



# Motivations and experiences in managing rare semi-natural biotopes: A case from Finland



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## ABSTRACT

Traditional rural biotopes (TRBs) are semi-natural farmland habitats of high nature value formed through traditional agricultural activities, such as grazing and fodder collection. The aims of this study were to 1) understand manager motivations for managing TRBs and their attitudes toward TRB conservation and 2) determine whether TRB managers differ in attitude, motivation for management, experiences or area under management depending on whether their managed TRBs are integrated or separate from their farming systems. Farmers and landowners ( $N=27$ ) managing TRBs in coastal Finland were interviewed. In addition to quantitative analysis, responses were mapped with DebateGraph for inductive analysis to discern patterns amongst the two groups and to explore a series of questions related to motivations. Although area under management and farming strategy varied amongst managers, they all had a positive view toward the existential value of TRBs. A small group of “TRB entrepreneurs”, whose farming strategy was based on grazing primarily rented TRBs was identified. Their farming income was dependent upon direct sale of meat and participation in agri-environmental scheme for TRB management. Desire for open landscape was the primary motivation for managing TRBs and strongly outweighed extrinsic values such as fodder production and AES. Higher TRB: farm ratio was associated with more positive attitude toward TRBs and TRB conservation. No difference was found in motivation for management between the two farmer groups. Although motivations were similar, improved and tailored extension services for TRB managers could promote their conservation management.

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## Introduction

Traditional rural biotopes (TRBs) are semi-natural farmland habitats formed through traditional agricultural activities, such as grazing and fodder collection. The term TRB is used in Finland and other Nordic countries in particular and refers to a range of habitat types, including semi-natural grasslands, grazed woodlands, heaths and rocky meadows. The importance of TRBs for biodiversity related to the agricultural landscape is well documented, and TRBs are classified in the European Union (EU) as high nature value (HNV) farmlands and included in the EU's concept of multifunctional agricultural landscapes (Beaufoy and Cooper, 2009; European Environment Agency, hereafter EEA, 2010a). TRBs in Finland are included in Finland's Areas of National Responsibility under the EU Habitats Directive (92/43/EEC; Schulman et al., 2008).

As in the rest of Europe, HNVs associated with traditional agricultural management have declined dramatically in recent decades in Europe (EEA, 2010b; Henle et al., 2008; Schulman et al., 2008; Vainio et al., 2001). Immediate drivers of change vary from abandonment to development but all result from a combination of changes in agriculture, demographics and conversion of land from traditional agriculture management to other uses. The loss of TRBs and other non-arable landscape structures are the most important factors driving the decline of biodiversity in Finnish agricultural landscapes (Aakkula et al., 2010).

Both voluntary and non-voluntary means are used in Europe to address the decline in European HNV grasslands and other TRBs. Primary mechanisms are voluntary agri-environment schemes (AES) for the maintenance of endangered biotopes and habitat associated with agriculture and the legislative Natura 2000 program (EEA, 2004). In Finland, AES for TRB management and the non-production subsidy for restoration of TRBs are among the most effective subsidies for biodiversity conservation in the agricultural landscape (Aakkula et al., 2010). The quality of management depends greatly on extension services and available resources

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for realizing management (Kemppainen and Lehtomaa, 2009; Schulman et al., 2008).

Farmers who own or manage TRBs are the most important site-level decision-makers for TRB conservation and management. Understanding of the farmer strategies and rationales, as well as the conditions, under which they arise, is essential to understanding conservation behavior (Long and Ploeg, 1994; de Snoo et al., 2012) and important to designing effective policy incentives (Reeson, 2008). Within social sciences there are several concepts and theories that provide a framework for research into farmers' responses to AES schemes. Of these, two are claimed to be in particularly widespread use: one from rural sociology (farming styles) and one from social psychology (Theory of Planned Behavior) and have been particularly useful in understanding farmer behavior as it relates to conservation (de Snoo et al., 2012). The "farming styles" theoretical framework emerged largely through the work of Van der Ploeg (1994) and refers to the development over time of normative ideas of how farming should be done. According to Van der Ploeg (2010), "Farming style is a specific pattern for tying together land, labor, cattle, machines, networks, knowledge, expectations and activities; this is done in a goal oriented, knowledgeable and coherent way". The Theory of Planned Behavior (Ajzen, 1991) considers key components that influence behavior. These are suggested to be attitudes, subjective norms and perceived limitations on behavior or actions that can be undertaken. Both theories focus on farmer agency in decision-making, rather than external structural factors. Agency is considered important because farmers (like others) devise ways to deal with problematic situations and also actively seek to create space for their own interests (Busck, 2002; Long and Ploeg, 1994).

A demonstrated stewardship ethic in which farmers make decisions based on non-financial considerations and when their decision-making on landscape management is intentional is evident in attitudes and behavior (e.g. Ahnström et al., 2008; Beedell and Rehman, 1999, 2000; Boonstra et al., 2011; Busck, 2002; Greiner and Gregg, 2011; Schmitzberger et al., 2005). These same studies stress complexity in decision making, driven in part also by societal wishes (i.e. subjective norm) and modified by, among others, extension services and experiences (i.e. perceived limitations on behavior or actions). Management of TRBs provides a useful framework for exploring manager decision-making on conservation in agricultural landscapes because TRBs have strong cultural connotations, may or may not bring direct revenue, are subsidized by the government, and are a target for agricultural extension.

The aims of this study are to 1) understand TRB manager motivations for managing TRBs and their attitudes toward TRB conservation and 2) determine whether TRB managers differ in attitude, motivations, experiences or structural factors according to the role of TRBs in their farming systems. In particular to aim two, a simple classification based on whether or not TRBs are used in the farming system or managed separately from the farm system was made. Four general themes are addressed: basic demographic information on managers, their farms and TRB area; manager knowledge of TRB conservation issues; experiences and opinions of the agricultural policy environment via extension and inspection services; and motivations and personal values related to TRB management.

The impetus behind testing a simple taxonomy based on the role of TRBs on the farms was previous research, which revealed that TRB managers may be either farmers who use TRBs in their farming or farmers/landowners who do not themselves use TRBs on their farms (Birge and Fred, 2011). Current policy does not differentiate between such groups but their motivation for participating in AES and/or managing the areas may differ. If motivation for management differs depending on the role of TRBs on the farm, it could be important for creating tailored extension materials or services that better meet TRB manager needs. Here 'use TRB' means the TRB is

integrated in some fashion to the farm activities (in practice, grazing or fodder collection). Potential benefit from rental income was not considered 'use' (it could be mentioned as a motivation for management). TRB management is defined as annual grazing, haying, or mowing of the TRBs. Throughout this paper, the term 'managers' refers to farmers and TRB owners who are responsible, either in practice or through their land-use decisions as landowners, for managing TRBs.

## Material and methods

### Study region and farm data

Research was carried out in Raseborg Municipality, located on the Baltic Sea coast in SW Finland (coordinates: 59.97° N, 23.43° E). Total area of Raseborg is 2178 km<sup>2</sup>, of which 1035 km<sup>2</sup> is water, and the total population is 29,000 persons (Town of Raseborg, 2012). Mean farm size in Raseborg is 48 ha, which is typical for the Uusimaa region (Finnish Agency for Rural Affairs 2010 personal comm.; Statistics 2011). Agriculture and tourism are major drivers of the local economy. Raseborg is significant for TRBs in Finland, as it contains a high proportion of all managed TRBs in the respective province (approximately 330 ha of managed areas, Ekenäs Stad, 2006; Pykälä and Bonn, 2000) and managed TRBs are found on a variety of farm types: historical manors, small-holdings and mid-sized farms. The nationally valuable TRBs of Finland's first official Landscape Conservation Area, called Skärlandet, are included in this study.

The Finnish Agency for Rural Affairs provided farm-level data, including: land use, area, AES information and production type for farms in Raseborg Municipality. These data were used in triangulation of TRB managers and for analysis.

### Selection process

Target population was farmers and farm owners with managed TRBs in Raseborg. Triangulation was used to identify potential TRB owners and managers because no comprehensive database of TRB owners exists. Potential managers were identified by a combination of AES statistics provided by the Finnish Agency for Rural Affairs (43 contacts), literature (5) and results from a postal questionnaire sent to all farmers in Raseborg (42; Birge and Fred, 2011).

Triangulation resulted in 59 unique potential TRB managers. Of these, 52/59 were contacted to verify they have TRBs and to try to arrange interviews. Criteria for being included in the interview were that the farmer or landowner had actively managed TRBs >0.5 ha and was a primary decision-maker for TRB management. A total of 27 managers fit the criteria and agreed to be interviewed. Reasons for not being interviewed were: no managed TRB ( $n=9$ ), site too small or management activity <1 time/year ( $n=9$ ), unavailable/refusal ( $n=7$ ). All interviewees were farmers, save one who represented a corporation that owns large tracts of land (including a farm and managed TRBs). Primary interviewees consisted of eight women and 19 men but family members also participated in some cases.

### Interview process

Interviews were conducted using a moderately flexible format and were carried out in person by a pair of interviewers using an interview guide during summer–autumn 2010. TRB owners and farmers were asked 'closed answer' questions but were encouraged to provide comments or explain their answers. Interviewers discussed responses with managers to better understand comments and to clarify responses that seemed incongruous. Interviews lasted from 0.5 to 2 h.

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