



Participation and compensation claims in voluntary forest landscape conservation: The case of the Ruka-Kuusamo tourism area, Finland

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ABSTRACT

The expansion of nature-based tourism on private land requires new mechanisms to coordinate tourism industry and commercial forestry interests. This attribute-based contingent valuation study elaborated the supply side of potential payments for ecosystem services (PES) mechanism named Landscape and Recreational Values Trading (LRVT), proposed to enhance the provision of amenity values in privately owned forests located in tourism and recreation areas. Using a mail survey data set, we analyzed forest owners' willingness to participate in LRVT and the related compensation claims in the Ruka-Kuusamo area, Finland. We found that more restrictive rules regarding forest management practices decrease the probability of participating and increase forest owners' compensation claims in LRVT. Furthermore, forest owners seem to claim more compensation if, instead of private negotiations, competitive tendering is used to make contracts. Moreover, besides the protection of landscape values, biodiversity protection may be a motive for participation. This indicates that, in addition to improved landscape quality, respondents gain personal benefits from enhanced biodiversity in their own forests. The results can help in designing and implementing a future payment mechanism for the provision of forest landscape and recreational values in terms of how to proceed and whom marketing and recruiting efforts should target.

Introduction

Nature-based tourism in forested regions

Nature-based tourism (NBT) is an important and growing economic sector in Central and Northern Europe and has high potential in the forest-rich countries in Eastern Europe. In Finland, Norway and Sweden, the growth potential for new tourism business is included in the current bioeconomy strategies (Finnish Bioeconomy Strategy, 2014; Sustainable Innovatio, 2013; Swedish Research and Innovation Strategy, 2012), and the growth relies strongly on an increased number of foreign visitors, including those from outside Europe (e.g., Roadmap for Tourism, 2015; Tyrväinen et al., 2017b). NBT companies typically operate in rural regions. They are often small, and they cooperate with other companies, resource users and resource owners — namely, landowners. NBT entrepreneurs, however, face different socio-political contexts, protection regimes and ownership statuses in different regions

and countries (Bell et al., 2008; Fredman and Tyrväinen, 2010). Some entrepreneurs have established their service mainly in publicly owned protected areas, but, in some areas and regions across Europe, the businesses are based largely on the utilization of privately owned forests.

NBT builds on attractive nature, nature experiences and activities and is highly dependent on the quality of the natural environment (Margaryan, 2016; Tyrväinen et al., 2008). Particularly in the Nordic countries, free access to all nature areas, independent of the land ownership, i.e., the Right of Public Access, is an important asset (Kaltenborn et al., 2001; Sandell and Fredman, 2010). As a result, managed forests act as an important resource for outdoor recreation. In regions with intensive wood (biomass) production, short rotation cycles — for example, less than 60–70 years — and large management units, are often common practices in forest management. These may negatively affect the amenities of the forest landscape and thus decrease the environmental quality of forests for tourism.

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The forest preference studies conducted in Northern Europe and in the United States have concluded that people appreciate mature forests with good visibility, some undergrowth and a green field layer with no strong visible signs of forest management (e.g., Gundersen and Frivold, 2008; Ribe, 2009). In contrast, large regeneration cutting areas and direct traces of cutting, such as signs of soil preparation and logging residue, reduce the recreational quality of forests. It is, however, obvious that demand for modified forest management from tourism differs between different recreation activities and tourism seasons. A downhill skier on a mountainside may enjoy scenery located farther away than a hiker within a forest (Silvennoinen, 2017). During the summer, the traces of cutting often are more disturbing than in winter, when snow covers the ground (Tyrväinen et al., 2017a). Consequently, areas with growing tourism and recreational use are facing demands to modify forest management to maintain and enhance the landscape, recreational and biodiversity values. Adapted landscape management methods are called for in active recreational or tourism areas, in particular along trails and paths and near other tourism services and structures.

In Finland, as in some other countries, legislation poses specific requirements for the management of state-owned commercial forests to provide social and environmental services, along with timber (Act on Metsähallitus, 2016). Consequently, for example, in forest cuttings, buffer zones are left along lakes, rivers, and hiking trails to preserve wooded scenery. In practice, different uses and management goals, including the needs of tourism entrepreneurs, are negotiated within a participatory planning process. In contrast, private lands management decisions are made by individual landowners, while current forest legislation is mainly designed to safeguard renewal of forest stands and protect valuable sites for biodiversity; not to maintain landscape and recreation values (Act on changes in Forest Act, 2013). Therefore, new mechanisms in private forests are needed to enhance production of landscape and recreation values and also help in integrating tourism and commercial forestry needs and interests.

The social and economic forest benefits from amenity values can be significant, although they are not always reflected in the market prices. In fact, visitors are shown to be willing to pay for an enhanced supply of forest amenities in tourism areas, in particular for enhanced landscape and biodiversity values (Tyrväinen et al., 2014). According to a choice experiment study by Mäntymaa et al. (2018), a conservative estimate of an average willingness-to-pay per visitor for increasing quality of landscape and biodiversity in the Ruka-Kuusamo area would be 7 euros per visitor per week (i.e., 1 €/visitor/day). Assuming an estimated annual number of 500,000 registered overnight stays in the area, such a payment could eventually result in an annual revenue of half a million euros.

In privately owned forests, however, economic incentives for landowners to support the production of amenity values for public use are lacking. Therefore, the provision of these values is not adequately taken into account in forest management. Moreover, most subsidies for private-forest owners (for example, in Finland), target the enhancement of timber production (Hänninen et al., 2017). Therefore, new funding instruments that support the provision of amenity benefits on private land as well as compensation mechanisms that bring income to landowners have attracted attention in recent studies (e.g., Mäntymaa et al., 2018; Thorsen et al., 2014).

New ways to integrate nature-based tourism and commercial forestry

In Finland, a new idea for a PES system has been proposed, called Landscape and Recreation Value Trade (LRVT), in which forest owners would be compensated for voluntarily enhancing the provision of landscape and recreational values in their own forests (Tikkanen et al., 2017; Tyrväinen et al., 2014). It has been suggested that the funds for the mechanism can be collected from the visitors and tourism entrepreneurs using the area. The funding may, however, also be gathered

from a combination of actors and sources from both the public and the private sector in a way that locally works the best (e.g., Payments for Ecosystem Services, 2013). To evaluate the prerequisites of the future system, it is important to assess the acceptability of the mechanism and the compensation claims among forest owners.

In Europe, public forest owners are often more inclined to consider the provision of long-term production values and public goods, while private owners are more oriented towards short-term benefits and private goods (e.g., Gorriz et al., 2014). However, private-forest ownership studies show diverse motivations, attitudes and goals linked to their ownership (Boon et al., 2004; Kuuluvainen et al., 1996; Majumdar et al., 2008). In a study by Leppänen (2010) on Finnish forest owners' objectives, owners were grouped into multi-objective owners, recreationists, self-employed owners, investors and indifferent owners. The mix of goals has increased due to urbanization and a decrease in owners' dependence on forest-based incomes. The diversification of goals may also be linked to general value changes in society (Dominguez and Shannon, 2011; Karppinen and Korhonen, 2013). In principle, the more the owners' objectives are in line with producing multiple benefits or amenity benefits, the more likely it is that they will be willing to adopt the use of voluntary instruments that enhance the provision of ecosystem services (Gorriz et al., 2014; Mäntymaa et al., 2009).

In Finland, a country with 5.4 million inhabitants, 737,000 forest owners manage some 347,000 forest holdings exceeding 2 ha of forestland (Finnish statistical yearbook of forestry, 2014). Finnish studies have recognized the increased share of multi-objective or amenity value-oriented forest owners during the past decades (e.g., Hänninen et al., 2011; Valkeapää and Karppinen, 2013). A recent study by Häyrynen et al. (2017) dealing with the future use of forests and the perceptions of non-industrial private-forest owners in Finland found that forest owners were emphasizing future value creation based on forest ecosystem services. This would mean that the use of forests would be diversified in the future beyond the dominant raw material-driven mindset. Thus, new possibilities may emerge for the provision of forest-based recreational services, cooperation with NBT and increasing value-added wood products.

So far, a lot of research on environmental benefits in a PES framework has been conducted regarding agricultural environments (Christensen et al., 2011; Lienhoopa and Brouwer, 2015; Villanueva et al., 2015, 2017). In addition, water-related issues have received extensive interest (see Martin-Ortega et al., 2013). Research on private-forest owners' willingness to engage in producing amenity benefits with PES schemes has focused largely on biodiversity conservation (e.g., Horne, 2006; Lindhjem and Mitani, 2012; Mäntymaa et al., 2009; Vedel et al., 2015a, b). There is considerably less research on how to enhance landscape and recreational values (Ovaskainen et al., 2014). As far as we know, some important topics, such as the use of competitive tendering or private negotiations in the organizing of PES, or forest owners' possible reactions to different levels of restrictions in forestry practices, have not been analyzed. Thus, there are several open questions related to participation and the compensation that forest owners would claim for making voluntary agreements to provide landscape and recreational values. There is a clear need to analyze the details of the feasibility of LRVT, as they may be crucial for the acceptance of and the willingness to participate in the mechanism, as well as the compensation, claimed by forest owners. In addition, this study sheds light on a methodological aspect. Except for the study by Moore et al. (2011), there are not very many studies in valuation literature that apply attribute-based contingent valuation method (AB-CVM). This study gives new information about the pros and cons of the use of AB-CVM.

The aim of the study is to discover private-forest owners' willingness to engage in voluntary contracts and compensation agreements to enhance the amenity benefits of forests in the Ruka-Kuusamo tourism area in northeastern Finland. Using a data set from a mail survey, we analyzed the acceptability of a new local PES system (LRVT) among forest

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