

Ex-ante evaluation of a PES system – a Northern European case on means to safeguard recreation environment for nature-based tourism

Summary

This contribution evaluates landscape and recreational values trading (LRVT), a market-based system for payments for ecosystem services, as a vehicle to facilitate institutional transformation that preserves forested recreational environment for nature-based tourism business. Ruka-Kuusamo in northeastern Finland serves as a case region for LRVT evaluation that focuses on technical feasibility, institutional support, surplus to ecosystem services, and social capacity. The data comprises surveys and group interviews with ecosystem service providers (forest owners) and buyers (tourism entrepreneurs and tourists), complemented with newspaper articles, forest data and meetings minutes of local authorities. The results show tension between general acceptance and practical readiness to start LRVT. While hidden agendas and locked power positions maintain inertia in institutional transformation, several years of research intervention and public discussion have resettled the network of local actors to a promising position that shows capacity to co-create a functional LRVT system.

Introduction

Payments for environmental or ecosystem services (PES) are becoming a popular topic in Finnish practical and scientific discussion related to the governance of natural resources. The idea of changing the incentive structure from state subsidies, having long tradition in Finnish society, towards market-driven mechanisms is getting more and more attention. Inevitably there is now a political momentum for putting the PES concept into practice. So far the very first examples of practical initiations of PES have been launched in Finland, for protecting old forests (Primmer et al. 2013) and for improving recreation values of forests (Järvinen 2008). Recently PES has also been proposed as a transcendent means to safeguard landscape and recreational values of forests for nature-based tourism (Tyrväinen et al. 2014).

Primmer et al. (2013) called for rigorous attention to institutional context around PES schemes, to add to the realism of both the assumptions and the expectations towards potentials of PES in Finland. Practical implementation of fundamentally new governance measures, like PES, requires substantial changes in local co-operation structures and everyday practices. Institutional context is fundamentally defining practical applicability of any regional PES-schemes.

Sharing the viewpoints of Primmer et al. (2013) we conducted, in years 2010-2014 an intensive case study in Ruka-Kuusamo, northeastern Finland. Privately owned forests dominate the area, which simultaneously is one of the most attractive nature-based tourism areas in the Northern Europe. A significant tension between different ecosystems services has been a peculiar feature of the region along the last 50 years, rooting on the fact that both the traditional forest industry with remarkable local sawmills and nature-based tourism have both essential roles in the local economy.

New regional forest governance approaches were piloted in Ruka-Kuusamo in close co-operation between researchers, forest owners and nature-based tourism entrepreneurs. Among other things, this hands-on project led to intensive marketing of a PES procedure, which is called landscape and recreational values trading (LRVT), originally launched by the Central Union of Agricultural Producers and Forest Owners (MTK).

The procedure is landowner-centric, trying to motivate individual forest owners and potential buyers to negotiate bilateral contracts (Järvinen 2008). In addition to this, a call for regionally coordinated “genuine” PES-scheme was raised, in order to achieve more fundamental improvements to forest management practices in the region. Scientific results from both “willingness to pay” studies and “willingness to offer” studies gave promising results on potentials of a regional PES-scheme for safeguarding and developing recreation environment in the case area (Mäntymaa et al. 2014; Tyrväinen et al. 2014).

Anyhow, these findings are based on the symbolic responses in a survey study setting and they do not discover institutional contexts at all. As a complement to these studies, the aim of this paper is to conduct a realistic ex-ante evaluation on the potentials of the proposed PES-schemes to safeguard recreation-environment in Ruka-Kuusamo.

Material and methods

The evaluation will focus on four aspects: (1) technical feasibility and (2) institutional support of a PES-scheme in the present context; potential surplus of a procedure to (3) ecosystem services and to (4) social capacity of the area.

The evaluations of technical feasibility will be based on the following criteria (adapted from Wunder 2005, Engel et al. 2008, and Cole et al. 2014):

- Is the recreation environment well-defined and measurable ES?
- What kind of forest management mode is likely to secure this service?
- Are there potential voluntary buyers?
- Are there potential voluntary service providers?
- Are there potentials to construct and agree upon a technically feasible and economically efficient intervention, which ensures
 - o Direct and adequate payment to providers;
 - o Secure and additional service provision after transaction; and
 - o Avoidance of leakage of PES flows?

The institutional context (Corbera et al. 2009) will be analysed by Scott’s (2001) three-pillar framework of institutions, comprising regulations, norms, and cultural-cognitive dimensions.

The potential surplus to recreation environment will be evaluated based on the secondary data (Tyrväinen et al. 2013), and compared to opportunity costs, here cutting income loss, which will be calculated from the actual forest inventory data of the case area.

The considerations on how the PES-scheme might affect social capital of the region will apply Lin’s (1999) model of social capital (see also Mann & Leahy 2010).

Research materials included surveys to ES providers (forest owners) and buyers (nature tourism entrepreneurs and tourists), as well as workshops about different aspects of PES-schemes with forest owners and key actors in nature tourism. Also rich variety of secondary materials, like articles in local newspapers, forest data, and meeting minutes of local authorities were applied in the study.

Results

According to preliminary analysis, the following aspects of PES system potentials for safeguarding recreation environment in Ruka-Kuusamo appeared:

- There exists a clear contradiction between rhetoric acceptance and practical readiness to apply regional PES schemes in this particular institutional context.
- A linear utility function model (that forms an implicit basis to traditional contingent valuation or choice experiment studies) does not give nuanced enough information to evaluate surplus that different forest management intensities generate for safeguarding recreation environment. Instead, numerical or qualitative partial utility functions should be conducted.
- Among the potential service providers there exists a deep hidden agenda that might lead to considerable leakage and even worsen the quality of recreational environment, if recreation value markets or any other PES-scheme will be applied widely in the present institutional context, which is dominated by a strong network of economically oriented forest profession.

Conclusions

It is evident that hidden agendas and locked power positions are maintaining inertia in institutional transformation at Ruka-Kuusamo. Several years of research intervention and public discussion catalysed a transition process where cognitive-cultural definitions and discourse positions have been resettled in a way that might create increasing capacity for new social innovations like PES. Results of the study are applicable in similar institutional contexts where voluntary coordination of forest management is needed between private forest owners and nature-based tourism. Furthermore, as an ex-ante evaluation, the study contributes to the scientific discussion on evaluation studies of PES.

References

- Cole, S., Aponte, A.P., Hasselström, L., Stavlöf, U., Engström Stenson, D. 2014. Developing Payment for Ecosystem Services - A synthesis of the approach and lessons-learned from a pilot project to protect mangrove forests in Vietnam. FORES study 2014:3. 148 p. FORES, Stockholm, Sweden.
- Corbera, E., González Soberanisc, C., Brown, K. 2009. Institutional dimensions of Payments for Ecosystem Services: An analysis of Mexico's carbon forestry programme. Ecological Economics 68: 743-761.
- Engel, S., Pagiola, S., Wunder, S. 2008. Designing payments for environmental services in theory and practice: An overview on issues. Ecological Economics 65: 663-674.
- Järvinen, E. 2008. Recreational Value Trading. ETFRN NEWSLETTER: SEPTEMBER 2008: 221-125.
- Lin, N. 1999. Building a Network Theory of Social Capital. CONNECTIONS 22(1): 28-51.
- Mann, M., Leahy, J. 2010. Social Capital in an Outdoor Recreation Context. Environmental Management 45: 363–376.

Mäntymaa, E., Ovaskainen, V., Tyrväinen, L., Jacobsen, J.B., Thorsen, B.J. & Vedel, S.E. 2014. Valuation of recreation, examples from case studies. In: Thorsen, B.J., Mavas, R., Tyrväinen, L., Prokofieva, I. & Stenger, A. (eds.). *The Provision of Forest Ecosystem Services. Volume 1: Quantifying and valuing non-marketed ecosystem services. What Science Can Tell Us* 5. European Forest Institute, Joensuu. p. 63-68.

Primmer, E., Paloniemi, R., Similä, J., Barton, D.N. 2013. Evolution in Finland's Forest Biodiversity Conservation Payments and the Institutional Constraints on Establishing New Policy. *Society & Natural Resources* 26(10): 1137-1154.

Scott, R. W. 2001. Institutions and organizations, 2nd ed. Thousand Oaks, CA: Sage.

Tyrväinen, L., Mäntymaa, E. & Ovaskainen, V. 2014. Demand for enhanced forest amenities in private lands: The case of the Ruka-Kuusamo tourism area, Finland. *Forest Policy and Economics* 47: 4–13.

Wunder, S. 2005. Payments for Environmental Services: Some Nuts and Bolts. CIFOR, Occasional Paper No. 42.