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ORIGINAL ARTICLE

Factors influencing Norwegian small-scale private forest owners' ability to meet the political goals

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Abstract

Norwegian forest policy has high-level, complex objectives for the products and benefits from the forest, including increased contribution to the climate, preservation of biodiversity, and creation of economic values. In Norway, it is first and foremost small-scale private forest owners who have to deliver on these expanded goals. The article reveals owners' lack of forestry competence, and elaborates on the role of forestry employees (advisers) in owners' decision-making processes, be it forestry-competent owners or not. There is, however, a decreased number of advisers in the private and public forest services, implying that forest owners are atomised in the meaning of being alone. This type of individualization and an increasing lack of forestry competence among forest owners are a contradiction. The mismatch is serious for the government and the forestry business because it probably hampers the fulfilment of the political objectives. The article presents six options for meeting the obstacles to goal fulfilment. The article is based on two research projects from the counties of Trøndelag and Hedmark. Data were collected between 2002 and 2007 and include survey, focus group interviews, in-depth interviews, fieldwork and document analysis.

Keywords: *Forestry competence, individualization, Norway, NIPF owners.*

Introduction

Norwegian forest policy has high-level, complex objectives for the products and benefits from the country's forests. There has been, and still is, official political will to keep up the traditional settlement pattern with a population distributed over the country, both in rural and in more urbanised rural districts (Stortingsmelding No. 17, 1998–99). Forestry as a source of income has been a part of this policy. Thus, the Norwegian rural districts are not lagging behind urban areas economically and technologically in the same way as is the case in many other countries (R. Almås, personal communication, 26 April 2010). The goal of maintaining living communities in the rural areas has, however, become less important than the most currently expressed goals of contributing (and much more so) to the climate, preserving biodiversity and creating economic values (Ministry of Agriculture and Food, 2007). At the moment, the most pronounced of these goals are based on forests as means to counteract negative climate change effects by reducing

atmospheric levels of CO₂ (IPCC, 2007). It is argued that more active use of the Norwegian forest, for instance logging and regeneration (planting), increases the forest's capacity to uptake CO₂ (Stortingsmelding No. 39, 2008–09). This was recently repeated in a Proposition from the Ministry of Agriculture and Food (2010) to the Storting, The Norwegian Parliament (Proposition 1S, 2010–2011), where it pointed to the possibility to increase the annual harvesting from today's about 8–11 million m³ to about 15 million m³ and still take care of environmental issues. However, the ability to meet the various objectives and fulfil the goals depends largely on Norwegian forest owners. They own the land, the production means (soil, trees, etc.) and the products, and it is up to them if forest activities such as harvesting are going to take place.

There are changes among the forest owners. As elsewhere in Europe, we see a "shift of forest ownership from farmers to non-farmers" (Hoogstra et al., 2004, p. 442). While 62% of the Norwegian forest owners cultivated land in 1979, only 31% did so in 2008 (Statistics Norway, 2009). The rest did

not own agricultural land, let it lie unused or rented it out. Another huge change relates to the technological shift from chainsaw to harvester. In 1978, only 3% of all the logging was done with a harvester; in 1988, it was 33% (Statistics Norway, 1992). In 2003, it was 85% (Statistics Norway, 2006). Because forest owners usually do not own harvesters, this implies that they do not do this work themselves. Furthermore, economic development in Norway suggests that while in the past a forest owner could make a living out of a small forest estate, it is now necessary to have much more than 500 ha of productive forest area to do so. There are structural, technological, economic, social and cultural changes which when viewed from the perspective of the forestry sector imply a centrifugal movement among groups of forest owners; that is, they move away from forestry. Seen from outside the forestry sector, it is, rather, a mutual movement away from each other.

It is first and foremost small-scale private forest owners who have to deliver on the political goals mentioned in the first section. This type of forest owner has several names in scientific publications, such as “non-industrial private forest owners” (NIPF owners), “family forest owners”, and “private individuals and families”. However, there are several distinctions the world around when it comes to such phrases as “non-industrial” and “small-scale” (Harrison et al., 2002). In this article, the small-scale private forest owners are what Statistics Norway terms “personal forest owners” (Statistics Norway, 2005a). At the latest census of agriculture and forestry from 1989, this type of forest owner owned 78% of productive forest area and 96% of all forest estates (Blekesaune, 1997). Their average estate in 1989 was about 45 ha productive forest (Vennesland et al., 2006), and only 765 owners had more than 500 ha (Statistics Norway, 2005b). For owners with, for example, 50 ha and more productive forest, the average business income from the forest in 2003 was 23,000 NOK. This was a little less than 6% of their total gross earnings that year (Statistics Norway, 2006). In Norway, we usually talk about these forest estates as having one owner. This is probably due to laws that determine ownership and counteract splitting agricultural estates when they are bought and sold. One of these laws is the Act of Allodial Rights, a specific Norwegian law with a history dating back to at least the year 1000 (NOU, 2003:26). According to the act of 1821, the first-born son in the family had first priority for taking over the family farm and its forests. The daughters’ rights came after all sons’ rights. In 1974, an amendment to the act took place, and with that revision the first-born child, regardless of sex, was allowed first priority to allodial possessions. In 2003, there were about 116,300 small-scale

private forest owners, 26,300 (23%) of whom were female (Statistics Norway, 2005a).

Depending on the definition of forest, 27–40% of the Norwegian land area is covered with forest (Frivold, 1999; Gundersen, 2005). We have an increased standing volume, and the annual growth in the forest is more than triple that of the annual felling (Statistics Norway, 2010a, Statistics Norway, 2010b). Coniferous forest is most common, of which spruce is the main species, followed by pine. The rotation period for spruce is about 70 years at site index (H40) G23 and about 80 years at site index (H40) F20 for pine; thus, what you do today the next generations will harvest, and your costs in the form of money and work today will be the next generations’ income.

In this article, I will first elaborate on how forestry employees (advisers) take part in small-scale private forest owners’ processes of decision-making, and reveal results that indicate forest owners’ lack of forestry competence. In the discussion, I will argue that this lack of forestry competence in Norway will become worse in the years to come. The argument put forward is that the increasing reliance by forest owners on advisers contradicts with a decreased number of advisers in private and public forest services. Lack of forestry competence and fewer advisers are, I claim, a serious problem for the Norwegian Government and the forestry business. The forest owners are crucial in order to achieve the forestry sector’s politically defined (and expanded) goals – and it is difficult to understand how to achieve these goals without activity at the holdings of forest owners with little or no forestry competence. The article ends with a presentation of six options the government and the forestry business have in order to improve the situation.

Materials and methods

This article is based on two research projects: “The New Forest Owner. How to increase the harvesting in Trøndelag?” (Blekesaune, 2005; Follo et al., 2006) and “Management Active Forest Owners: How women and men form and practice the role of management” (Follo, 2008). In the project “The New Forest Owner”, the owners had forest in the two counties of North- and South-Trøndelag. The owners were accessed through the Forest Trust Fund system, an official record including all forest owners in Norway (on the Forest Trust Fund, see Bergseng and Solberg, 2005). All forest owners participating in the project were registered in the Forest Trust Fund system with 10 ha productive forest area or more. The project had both qualitative (focus group interviews) and quantitative (survey) parts, with data

collection completed in 2005. In the four focus groups, two for women and two for men, 12 women and 14 men participated. There were 2,403 survey respondents, giving a response rate of 48%. Representativeness was checked by comparing some net values and population values (from the Forest Trust Fund system): the forest estates' size (hectare of productive forest area), location of the estates (in North- or South-Trøndelag), harvested for sale in the period 1996–1999/after 1999/not harvested for sale in the period 1996 and after, the forest owners' age and sex. A small overrepresentation of younger forest owners, a small underrepresentation of female owners, a small overrepresentation of owners having harvested forest for sale after 1999 and a small underrepresentation of those who had not harvested for sale was found. Blekesaune, who did the check, is most worried about the biases regarding harvesting, and comments that the most active forest owners seem to be more motivated to respond than the less active forest owners. Despite the biases, the sample was found to satisfy the demands of representativeness usually claimed for sample surveys (for discussion, see Blekesaune, 2005).

In the project “Management Active Forest Owners”, four female and seven male forest owners from the county of Hedmark participated. Twenty-three in-depth interviews, ranging from one to four interviews for each owner, were conducted in 2003. A management active forest owner was defined as an owner who had a conscious approach to the holding and the ownership, made thought through choices regarding how to utilise the natural resource and who planned and administrated the work but let others do all or part of the practical forestry work. This project was an anthropological doctoral work (Norwegian “Dr. polit”), so the context was heavily emphasised. The context was approached by half a year of fieldwork (in 2003) living in the town of Elverum, a major centre for forestry activity in Norway, where I took part in several forestry events. I also interviewed important forestry actors in the area, and analyzed news from the Norwegian forestry web pages, journals and membership publications systematically collected in the period 2002–2007. In addition, brochures, written information from the municipalities to the forest owners, forestry professional books and media news were applied as data.

In both “The New Forest Owner” and “Management Active Forest Owners,” a gender perspective was included. The interviews were taped, transcribed and then analyzed manually without software support. Neither of the projects used a pre-chosen theory to decide what to look for in the data. Abduction (Kirkeby, 1994), or what Peirce (1958, p. 368) also

terms “retroduction”, played an important part in the analysis.

Results

Forestry employees take part in forest owners' processes of decision-making

The process of forestry employees taking part in forest owners' decision-making caught my attention when I started looking at women as an empirical variable in the data from Hedmark county: Female owners were talking about it very bluntly. As one female owner uttered: “Discussion and discussion, I do, I suppose, what he means is best really”. She was talking here about the forestry adviser (Norwegian “skogbruksleder”) and what happened when deciding what to do with the foreign tree species planted on her land years before her ownership. Another woman told that she often did what the forestry adviser said, “in truth he decides the path to take”. In her opinion he was able, and she declared that “I do not see any reason to disagree much with him”.

The women's accentuations of these forestry employees led me to examine what the male owners' stories were revealing about the same matter. “Two heads are better than one” was one man's description of the interaction with the forestry adviser regarding the choice of the regeneration method and picking trees for special assortments. Another one, Hans, had been told, he said, to harvest (given the timber prices), and it had been suggested that he in specific areas ought “to clean ditches at the same time [as a harvest] because there are some subsidies”. Hans had also chosen scarification and planting at a harvested field based, among other things, on the recommendations from forestry employees.

There were, however, differences in the degree to which the forestry adviser participated in forest owners' decision-making processes, and nuances in how much they paid attention to what the employee was saying. Sometimes, the employee seemed to be more or less the decision taker, other times he was presented more as an adviser or a discussion partner. But he was always there in the stories, interacting with the Hedmarkian informants in his role as both adviser and timber broker. This was also the case for the forest owner Fredrik.

Fredrik was an especially interesting informant because he was educated in forestry at university. This should imply that he had a lot more qualifications to cope alone than the other informants. However, Fredrik's stories showed that the forestry adviser had a nodal centre function, and it was in carrying out this function that his importance in

Fredrik's decision-making process was revealed in three ways.

1. The forestry adviser was the person Fredrik turned to when he wanted to know the next price period's prices. "I have to get a feeling for whether I should deliver timber before or after Christmas", he told me in an interview in October. Would the winter prices be higher or lower? At that moment the price negotiations were not yet published or finished, and in his decision-making process Fredrik was dependent on information that he was able to coax out of the forestry adviser (who works in one of the organizations doing the negotiations). Fredrik had to do this rather immediately, since the harvest contract had to be made some time before the work was going to be done.
2. The forestry adviser also had updated knowledge about the market situation, and was therefore Fredrik's firsthand contact regarding which timber assortments it was possible to sell. He told Fredrik that there was shortage on all sorts. Had this not been the case, Fredrik would have had to consider that when deciding what to log. Now Fredrik knew he had all options open. Furthermore, he wanted to take the weather conditions into account. If it was cold and there was frost on the ground, Fredrik wanted to harvest an area with a mix of conifers. If there was no frost, he would go for a dryer part of the forest. Because of this he did not know the composition of the species of the trees in the delivery. In his decision-making process, Fredrik now depended on being able to decide about the composition of tree species later on, rather than when they entered the contract. If the forestry adviser disagreed to postponing this part of the contract, Fredrik would have to take the decision now about what (and also then where) to log without knowing anything about the weather. In addition, Fredrik depended on the forestry adviser because Fredrik did not always succeed with the volume estimates, in spite of his own theoretical knowledge and very thorough familiarity with his forest. He was depending on the tolerance the forestry adviser might give him, and Fredrik had to know in advance – before he made up his mind – that he would be given this flexibility.
3. While the importance of the forestry adviser in Fredrik's decision-making process showed itself explicitly on the points already mentioned, the importance manifested itself as absence of narration regarding the third point: What happened with the timber when it had arrived at the

road (i.e. upper landing). This did not concern Fredrik as forest owner per se, and was not a part of his accounts. One of the premises for Fredrik's process of decision-making was that he took it for granted that the forestry adviser would succeed with this given task.

Lack of forestry competence

If a forest owner is going to do any forest management, a great deal of forestry competence is necessary. A gender perspective also headlined forestry competence. Norwegian female forest owners articulated the shortage themselves. One management active forest owner from Hedmark referred to herself as "a person who does not know so very much about forestry and such". Another owner from the same county remarked that she took advice from specific professional forestry workers as the gospel truth "because I do not know enough to reassess them and say that no, I do not agree with that". In the study from the counties of Trøndelag, a number of female forest owners called us when they received the questionnaire, saying that they hadn't a clue when it came to forest or that they did not know anything about forestry and so they were not able to answer the questionnaire. The reactions were similar when, in the same study, we asked female forest owners to participate in focus groups. In both studies, these types of responses were far more pronounced among the group of female owners than among the male owners (Follo, 2008; Follo et al., 2006).

In Table I survey data exemplify female owners' lack of competence. The table considers responses regarding ordinary arrangements/provisions in Norwegian forestry, essential forestry and forest estate aspects, and commonly applied forestry concepts.

The table is arranged in descending order, according to the female group's decreasing percentage. For instance, for point 1 we see that 68% of the women did not answer that the current price of a specific and principal timber assortment had gone up from the last price period. The alternatives were "down", "up", "neither up nor down" and "Do not know – have to guess". The forest owners should, from the perspective of forestry business, be well informed about the price increase. Point 3 shows that 49% of the women did not state how much of their productive forest area was mature forest – if it was between 0 and 20%, between 20 and 40%, between 40 and 60% or over 60%. We (Follo et al., 2006) assume that the non-answering in point 3 results from lack of knowledge about the productive forest area and the mature forest, and also that the forest

Table I. Examples of lack of forestry competence among female and male small-scale private forest owners from the two Norwegian counties of Trøndelag. Percent of sex category (after Blekesaune, 2005; Follo et al., 2006)

	Women	Men
	<i>n</i> (307)	<i>n</i> (2095)
(1) Give wrong answer regarding timber price or do not answer	68	46
(2) Do not state % of their productive forest area with positive stumpage value	50	23
(3) Do not state % of their productive forest area that is mature forest	49	23
(4) Unknown: That the public authorities give subsidies to privately owned forest	44	28
(5) Unknown: The courses Activity in Forestry	38	24
(6) Unknown: The Forest Trust Fund system	24	12
(7) Unknown: That someone else may administrate and carry out the harvest	22	13

owners did not understand the concepts “productive forest area” and “mature”.

In taking a gender perspective and regarding sex as an empirical variable, men also came in view. Then Table I is informative in three ways. Firstly, the male owners have a lower score than do the female forest owners for all the seven points. Secondly, the table shows that the percentages of the male group short of forestry competence are not small. Thirdly, this implies that numerically there are many men lacking forestry competence. Point 2 in Table I illustrates this: 23% of 2,095 men is approximately 480 men. So in number a lot more men than women did not state the percentage of their productive forest area with positive stumpage value: About 480 men compared with approximately 155 women.

Lack of forestry competence means that the forest owner in her/his forest management must rely on what other forestry actors say. She/he has no other option than to trust the other person. She/he is simply dependent on a trust relationship due to lack of forestry competence. In Figure 1 the management model of trust is incorporated with a management

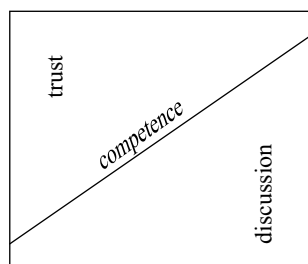


Figure 1. Graphical presentation of the management models for trust and discussion (Follo, 2008).

model of discussion showing the effect of increasing forestry competence.

Figure 1 indicates that as the forest owner's forestry competence increases (from left to right), She/he in her or his management of the forest approaches a discussion-based model for management. There is, however, always some trust and discussion, but their relative portions differ: Mostly trust when she/he does not have much competence, mostly discussion when she/he has competence. The point of departure for sketching the models is what lack of forestry competence by necessity implies if the forest owner wants some forestry activity at her/his forestry estate. The point of departure is not how she/he acts and practically solves the management tasks if she/he possesses much competence. If that were the case, she/he would have a lot of options, but whatever she/he chooses she/he has competence to participate in discussions about the management, to check on other persons' opinions and so on. To have a trust-based moulding of the management role implies implicitly that dependency is made known. To have a discussion-based moulding indicates, however, non-dependency. The relationship between the forest owner and the forestry employee is different. In the first case, the requirement of trust is something that originates from the forest owner and that she/he addresses to the employee. The relationship is asymmetrical because the employee does not need such trust for her/his own sake, given the forestry competence that she/he possesses her/himself. Nor does the employee need to address any requirement of trust for her/his own sake from the forest owner, as the employee copes well alone. In the second case, the relationship is symmetrical since the forest owner possesses forestry competence that can be applied and played out in the interactions with the employee and the employee's forestry competence.

Discussion

Increasing lack of forestry competence

The response “I do not know...” is far more pronounced among the group of female forest owners than among the male owners. Why? Is this due to gender bias in the forest owners' self understanding of forestry competence, as suggested in a study of Swedish female and male forest owners? Lidestav (2001) finds that women judge their competence at a lower level than what men do. However, while that may be the case for Norwegian female forest owners, the data in Table I also suggest the lesser forestry competence of women.

Another question: When female owners to a higher degree than male owners did what the forest adviser told them to do (Follo, 2008), is that because aspects of the well-known pattern structure male superior/female subordinate took place in the social interaction? Indeed, 96% of the forest advisers are male (FAO, 2006). And a superior position is set by the status professional forestry knowledge is credited with in the Norwegian forestry world. That may, after all, confer an institutional, expert-orientated and personal authority (Myhre, 1977) to the specific employee. I dismiss the suggestion. Instead, I suggest that lack of forestry competence has the highest explanatory power.

The lack of forestry competence among Norwegian small-scale private forest owners is probably worse than the results are showing. The data are from Hedmark county (Follo, 2008) and the counties of North-Trøndelag and South-Trøndelag (Blekesaune, 2005; Follo et al., 2006). In all these three counties, and especially in Hedmark, forestry holds more cultural importance than in many other counties in Norway. Furthermore, the informants from Hedmark were management active forest owners; that is they were active in forest and forestry activities. So-called passive forest owners with no forestry activity at the holding might have lesser forestry competence. This assumption is supported by the figures from the counties of Trøndelag. Those forest owners who have harvested during the last five years have much more forestry competence than those who have not harvested (see Blekesaune, 2005, p. 39, 51). And furthermore it is the question of responsiveness. When comparing some net sample values and population values in the survey from Trøndelag, we found that female owners were underrepresented, as also Strupstad (1991) has shown earlier for Norwegian forest owners and Ingemarson (2004) for Swedish forest owners, and that those owners who had harvested the last five years were overrepresented among those who responded. Both the underrepresentation and overrepresentation indicate that the lack of forestry competence is bigger among the forest owners than the survey says because, as told, (1) female forest owners have lesser forestry competence than do men and (2) those who have harvested are more competent than those who have not harvested.

The situation in Norway in regards to the lack of forestry competence will probably be worse in the years to come. On the one hand, there will likely be higher demands on the forestry sector because the business has to contribute (more) to the climate, the preservation of biodiversity and the creation of economic values. On the other hand, the forest owners' level of forestry competence will probably

decline unless something extraordinary happens. This is related to, among other things, the increased mechanization of Norwegian forestry: Forestry entrepreneurs are doing the logging for the forest owners, with harvesters and forwarders. When participation in practical forestry work decreases among forest owners, they lose this chance to maintain or increase their forestry competence. Furthermore, in the future there will likely be more female owners, due to the amendment to the Act of Allodial Rights. In addition, there will be more male owners without forestry competence, as today's competent male forest owners are slowly replaced with new male owners with no experience from practical forestry work, no forestry education and thus with very little forestry competence.

In the wake of an increasing lack of forestry competence is an increased dependency on forestry employees (advisers) and use of the trust-based forestry management model. However, in the Norwegian society and forestry world there is an atomization of the forest owner. This atomization is part of a broader process of individualization.

Individualization of the forest owner

In addition to the more general individualization that is taking place in the broader society (Krange, 2004; Larsen, 1998), there are three forestry-specific contributions to the individualization of the Norwegian small-scale private forest owner. First is the legal emphasis on the forest owner. The focus on, and responsibility given to, the forest owner was part of the earlier 1965 Act relating to forestry and forest production, and has remained part of the new Forestry Act from 2006. In this new act, section 4 outlines the forest owner's administrative responsibility in the introductory provisions, following the sections on the purpose of the act, the scope of the act and forestry authorities. Furthermore, the forest owner is the focus of The Regulation on Sustainable Forestry, a regulation from 2006 related to the Forestry Act. This responsibility principle is commonly phrased in laws and reports as the forest owner as "the decision taker" (see, for instance, Stortingsmelding No. 17, 1998–99).

Emphasis on "freedom with responsibility" is the second contribution. This phrase is applied by the forest owners' organizations, The Norwegian Forest Owners' Federation and Norskog, when they argue for the forest owner's freedom and possibility to decide. Considered isolated, the first and second mentioned elements contribute to tearing the forest owner away from the collective forestry links that she/he is a part of. The extra-individual aspects of what she/he is doing are made invisible. This type of

individualization reflects wider attempts to emphasise and establish the forest owner as autonomous – autonomous understood as with will and capability to have and to take independent decisions.

A third contribution to the individualization process implies, however, another type of individualization: atomization in the sense of being alone. There has been a reduction in both the private and public forest service and then advisers (FAO, 2006; Stortingsmelding No. 17, 1998–99; The Coastal Forestry Project, 2008). This reduction in advisers is more important considering the fact that a decreasing proportion of forest owners join representative organizations. In 2004–2005, less than 38% of all small-scale private forest owners with 2.5 ha and more of productive forest joined forest owners' organizations (Follo, 2008, p. 35).

Able to meet the political goals?

The trends towards an increasing lack of forestry competence and increased individualization are a contradiction. Small-scale private forest owners with forestry competence need forestry employees to take part in their decision-making process as elaborated on in the article by showing the nodal centre function that the forestry adviser is playing for the forest owner Fredrik. However, atomization is potentially more serious if the forest owners without or with little forestry competence are taken into consideration. Not necessarily serious for the forest owners themselves. They may live happily with their forest without any forestry activity: It is not the forest that they may move away from, but forestry. But, it is serious for the Norwegian Government and the forestry business. And it is serious for them because the forestry sector needs, according to Norwegian forest policy, to increasingly contribute to the climate, preservation of biodiversity and creation of economic values. It is difficult to understand how this might be achieved without forest-relevant activity at the holdings of small-scale private forest owners with little or no forestry competence.

When the Norwegian Government talks about the goals for the forestry sector, it talks about the potential to increase the annual harvesting to about 15 million m³. To harvest so much, smaller forest estates have to be activated or activated more (Hobbestad and Nilsen, 2006; Swärd, 2003; The Coastal Forestry Project, 2008). For the inland counties of Hedmark, Oppland, Buskerud and Telemark, Hobbestad and Nilsen (2006) talk about “smaller” as 100 ha, Swärd (2003) about 50 ha for the same counties. When it comes to the nine counties of the coastal area, Rogaland to Finnmark,

most of the estates are small: 93% of the owners own 52% of the area and their average estate is 24 ha (The Coastal Forestry Project, 2008). In the Norwegian context, “small” also implies that they are owned by small-scale private forest owners.

There is a correlation between the small-scale private forest owner's forestry competence and the size of her/his estate's productive forest area: The smaller the size, the lesser forestry competence, and vice versa (Blekesaune, 2005; Follo et al., 2006). With an increased lack of forestry competence among forest owners, we may assume that the relationship between forestry competence and the size of the estate still will hold, but that a higher degree of lack of forestry competence will be manifested in all categories of estate size.

If there had been enough forestry employees (and then advisers), the Norwegian forest policy might have been implemented through them. But they are far from many enough, and as argued, it has been a decreasing number of advisers. In addition, the earlier mentioned understanding that the forest owner is “the decision taker” and one that acts with “freedom with responsibility” is a kind of ideology which places emphasis on the forest owner as the one the forest policy should be implemented through.

The empirical data and the forestry issues presented in this article are relevant for the Norwegian forestry today. My hypothesis, based on recently knowledge from and interaction with the Norwegian forestry sector, is that the situation is worse regarding, for instance, small-scale private forest owners' forestry competence and the numbers of forestry employees (advisers).

Lack of forestry competence, fewer advisers – and national forest policy goals of contributing much more to the climate, preservation of biodiversity and creation of economic values. The Norwegian Government and the forestry business have, in my opinion, six options to meet the challenges and improve the situation: (1) change the property structure (increasing the productive forest area of each holding) by modifying, for instance, the regulations hampering the selling of forest, (2) carry out more of and more specific forest owner-adapted initiatives accomplished through forestry employees' proactive, outreaching actions, (3) introduce new passive incitements (for instance tax-reductions, grants related to forestry activity) more adapted than today to different categories of forest owners, (4) introduce a legal duty to carry out forestry activity at the holding, (5) introduce regulations that will effect a change towards more forest estates owned by enterprises/firms and lesser owned by personal forest owners and (6) organise cross-boundary and multi-property alternatives that will change the way forest

owners make use of the forests. These are the options for the government and the forestry business. At the moment, the government is working on a new report (White paper) to the Storting on agriculture and food. When the report to the Storting is published, we will see which of the above initiatives the government chooses. My guess is that options (1), (4) and (5) are not being considered. For the present government, property structure seems to be a non-topic, even though the forest owners' organization Norskog has been arguing strongly for its consideration. One of the government's reasons is probably that the property structures for forest estates and agriculture are closely related, and the government wants to maintain the agricultural structure. Neither the government nor the forest owners' organizations have been considering a proposal that would make it a legal duty to carry out forestry activity. Such a legal duty would be too contradictory to the ideology of the forest owner as the decision taker. To introduce regulations that change the forms of ownership is also not an option for the government. In the government's opinion, personal owners best take care of forest and agricultural holdings. The government is, then, left with initiatives (2), (3) and (6), which are much easier to turn to because the changes are at a more superficial level and do not necessarily imply increased cost for the state. A modification of the forestry employees' behaviour (2 and 6) and a new distribution of money (3) may be enough. But before any of these options are chosen, the government must recognise the mismatch between forest owners' lack of forestry competence, the reduction in the forest service and the government's political goals.

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