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Title: Gender in European Forest Ownership and Management – Reflections on Women as “New Forest Owners”

Running headline: Female forest owners

Authors: Gro Follo*, Gun Lidestav, Alice Ludvig, Lelde Vilkriste, Teppo Hujala, Heimo Karppinen, François Didolot and Diana Mizaraite.

Information for corresponding author, Gro Follo:

Address: Centre for Rural Research

University Centre Dragvoll

7491 Trondheim

Norway

E-mail: gro.follo@bygdeforskning.no

Telephone: + 47 73 59 67 48

Fax: + 47 73 59 12 75

Information on the co-authors is given in the Author Center, Submit a Manuscript.

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### Abstract and Keywords

**Abstract:**

The group of female forest owners is growing across Europe and currently estimated to be about 30% of all private owners. This new category of forest owner merits a closer look. By introducing a gender perspective across three different research frameworks, this paper substantiates that gender matters in forest ownership, management, operations, and the understandings of these three aspects. Where gender-disaggregated data is available, and gender is assessed as an empirical variable, we find differences in numbers between male and female forest owners in most countries. By adding the concept of gender as a relational and structuralizing category, we demonstrate that gender-structures affect e.g. actual behavior of female and male forest owners and the self-evaluation of forestry competence. Further, when considering gender as a meaning category we explore how meaning produces behavior and behavior produces meanings, and how both shape institutions and natural and artificial matter. Here forestry competence is the applied example. To further increase the knowledge on new forest owners, we recommend i) fellow researchers in the field to assume that gender matters and design their empirical studies accordingly and ii) policy makers to guarantee access to gender-disaggregated data in official registers and statistics.

Keywords: Female forest owners, gender-disaggregated data, meta-analysis, NIPF owners

**Text**

**Introduction**

In Europe, unlike many other parts of the world, forest land is to a large extent owned by small-scale forest owners (FAO 2010). Typically, a traditional small-scale forest owner also does farming and the entire property constitute the basis for residence and livelihood of the family/household, sometimes as the single or major resource for subsistence, sometimes as complementary to it (Lidestav and Nordfjell 2005; Hänninen and Karppinen 2010; Hänninen et al. 2011). However, recent structural changes in agriculture and forestry, as well as in European lifestyle (Eurostat 2011), have challenged the notion of a family/household based farm-forest ownership as the provider of income and residence. Generally speaking, are the ties between the owner and the land gradually dissolving, and replaced by an ownership relation characterized by little or no involvement in management of the forest, and residence outside the forest property. Fragmentation by sub-division of land and/or by joint ownership is other common attributes of the current changes. The phenomenon is also known as the growing share of “new” types of forest owners (Hogl et al. 2005), which because of their heterogeneity and presumed lack of forest knowledge and economic incentives are considered as a potential problem for the forest industry and policy makers.
An industrial wood supply perspective on small-scale forest ownership has also been apparent in research, particularly in studies carried out in the 70ties and 80ties by researchers in countries with a significant forest industry like Finland and Sweden. Typically, large data sets from mail surveys were analysed by different statistical methods in order to identify variables by which forest owners could be categorized by their current management, and furthermore to provide a basis of predicting future behavior in relation to policies and communication strategies (Fischer et al. 2010). The size of the forest property has shown to be positively correlated to harvesting activity and forest management while the age of the owner shows the opposite. A higher degree of forestry activity is also to be expected if the forest owner lives on the property, does farming and performs some forest operations him/herself (see e.g. Boon et al. 2004; Lidestav and Nordfjell 2005; Hänninen et al. 2011). By the influence of a new environmental paradigm, that values forests for their intrinsic as well as instrumental values, more recent research examines attitudes that small-scale owners have towards set-aside areas for nature conservation or other measures associated with new forest and environmental policies. Studies by Eriksson (2012) and Uliczka et al. (2004), among others, indicated the impact of higher education. Another trend shift to be noticed is that researchers with experiences from outside the forestry research area used qualitative studies and applied theories from social sciences, and thereby has also “gender” emerged as a variable and a concept (Fischer et al. 2010).

Women have only recently been recognized as a category of forest owners (FAO 2006), and should thereby from a research as well as policy point of view be considered “new forest

owners”. Although data and research are very limited, Schmithüsen and Hirsch (2010) estimates that the group of female forest owners across Europe currently amount to some 30% of all small-scale forest property holders. We understand this lack of recognition of women as to be caused by a traditionally predominant focus on active management and self-employment in forestry operations, which has been shown to be limited in the case of females (Strupstad 1991; Lidgettav and Wästerlund 1999; Follo 2001). It has been common knowledge that private forestry predominantly has been a masculine socio-technical system, and being a female forest owner or female forestry advisor has been considered an interesting exception (Lidgettav and Wästerlund 1999). To put it simply, as the paramount activity in forestry is harvesting, and harvesting is conducted by men, forestry can be defined as “what men do”. Given such a definition, the gender equality issue is in effect about making women as competent, active and interested in harvesting as men. However, the scope of contemporary forest policy in Europe is broader than just harvesting, and includes environmental and social aspects as well as consideration of other industries. As a result, policy involves other perspectives, interests and activities than it did previously (Winkel et al. 2013).

Research findings suggest that to be in the world as a forest owner is something different from being in the world as an employee or a shareholder, for instance as regards intergenerational and emotional ownership values (Lidgettav et al. 2000; Follo et al. 2006; Follo 2008; Vainio and Paloniemi 2009; Lidgettav 2010; Lähdesmäki and Matilainen 2014). Living everyday life as a woman is also different from the everyday life of a man (for a theoretical-philosophical approach, see Irigaray 1985). Consequently to be in the world as a forest owner is something different from
being in the world as a non-forest owner, but to be in the world as a female forest owner is also something different from being in the world as a male forest owner.

The paper sets out to demonstrate how the understanding of the current changes in small-scale forest ownership in Europe can be improved by including a gender perspective not only by considering gender as an empirical variable, but also gender as a relational and structuralizing category as well as gender as a meaning category. We start by exploring how gender is represented as an empirical variable in forest ownership statistics. Next, we consider how these numbers can be interpreted theoretically. By way of the framework gender as a relational and structuralizing category, we ask: What is there to be known about female and male forest owners as categories, respectively, and how are the differences constituted? Thirdly, we investigate what we are able to see if we approach gender as a subsystem of a larger meaning system. Finally, by applying these three gender frameworks, we conclude by recommending some implications for future research and policymaking.

Socio-cultural practices set different conditions for women and men, and at the same time it is the individuals that constitute society with their social practices. This implies that there are interchanges between structures and actions situated in a social and cultural context (Bourdieu 1984; Bhaskar 1989). In this interaction, conditions are reproduced or contested, and when the contesting forces are more influential than the reproducing forces, change will occur and new perspectives will be added. The individual is always preceded by the society, which sets the framework in terms of possibilities and restrictions. This means that forest owners, forestry
professionals and researchers may reproduce these structures consciously or unconsciously (see e.g. Follo 2001; Häggqvist et al. 2010). However, it is also possible for agents to modify the structures, both with thoughts, words and actions. As we consider gender awareness crucial for better understanding the issue of “new forest owners”, we as researchers on forest and forestry have a particular responsibility to problematize the issue using a gender perspective.

Gender and Sex are categories of difference and differentiation. In everyday language, both terms are often used interchangeably, however in scientific work they are distinguished. “Sex” denotes biological differences whilst “Gender” refers to distinctions between males and females in terms of their social role and status (Squires 1999). This implies that the way women and men are perceived and act can change in time and under changing social and cultural conditions (Moore 1988; Arora-Jonsson 2005). However, the main attribute of gender is that it operates through imaginations and stereotypes of “femininity” and “masculinity”.

In everyday life, gender-aspects are inevitably linked with the physical body, because social and cultural attributes of difference always get attached to the physical phenomenon of the (assumed) mutually exclusive biological dichotomy “male” versus “female” (Braidotti 1994). In such a perception an individual can only either be of male or female sex/gender and presumably never both, never something in-between (for a critique of these assumptions see Fox Keller 2002).

Gender socialization is the process by which boys and girls (primary socialization) and men and women (secondary socialization) learn the expectations associated with their sex (see e.g. Berger and Luckmann 1991, p. 149-182.) All aspects of daily life and society are affected, including Scand J For Res...
personal self-concepts at the individual level, social and political attitudes, and perceptions and
relationships about other people. Family, peers, schooling, religious training, mass media, and
popular culture are just a few of the institutions through which gender socialization happens
(Brooks 1997).

Including a gender perspective in research is not the same as doing gender research. Whilst the
former can be included in all kinds of broader research, the latter focuses on “gender” as its
pivotal point. This is not to be confused with doing “feminist research”, a clearly more politically
motivated strand of research within the struggle for equality and the change of male-female
power relations (on feminist research and feminism see for instance Saarinen 1992 and Holst
2005). Thus, there may be several reasons for considering gender and it may include different
goals.

**Material and Methods**

The study method has two main elements: A compilation of current data and publications on
European forest ownership, and a collective meta-analysis of those by a team of researchers from
seven countries (the authors).

Within the Cost Action FP1201 *Forest Land Ownership Changes in Europe: Significance for
Management and Policy (FACESMAP)* representatives of the participating countries were asked
to tell if gender-disaggregated ownership data exist in their country, and if so provide figures and
references to corresponding sources and literature on gender in forest ownership issues. Sixteen
of the 28 involved countries reported existence of some gender data, and from the country reports
50 sources and publications covering 17 countries were identified, whereof 16 providing figures
on female forest ownership (Živojinović et al. 2015). Further, the team of authors provided 15
references on additional literature/publications from their respective countries and a summary of
the content in English.

The collective meta-analysis of the total 65 sources and publications was conducted through a
process where we together discussed and scrutinized the information by using our expert
knowledge on European forestry and forest owners, benefiting from our different professional
backgrounds in forestry (5), geography (1), pedagogy and anthropology (1) and political science
(1) as well as our country-specific knowledge on the contextual conditions in Austria, Finland,
France, Latvia, Lithuania, Norway and Sweden. Deliberately we focused our meta-analysis on
information provided in the 49 most relevant publications from our own seven countries, but
when needed asked colleagues from other FACESMAP countries for more information regarding
their country’s contextual conditions and their included publications/studies. During a series of
face-to-face and skype-meetings, and in the draft-writings, the collective wisdom (Landemore
2012) of this broad expertise team of researchers was tapped. We asked ourselves: What does this
(or that) particular figure (or lack of figures) tell us? How may this (or that) particular finding or
statement be understood when applying our country-contextual knowledge, and different gender
frameworks? Thereby we were able to identify several knowledge gaps, but also what we
considered to be misinterpretations due to a too shallow or limited understanding of “gender”.
For example, when differences between male and female forest owners’ forest management
behavior were interpreted as an outcome of being born as man or woman without considering the
doing of gender and/or the meaning-making of gender. Our reasoning was social (Sperber and
Mercier 2012), that is, the argument from one of us was contested, checked and tested before a
common understanding was reached by the group. Further, it was a true collective learning
process in the Laat and Simons’ (2002) understanding of the concept: Collective learning process
aimed at collective outcomes. Some of us were well aware that gender matters in forestry and
how, others had observed that data told them that gender made a difference, without
understanding why and how, and still others believed that gender was important but did not have
access to data to support this. These different reflexive levels of understandings implied that
when it comes to gender, nothing was taken for granted. Instead, our respective understandings of
gender were challenged, and through the discussions both our individual and collective
understanding of the concept and its explanatory power improved. Further, the discussions
strengthened the credibility and the usefulness of three frameworks in order to demonstrate how a
gender perspective can improve our understanding of the current changes in small-scale forestry
in Europe. As part of the process we also achieved new figures for France, Austria and Finland to
be included in the result section. In summary, the result of the process is twofolded: first what
numbers there are, and then what does the numbers tell us when we apply the three frameworks
introduced below.

Basic Framework

In research there are multiple ways to consider gender. We will mention and apply three
frameworks: Gender as an empirical variable, gender as a relational and structuralizing category
and gender as a meaning category. We have chosen these ones mainly due to three reasons. (1)

These frameworks are increasingly complex and interrelated: The second one encompasses what
the first one is taking into account, the third one encompasses both the two first ones’
considerations, but the two last categories require that humans are split beforehand into men and
women – which points to gender as an empirical variable. (2) The three frameworks let the
researcher look for gender at different, let us call it, “places” in real life, as explicated below. (3)

These frameworks are basic but still elaborated enough to our purpose, that is to demonstrate how
gender may be included in, and probably improve, research on current forest ownership changes
in Europe. The two last frameworks are theoretical approaches to gender. (For an overview of
theoretical approaches related to gender and agriculture see Brandth, 2001 chapter 4. For an
overview of issues on power and gender in European rural development see Goverde et al. 2004.)

Of the three frameworks, gender as an empirical variable is strongly associated with quantitative
research, while the other two frameworks are more associated with qualitative research methods.

The framework gender as an empirical variable is founded on the thought that a person is either a
man or a woman, and gender is something we are. Gender is here the biological sex, and the
place to look for it is the body. Gender as an empirical variable is manifested in tables telling us
that X% of female respondents and Y% of male respondents are doing/saying/thinking Z.

Differences and similarities between the perceptions and activities of men and women may then
be revealed. In its pure version this framework does not include gender-informed analysis of the
reasons behind the differences/similarities found.
The framework gender as a relational and structuralizing category is often understood as related to doing gender (West and Fenstermaker 1995a, 1995b; West and Zimmermann 2009). The approach builds on John Heritage’s ethnomethodological formulation of accountability from 1984, which West and Fenstermarker (1995a, p. 21) formulates as “the possibility of describing actions, circumstances, and even description of themselves in both serious and consequential ways” for example as “unmanly”, “unwomanly”, “manly” or “womanly”. The doing of gender is interactional, and relational, because it rests on a person’s production of the actions in question and another person’s recognition of the actions as what they are. Gender is here an emergent property of social situations, and the place to look for gender is in situated conduct. Even if the acts take place in micro-situations, the effect of the social doings is relatively permanent relations that end up as structures. These structures in their turn work back on what is understood as proper actions for men and women, a process that contributes to production/reproduction of gender norms. From this framework the idea of gender structuralizing is the main one in our paper.

Finally, the framework gender as a meaning category (Ellingsæter and Solheim 2002) is founded on anthropological theories on meaning. Meanings are system of ideas and understandings, made public in their external forms (e.g. actions, language, artefacts as cloths and production equipment), produced and reproduced through social practices and the meanings invested in material objects. This cultural flow “consists of the externalizations of meaning which individuals produce through arrangements of overt forms, and the interpretations which individuals make of such displays” (Hannerz 1992, p. 4). According to D’Andrade (1993, p. 96) meaning systems have four functions: They represent the world, create cultural entities, direct one to do certain
things (directive function), and evoke certain feelings. The directive function includes the idea of
“gender norms” from our second framework. Gender as a meaning category is part of the larger
system of meaning, and may be grasped as a kind of subsystem. This framework lets the
researchers look for gender everywhere because for instance institutions (organizations, law
based, etc.), artefacts, events and abstract understandings may be gendered through different
metaphorical links and associations. This may result in male gendered forest research institutions
(male researches studying topic interesting for mainly men), male gendered chain saws (need
much physical power to start), male gendered forest days (logging and optimal bucking as the
only issue), and male gendered understanding of forestry (harvesting is the paramount activity).

Further, and this is the idea we later on will apply in the paper, the approach paves the way for
asking if and what kind of gender implications the existence of this or that phenomenon have in
the context studied, even if the phenomenon at first sight neither seems gendered nor related to
the doings of women and men as social actors. This idea is founded on the thought that meanings
are part of a system, which is also to say that everything is linked to everything else by way of
more or less systematic meaning connections.

Among the 49 selected focal publications from our home countries 31 has been applying the
framework gender as an empirical variable only, 7 the framework gender as a relational and
structuralizing category as the most advanced category, and 11 may be categorized as applying
the framework gender as a meaning category as the most advanced category. First, this indicates
that gender issues in European forestry is theoretically under-analysed. Second, this implies that
we, when we tried to understand the gender-information, had a decreasing numbers of
publications to include in our reflections – and then lesser and lesser published country
contextual information to rely on. This is reflected in the result section: We start with many
countries included in the part on gender as empirical variable, but end with one country in the
part that is a re-interpretation of an earlier finding (two of the authors’ home-country). The need
for contextual information to understand gender issues in forestry is here met with our own
knowledge of our home-countries.

**Results**

**On Gender as an empirical Variable**

The availability and quality of gender-disaggregated data varies across Europe. At one extreme it
is included in official statistics (as in Sweden), while at the other extreme no public data exists.
This appears to be the case in Belgium, Czech Republic, Greece, Hungary, Poland, Portugal,
Romania, Serbia, Slovakia, Spain and Turkey according to the country reports of FACESMAP
Cost Action (Živojinović et al. 2015).

As shown in Table 1 the proportion of female forest owners varies substantially across the
countries (from 3% to 52%) with the highest proportion in the Baltic countries and Slovenia.
Although female owners are in the minority in all countries except Lithuania, women constitute a
substantial and growing number and proportion of European private forest owners. Further,
considering the missing data and the out-datedness of some data, it can be assumed that there are
a large number of unrecorded female forest owners.

Table 1. Basic data on female forest owners and their forest ownership in selected European countries [Table 1 here]

On Gender as a relational and structuralizing Category

To explain the different share of female and male forest owners, gender has to be framed theoretically. It is not enough to understand gender as something we are – which is the case for gender as an empirical variable presented above. In a thought-of world where gender is biologically sex, the aggregated results of a given phenomenon for women and men in a population should be equal to the relative distribution of women and men in the same population. The data in Table 1 contradict this proposition; of course the share of female citizens in Bosnia-Herzegovina is higher than 3%, as is the proportion of female forest owners. We will argue that what actually happens when forest estates are changing owners affect forest ownership statistics. When we do this, we will understand gender as something we do, that is gender as a relational and structuralizing category.

As pointed out by Schmithüsen and Hirsch (2010), 82% of the private forest area in Europe is owned by families and individuals. In the Nordic countries, West and Central Europe these forests have been (or are being) transferred from parents to children either as legacy or via purchase. In contrast, in many post-communist states private forest ownership is the result of a restitution process causing a disruption of the direct temporal and spatial link between an owner and his/her land. The logical consequence of equal right of inheritance would be that one woman should acquire a forest estate for each forest estate acquired by a man. This explains why the
proportion of female forest owners is higher in Lithuania and Latvia than in the gender equality pronounced Nordic countries. According to Haugen (1994) and Lidestav (2010) the Norwegian and Swedish woman’s inheritance position may, for instance, be contested by a brother or the woman may not be interested. Moreover, the interest in forestry is affected by socio-culturally established understandings and norms, and this is the working of gender as a structuralizing category. Lithuania has the highest percentage of female forest owners (Table 1), yet, does this imply that the Lithuanian state is more concerned with the forest owners’ gender distribution than the Norwegian and Swedish states? This is unlikely. We rather assume that it is the logical consequence of a land restitution process according to western conception of justice and regardless of former inheritance practices; in addition many men were killed during World War II in Lithuania. The fact that mostly men go to the front and most of the women stay home is also a result of gender structuralizing.

Table 1 indicates also other effects of gender structuralizing. The data shows that female forest owners are older than men, and that the forest estates owned by women generally are smaller than those of men. Considering that the average life expectancy is higher for women than for men, one explanation may be that a number of widows have acquired the forest land from their late husbands. However, according to Swedish study results, widows constitute only a minor proportion of the female forest owners and are in numbers similar to widowers (Lidestav 2010). It might be, as Statistics Norway (2012) suggests as a partial explanation for Norway, that the female owners’ older age is linked to the size of the estates. The larger the forest estates are, statistics show, the fewer are owned by women: The large forest estates are transferred to the next
generation earlier than the smaller estates. This suggestion would imply that the larger estates are transferred to men and not women. Similarly to Norway, in Austria it is forbidden by law to divide traditional farm holdings. This implies that in most cases the estate will be handed over to male heirs. However, Austrian families have found a solution for providing their daughters with some land, as small parts are frequently allocated to other heirs by declaring them as “wandering parcels” (juridical walzende Grundstücke) whilst leaving the core farm intact (Posch 2000). Table 1 also describes the forest owners’ place of residence and owners’ level of education. For instance in Finland, Norway and Sweden female forest owners are less likely to live on or near their estate than men do, while in Latvia the situation is the opposite. We assume that this situation in the Scandinavian countries is related both to educational level and an existing virilocal praxis there: The female forest owners in Scandinavia have higher education than the male forest owners and may have had to move to find a suitable job; it is also common that the wife moves to the husband’s place of residence when they get married. The tendency for more educated people to live in urban areas also exists in Latvia, but because of a different historical context, the outcome so far is that female forest owners are more likely to reside on their forest estate. World War II substantially changed the proportion of female and male owners in Latvia, such that female owners were more likely to survive and continue living on family properties. Then, after regaining independence in 1991 properties were given back to previous owners or their legatees. The Latvian government also provided an option to buy forests using privatisation vouchers, and it appears that women were mostly interested in obtaining forest property if it was located near to their residence, whereas men’s decisions were based more on business considerations.
Below we give examples of the implications that gender structuralizing may have for an individual female forest owner, and for forest owners in general. In the following we will build on empirical data from six countries, and we focus on differences between women and men, not their similarities. We group the differences in activities on the one hand, and on the other hand more psychological phenomena such as understandings, knowledge, valuations and attitudes.

Forestry activities often differ between male and female forest owners. In Lithuania, 75% of male owners and 59% of female owners carry out forest related activities at their property, and male owners mention a wider range of activities. Moreover 47% of male forest owners make decisions about forest-related activities by themselves, while only 7% of female owners do so (Mizaraite 2005). The occurrence of self-activity in Swedish family forestry is much more common among male than among female owners (Lidestav and Nordfjell 2005; Häggqvist et al. 2014). This is the case in Latvia too, but also the use of service providers for forest management activities are used less often on female-owned estates (Vilkriste 2008). Harvesting frequency or probability of harvests has been found to be lower on estates owned by women in Finland (Ripatti 1999). Also other behavioral differences are detected: Women sell on average one m³ per hectare and per year less than men do, but on the other hand they sell less frequently and then in larger quantities per sale than men do (Kuuluvainen et al. 2014). In the Norwegian counties of Trøndelag, female owners visit their forests on 10 days per year, while their male counterparts do so on 16 days (Blekesaune 2005). In France, a higher percentage of male owners want to buy more forest (20% for men, 11% for women), and a higher percentage of men does not want to sell off part of their
Forests (90% for men, 85% for women) (Didolot 2015). These interests will, if realized, lead to further concentration of forest in the hands of male owners (see Table 1).

Concerning psychological phenomena, we find numerous differences between male and female forest owners. In France, forest owners are asked about their two main expectations for the forest. For both women and men the response option “emotional affection” turns out to be the dominant expectation, but for women the score is higher than for men (77% against 63%) according to Didolot (2015). Among forest owners in Trøndelag in Norway, 13% of female forest owners express interest in forestry compared to 30% of male owners (Blekesaune 2005). Less forestry competence seems to be another difference between female and male forest owners. Figures from Latvia show that 58% of female forest owners lack forestry knowledge and experience, compared with 23% of male owners. Differences in forestry competence is also evident in their self-evaluations of competence (Vilkriste 2003). Absenteeism is an issue in the scholarly debate on new forest owners (Hogl et al. 2005), and in Sweden female owners living away from their forest has poorer forestry experience, and lower levels of forestry education and knowledge compared with their male counterparts (Häggqvist et al. 2010). Objectives for forest ownership are usually an important factor in explaining the past, and in estimating future forestry-related behavior. In Lithuania and Latvia, female and male forest owners indicate firewood for home consumption as a most important forest objective. However, to male owners, income generation is more important than it is to female owners, while wildlife habitat protection is more important to female owners than to the male owners (Mizaraite 2005). Satisfaction with current silvicultural and harvesting practices may also differ among women and men. Only 47% of Finnish female...
owners, compared with 62% of male owners, are satisfied with current practices, and women respond more frequently than men that they cannot say whether they are satisfied (12% versus 3%) (Kumela and Hänninen 2011).

On Gender as a Meaning Category

The differences between female and male owners presented earlier, may be a result of the functioning of gender as a relational and structuralizing category, but may also be heavily influenced by the gender meaning-making. Some meaning-making is easy to recognize, meaning-making obviously saturates social institutions as marriage and material structures as forest school toilets with gender. However, Ellingsæter and Solheim’s (2002) approach induces us to look for the more hidden and non-reflected meaning relations that may end up with gender implications, such as forestry competence. If forestry competence is neutral in every respects, still it has gender implications. The poorer forestry competence Norwegian female forest owners have compared to male owners, Follo (2008) argues, makes it both more difficult for female owners to be elected to commission of trust in the main forest owners’ organization, and that they in their forest management to a higher degree than male owners have to rely on what other forestry actors say.

Forestry competence is, we claim, not neutral but loaded with value judgements. It includes some ideas, but others are left out, among the thoughts included are some evaluated as more important than others, and some arguments are understood as more correct. Such attributes of competence may be forest research based, but also more country specific due to the context’s natural, social, cultural, political and economic conditions. In European forestry contexts then, specific
attributions of competence exist, are developed and spread. Based on Ellingsæter and Solheim (2002) it is possible for instance to ask research questions such as: What gender implications do these attributions of competence have? How does gender interfere with and is reflected in the development of new forestry competence and what kind of forestry competence is understood as proper? Does gender matter in how established and newer forestry competence is spread? As stated previously, female forest owners in general seem to have poorer forestry competence than male owners. Rephrased this claim might read: Given the way forestry competence currently is, developed and spread, female forest owners end up with poorer forestry competence than their male counterparts. For one thing, had the forestry competence been more in accordance with female forest owners’ competence, the mismatch had been lesser.

By organizing themselves in networks, female forest owners in Sweden and Norway are challenging the traditional understanding of forestry as a competence for men and of men (Lidestav and Andersson 2011; Brandth et al. 2015). These networks offer a place for alternative co-production of knowledge and identity as forest owner, a place where “simple questions” can be asked and non-traditional subjects can be explored. Also, by their plain existence not only the individual female forest owner but the forestry sector at large has to consider gender.

A Re-interpretation of a Gender-as-empirical-variable Result

Gender structuralizing and gender meaning-making presented above lead to the conclusion that in addition to real material conditions, the meaning of forest ownership may also differ, depending on whether the owner is a woman or a man. The mode of entrance to forest ownership and
forestry, the process of socialization, the (lack of) physical presence of persons of the same sex in the industry, the activities that male and female owners are involved in, and the (lack of) public recognition within the forest owner society, have impacts on the identity formation and self-perception of current and future female forest owners. This contributes to new/reproduction of gender structuralizing and gender meaning making.

The knowledge of how gender may matter, and matters also may be gendered, give us a basis to scrutinize an interpretation and a conclusion when gender is understood as an empirical variable, i.e. something we are. We have chosen a finding on price sensitiveness as a re-interpreting example because the original interpretation is surprising. Based on a nation-wide mail inquiry among Finnish forest owners in 1990, Ripatti (1999) finds that women react more strongly to changes in stumpage prices than men, in terms of the probability that they will sell timber. Price sensitiveness requires in-depth knowledge of forestry and of timber prices, and how they vary depending on buyers, assortment, time windows and the structure of the forest to be cut (Follo et al. 2006, p. 57-72; Follo 2008, p. 51), and therefore also a continuous interaction with the industry and a keen eye on price fluctuations. This is generally more in tune with male owners than with female owners given what we have presented earlier in the paper on their involvement with forestry, forestry competence, values, etc. Thus the higher price sensitiveness among Finnish female forest owners is a rather surprising conclusion. However, in this respect Finnish female owners may differ from other European female owners, perhaps because of the social, cultural and economic importance given to forestry in Finnish society. Which will be the reasons behind these female owners’ higher price sensitiveness? One explanation can be that in order to
manage and succeed in timber sales in the masculine Finnish forestry, a female owner needs to be
“a tough guy”, i.e. to have even more male kind of economy-driven attitudes and behavior than
an average male owner. An alternative and close to practice explanation will be that if female
owners have less economic-profitability-related objectives and/or smaller holdings than males
have, they will sell timber more seldom, which will allow them to adjust their sales to years with
higher prices.

But, what if Ripatti’s (1999) result in fact has nothing to do with female owners’ price
sensitiveness? In this case, one explanation may be that harvesting is related to actions of timber
brokers/purchasers because they are more active when the timber demand and price are high.
This stimulates them to search for forest owners who have not harvested recently. Another
explanation based on social interaction may be that the Finnish female forest owners are more
likely than their male colleagues to take into account advice on the price-optimal moment for
timber sales. This explanation compares well with two Finnish studies. Firstly, Korhonen et al.
(2012) finds that female owners more frequently strongly rely on the local Forest Management
Associations (FMA) in timber sales than male owners (22% and 14%, respectively). FMAs are
forest owners’ associations, funded and administered by the owners themselves. The associations
“act as mediators between the seller and the buyer” (Korhonen et al. 2012, p. 89), and they give
recommendations to forest owners. They provide market information, specific advice on optimal
time to sell timber, and information on most recent timber price development as well as on future
prospects in timber prices. Secondly, according to Karppinen and Berghäll (2015, p. 282),
Finnish female forest owners’ intentions to timber stand improvement “are more influenced by

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511 norm pressures and less by attitudes than the men’s intentions”. Forestry professionals of FMAs and timber purchasers are important sources of norm pressures. Thus, it is likely that female owners are also rather responsive to what these professionals advice on the optimal time to sell timber.

515 Discussion

516 After given female forest owners a closer look by introducing a gender perspective across the three introduced frameworks, we can summarize as follows. First, when we assessed gender as an empirical, dichotomous variable, we found that there are differences in numbers between male and female forest owners. By adding the concept of gender as a relational and structuralizing category, we demonstrated that gender-structures have effect on e.g. actual behavior of female and male forest owners and the self-evaluation of their forestry competence. The third framework gave us the chance to explore how meanings produce behavior and behaviors produce meanings, and how both shape institutions and natural and artificial matters – forestry competence was the applied case.

526 Through three analytical lenses (gender as an empirical variable, a relational and structuralization category and a meaning category) and empirical evidence from 16 European countries we conclude that gender matters in forest ownership, management, operations, and their understandings. Because these countries differ in socio-economic background, political and legal system, natural resource base and importance of private forestry, the conclusion is strongly substantiated: Being a female forest owner is different from being a male forest owner.
While focusing on differences between female and male forest owners, we purposefully leave three aspects unaddressed. The first aspect is the similarities between female and male forest owners. Gender similarities are neither actively searched nor registered via non-found differences. Second, differences among female forest owners are not contemplated in this paper, although it is reasonable to assume that female forest owners, just as male forest owners, are not a homogeneous group of people. The idea of “women as a group” has indeed been questioned and contested for long by research on intersectionality between gender, race and class (Crenshaw 1989, 1991). Third, we have not spent time on systematic cross-country comparisons of specific gender differences and similarities. While distinguishing a range of various types of gender differences and remaining on conceptual and qualitative level, the study has thus omitted the more specific distributional comparisons.

As regards the interpretation of gender related data we have presented alternative interpretations of one particular set of results which show that Finnish female forest owners react more strongly to changes in stumpage prices. Our analysis highlights the importance of the theoretical and methodological approach. If the approach is very theory-driven, it restricts the range of options for explanation or interpretation. Price sensitiveness may then be the most appropriate interpretation given the theory’s options. This raises a more general question: Are the theories and methods applied in forestry research able to take into account gender aspects? Rational choice theories are not easily able to fulfill this quest, as they very much relate to gender as one demographic variable and not a category of structure that has specific impacts on society and
behavior. The same limitation goes for rational decision and game theories, which have a gender-neutral rational individual as their main unit of analysis.

Numbers matter. Numbers increase the visibility of women. Data about 100% non-gendered forest owners do nothing to enhance gender visibility, whereas data which differentiates X% female forest owners may reveal 5,000 forest owners who both have female bodies and live lives as women. Numbers make it possible to create more numbers and let both halves speak up. If the "whole" is divided into two halves, women and men, comparison between these halves is an option. The comparison may reveal that gender matters in areas where gender previously was thought to be of no relevance, or worse, where it was implicitly assumed that the particular category of “forest owner” is male. When “family” or “the head of household” is the basic unit of analysis in the research, we often end up with men’s stories rendering women both invisible and muted. Based on the empirical evidence at hand, we have shown that the interests, preferences and activities of female forest owners are not clearly aligned with those of male forest owners. Figures presented above give the female owners a chance to make their case. The number of female forest owners matters: The more they are, the more they will come into view and the more normal it will be to be a female forest owner.

A better understanding of the issue of new forest owners requires gender awareness. The apparent “newness” of female forest owners may reflect a number of possibilities: They may have recently been recognized in registers, been taken as a separate owner category with numbers and shares, recently started as forest owners in real life or may just be different from traditional forest owners.

In understandings, activities and personal attributes. To the extent that traditional forest owners are male, the female forest owners are in fact in many ways different from them. A quest for better understanding of new forest owners leads to a demand for a more reflexive notion of knowledge in forestry research and “the difference that gender makes to what we know and how we know it” (McDowell 1992, p. 400). If not, we the researchers on “new forest owners” just keep up the non-visibility of female forest owners and contribute to the reproduction of gender structures.

Based on our reflections and analysis, we recommend that fellow researchers in the field of European family forest ownership should assume that gender matters and should design their empirical settings accordingly. Gender-blindness and gender biases may be mitigated by addressing questionnaires explicitly to legal owners, and by querying decision-making powers within families, as part of surveys. Another reasonable research strategy is to take a representative sampling from registers on individuals, and not from registers of properties that disregard some of the owners. If the problems with incomplete ownership registers cannot be overcome by choosing another methodological approach than the registers, researchers must demand adequate official records and official basic statistics. Qualitative studies, by necessity using small samples, may give more in-depth knowledge, but cannot fully replace more general and comprehensive research and longitudinal studies. Therefore, we recommend that policy makers make sure that official registers and statistics provide gender-disaggregated data, both for researchers and for forest agencies and forest service providers. We also recommend to employ gender sensitivity and to conduct gender impact assessments when renewing the forest owner
related policy instruments. Similar gender awareness activities should take place when redesigning the approaches and practices of soft communication tools, including the use of language. A practical way to foster equality in policy and innovation processes is to ensure both female and male representation in different working groups and other participation activities. Only by considering the social reality that is manifest in women’s and men’s everyday life, can a fruitful strategy for implementing forest policies across Europe be achieved.

References


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Table 1 Basic data on female forest owners and their forest ownership in selected European countries [see following page]

<table>
<thead>
<tr>
<th>Country / region</th>
<th>Individual private forest owners (physical persons)</th>
<th>Owner characteristics – female forest owners compared to male forest owners</th>
<th>Forest ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Numbers of female owners</td>
<td>Proportion female owner, %</td>
<td>Trend of numbers or proportion of female forest owners</td>
</tr>
<tr>
<td>Austria</td>
<td>43 606</td>
<td>31</td>
<td>+ 2 yrs</td>
</tr>
<tr>
<td>Bosnia-Herzegovina</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>38 012</td>
<td>44</td>
<td>Increased from 17% in 1975</td>
</tr>
<tr>
<td>Finland</td>
<td>240 000</td>
<td>38</td>
<td>No difference since 1999</td>
</tr>
<tr>
<td>France</td>
<td>285 000</td>
<td>30</td>
<td>Forecast predict that proportion of women will increase</td>
</tr>
<tr>
<td>Germany, Bavaria only</td>
<td>257 000</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Germany, Thuringen, B-W and NRW</td>
<td>Ca 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td>Ca 17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>64 022</td>
<td>44</td>
<td>From none to 64 022 since restitution</td>
</tr>
<tr>
<td>Lithuania</td>
<td>44 093</td>
<td>52</td>
<td>From none to 44 063 since restitution</td>
</tr>
<tr>
<td>Macedonia</td>
<td>4-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>29 157</td>
<td>25</td>
<td>Increased from 15% in 1989</td>
</tr>
<tr>
<td>Slovenia</td>
<td>15</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>124 809</td>
<td>38</td>
<td>Increased from 20% since 1976</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Ca 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>17-27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Special analysis of Agrarian structure from Statistik Austria 2013. The 31% proportion female owners includes joint (family) ownership.
2 Extracted from Zivojinović et al. 2015, section 4.5 in each country report.
3 Ripatti 1999, Härinen et al. 2011, Leppimäki and Torvelaen 2011, Paaja 2015. 38% proportion female owners includes owning alone or with spouse. If jointly owned forest holdings (by heirs together or private partnerships) are included besides families, the share of female owners is 44%.
4 Didol et al. 2015: not published but available from the author, data MAAP 2012 and RESOFOP 2015.
5 2007; not: surveys 2003 and 2008. For Latvia is possible to maintain that it is possible to talk about single ownership only (and not joint ownership too).
6 Number of female forest owners is in fact number of forest estates with female reference owner in the registers. In the registers there is one reference owner each estate. This is also to say that joint ownership (with spouse, siblings or others) is not included. Struppes' 1993, Ilekesenas' 2005 (a regional study from Trėdelgės), Statistics Norway 2003, Steinsset in Tenter and Dalen 2014.

Empty cells = has not been possible to obtain information.
In some countries statistics also include joint owners and in other countries not.
Note that different survey methods have been used in different countries and at different times.