-Jurczak, M. (2014): Intergovernmental fiscal transfers to support local conservation action in Europe. Special Issue on "The economics of protected areas a European perspective", edited by Hubert Job and M. Mayer. The German Journal of Economic Geography 58(2-3): 98-114.
- Similä, J., Pölönen, I., Fredrikson, J., Primmer, E., Horne, P. (2014.) Biodiversity Protection in Private Forests: An Analysis of Compliance Journal of Environmental Law. 2014, 0, 1–21. doi: 10.1093/jel/eqt029
- Thu-Ha Dang Phan, Roy Brouwer, Marc Davidson (2013) The economic costs of avoided deforestation in the developing world: A meta-analysis *Journal of Forest Economics, Volume 20, Issue 1, January 2014, Pages 1-16.* http://dx.doi.org/10.1016/j.jfe.2013.06.004







