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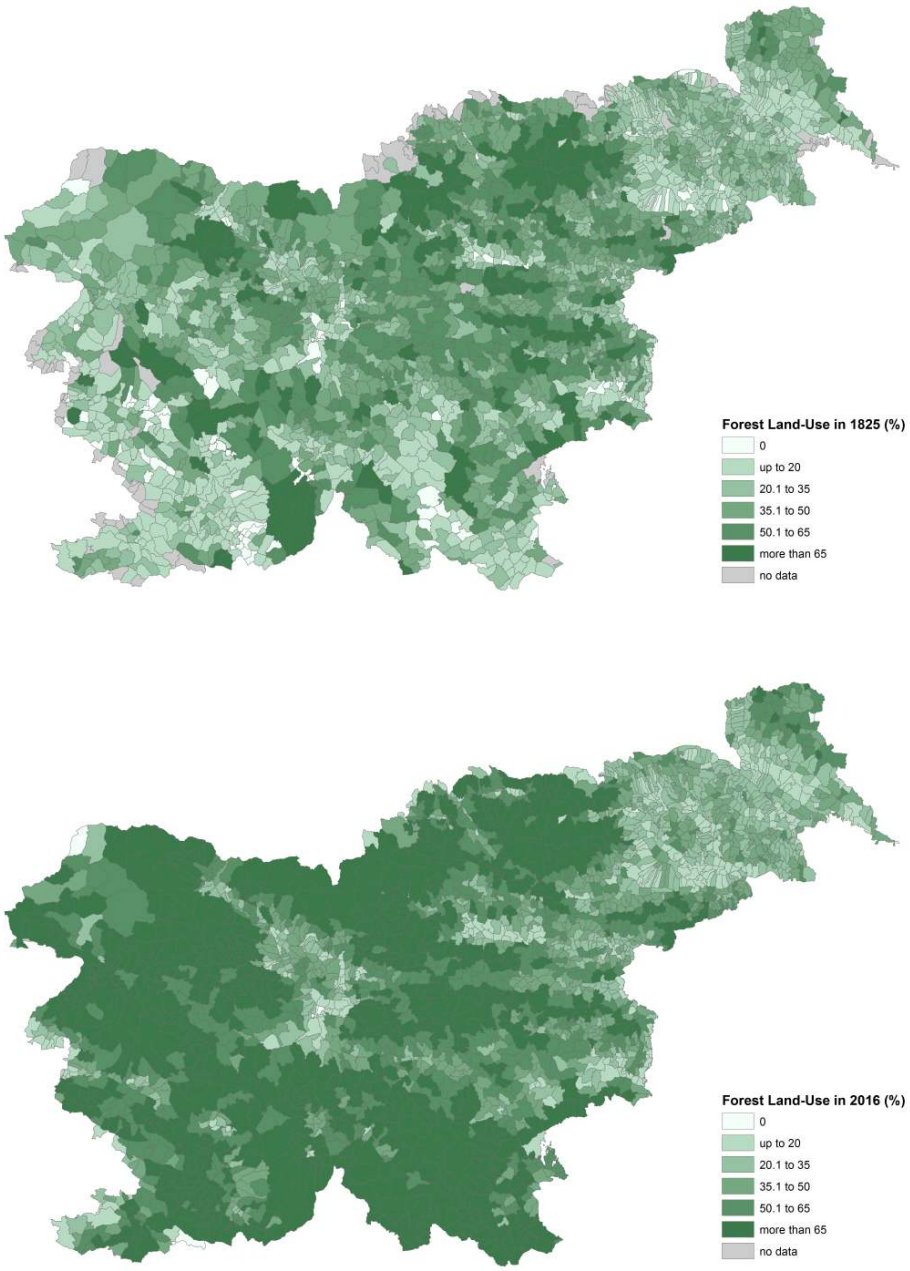
Introduction

1 Forest covers approximately 58% of the Slovenian national territory (SURSa, 2016) and has undergone extensive changes in ownership structure and property size over the past two centuries. The changes have followed the general processes of abandoning the agriculture as an activity, source of income and way of living, industrialization, modernization and the increase of service sector employment (Klemenčič, 2002; D'Agostino *et al.,* 2006; Rus, 2007; OECD Economic Surveys: Slovenia, 2009).

Figure 1. Forest land-use change (1825-2016).



THE COMPARISON IS BASED ON HISTORICAL CADASTRAL COMMUNITIES.

2 In Slovenia private forests are dominant: private individuals own around 73% of approximately 1.2 million hectares (Slovenia Forest Service annual report 2014). The contemporary data underline the quantitative importance of small-scale private forest owners (SPFO): 89% of registered private forest owners have less than 5 ha of forest. They own totally 40% of Slovene forest area (Pezdevšek Malovrh, 2010). Out of 70,000 agricultural holdings in Slovenia, on average each manages slightly more than 5 hectares of forest land (SURSb, 2016). SPFOs have emerged as an important category in European and North American Research (Wiersum *et al.*, 2005; Bliss & Kelly, 2008). They have

changed their attitude toward their forest management orientation in recent decades and shifted from production to multi-objective orientation (Ni Dhubhain *et al.*, 2007; Hayrinen *et al.,* 2014).

3 Small-scale properties appeared in recent decades as a result of social and economic factors. The tradition of preserving the forests in the possession of the farm families has been mainly lost and the properties have started to split between relatives during the heritage process. In some regions the historical-cultural practice of splitting the property into smaller parcels has existed since land reform in the 19th Century. Nowadays these regions display land fragmentation which is higher than the national average (Slovenia Forest Service annual report 2014; Quiroga *et al.,* 2015).

4 The shift in ownership structure occurred also due to the transition from a socialist to capitalist society. This transition was accompanied by the restitution and re-privatization (ZDen, 1991) of the land which was nationalized after the Second World War. They left behind small and fragmented private forests and sometimes large areas of unclear ownership (Quiroga *et al.,* 2015). Today the average private forest property is 2.5 hectares in size (1.5 hectares is the average size for small-scale property included in our survey, Kumer & Štrumbelj, 2017), fragmented (2 to 3 spatially scattered parcels) and owned by more than one owner (one third of forest properties are owned by more than two individuals). On average, smaller properties have larger number of owners than larger properties. Consequently, Slovenian private forest is owned by 489,000 individuals and divided into 5.7 million parcels (Medved *et al.,* 2010; SFS, 2014). In other words, every 6th citizen of Slovenia owns a forest.

5 In private forests the realization of the allowable cut is substantially lower than in public forests managed by the state and contractors (SFS, 2014, p. 13). The general insufficient management in small-scale forests is a trend typical for entire Europe (Lahdensaari *et al.*, 2001). SPFOs are generally reluctant to harvest due to low price advantage and high fixed costs (SFS, 2014, p. 13). The issue is also related to the question of how to enable faster and effective response in the case of natural hazards. For example, in 2014 an estimated number of 9.3 m^3 of wood needed to be removed from Slovenian forests after extensive damage caused by ice (Veselič *et al.,* 2014). This was followed by bark beetle scourge which claimed more than two million cubic metres of spruce in 2016. After the damage, the trees have to be cleaned and the owners need to perform sanitation cuts and other urgent silvicultural works.

6 According to several national studies the majority of SPFOs today are no longer affiliated with agriculture (Ziegenspeck *et al.,* 2004; Schraml *et al.,* 2003; Kumer & Štrumbelj, 2017). Through the process of modernization and decreasing share of employment in agriculture, the owners changed their place of residence, professional fields and social surroundings. These changes have been accompanied by clear adjustment in handed-down norms and value expectations (lifestyles). The ties between the owner and the land has gradually dissolved, and replaced by an ownership relation characterized by little or no involvement in management of the forest, and residence outside the forest property. Abandoned farms have stayed in possession of individuals through partible inheritance. Such owners have been described as "new" types of forest owners (Hogl *et al.,* 2005; Ziegenspeck *et al.*, 2004; Volz *et al.,* 1998) *"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"* (Follo *et al.,* 2016, p. 1). They have either become "absentees" or "hobby-owners" (Volz, 2001; Judmann, 1998). The term "new" or "urban"

does not necessarily express the spatial attachment to the city, but the process of modernisation and urbanization (Ziegenspeck, 2004; Schraml, 2003) and globalization (Dicken, 2005).

7 Kumer & Štrumbelj (2017) argue the correlation between distance and engagement in forest management. They found that the engaged owners live closer to their land than detached owners. Remote owners have been recognized as those who lack knowledge, skills and capacity for efficient forest management.

8 Special problem represents those who own a forest in Slovenia but live abroad. According to statistics there is about 5% of expatriate private owners. Among small scale owners there is quite a high percentage of those with missing data (3-5%) and deceased owners (2-4%) with no legal heirs (Medved, 2013; Kumer & Štrumbelj, 2017).

9 There have been several attempts to manage above-mentioned fragmentation. A specific rule related to inheritance aimed to limit fragmentation (ZG-B, 2007). Forest parcels smaller than 5 hectares should not be divided, but given as a whole to the heirs. Number of heirs, however, is not limited by law.

10 In this paper we examine two motives for engaging in forest management: economic and emotional. Economic motives have been examined through owners' cooperation to reduce transaction costs produced by ownership fragmentation.

11 In Slovenia, **cooperation between owners** has been recognized as a good solution to overcome the cost inefficiency (Pezdevšek Malovrh *et al*., 2012, p. 106) but the willingness of cooperation has been recognized as insufficient (Medved & Pezdevšek Malovrh, 2006). Many forms of cooperation have existed since 19th century. Agrarian communities originate from the land reform (1848) which gave farmers the right and duties to use the common village land which remained undivided. At that time agrarian community was considered as common good (Šmid Hribar *et al.,* 2015). The land was later divided among users who became private owners through defined or undefined coownership. Their right and duties are clearly defined in legislature (ZVPAS 1994; ZAgrS, 2015). Machinery rings represent another form of cooperation. They have existed since 1994 (Pezdevšek Malovrh *et al*., 2012), i.e. private forest owners association which started to develop in Slovenia at the beginning of the 2000s although membership is still low (Pezdevšek Malovrh *et al.,* 2016; Leban, 2014) and groups of producers (Rules on the recognition of producer groups of quality schemes (2009). The network of 396 forest units with professional district foresters (established in 1993) forms a good potential for bringing owners together although they are not legally entitled for this job. Other form of informal cooperation has been initiated by private forest management company. After two major natural hazards (ice storm and bark beetle outbreak) they have started to bring owners together to reach cost-benefit in harvesting over the affected areas. Mendes *et al.* (2006) argue that financial incentives are crucial for triggering SPFOs to start cooperating and managing their land.

12 The emotional motive is manifested through obtaining and repossessing family property. As argued in the literature (Lonnstedt, 1997; Törnqvist, 1995; Hugosson & Ingemarson, 2004; Hujala *et al.,* 2008), emotional attachment and forest as inherited property is related to certain place affiliation and it highlights a desire among all groups of owners to preserve the property for next generations.

13 The aim of this paper is to examine how forest fragmentation has resonated among SPFOs. The aim is also to identify main barriers for owners' cooperation.

14 In order to explore these issues, we start this paper by presenting the methods, followed by historical context which provides the framework for an overview of the key problems related to forest fragmentation. Then we turn to present results by compiling opinions of owners and forest professionals. Finally, we present results to constitute a basis for a concluding analysis.

Methods

15 A three-step approach for theoretical sampling was used to collect variety of data suitable for Glaser's (1998) variation of grounded theory.

1. The paper is based on mixed-mode questionnaire survey (performed between February and March 2015) used in Kumer & Štrumbelj, 2017). It was designed to collect information on small-scale forest owners' values and management objectives. A survey sample consisted of 2010 owners with less than 5 hectares of forest land spatially scattered around the territory of Slovenia. The data from questionnaire survey was used in this paper to: (a) further evaluate those owners who responded with incomplete data, (b) to improve owners' typology (resulting in two clusters of "Engaged" and "Detached" owners) with qualitative analysis and (c) to approach respondents willing to cooperate in further steps of the research with in-depth semi-structured interviews. "Engaged" owners are multiobjective oriented while "detached" owners expressed lower relevance in production and economic objective. "Engaged" owners are more active and are more likely to actively manage their forest in the future, they were born on farm and live closer to their forest. "Detached" owners are less active and they place highest value to forest´ environmental and social function. This group contains larger share of female and non-residential owners.
2. The owners who were willing to participate further in the research were invited to take part in an in-depth semi-structured interview. A total of 22 audiotaped interviews were conducted (from October 2015 to March 2016) and transcribed. 14 interviewees belonged to the group of "engaged" owners and 8 of them were assigned to the group of "detached" owners. The focus was on socio-geographical background of the owners and its relation to management orientation.
3. In the third phase (March 2016-June 2016) we reached for a more extensive data collection and conducted a series of 9 focus groups. Key players involved in forest management (owners, district foresters, forest officers, and representatives of forest owner associations and machinery rings) were invited as we know that their views do not always coincide (Bjärstig & Kvastergard, 2016; Eriksson, 2012). The focus groups were conducted on the level of Forestry Service Unit. In each locale, district foresters (local public forestry service) were invaluable key contacts in conducting the focus groups, and their input was very important in the solicitation of participants. There is an assumption that all participants show higher level of engagement in forest management and therefore statistically can't represent of a broader population; however, the district foresters from each of the study locale were confident that the participants are best examples of different forest managers. The focus groups were used to explore the findings that emerged from questionnaires and interviews. The participants discussed and analyzed the findings (Kress & Shoffner, 2007; Tonkiss, 2012). The focus group was conducted by a moderator who did not share his viewpoints or engaged in discussion, he was only a tool in getting opinions from participants (Morgan *et al.,* 1998; Krueger, 1997). It aimed to create meaning from conversation and arguments between participants and to provide a visible image of how they articulate and justify their ideas (Morgan *et al.,* 1998). The presence of observer and videotaping the conversation helped researcher to analyze interactions and nonverbal communication. The focus groups were all roughly 1.5 hours long and averaged 8 participants.

16 We used Charmaz's textbook (2006) to precisely follow the steps of grounded theory and employed initial, focused, axial and theoretical coding of the data. To make comparisons at each level of analytic work we used theoretical sampling and constant comparative strategy. After developing the codes, we proceed to memo-writing. Through the research process the theory has emerged around the three core theoretical categories related to small-scale forest ownership: (1) land fragmentation and co-ownership and (2) demographics and (3) remoteness. In this paper we presented and discussed the supporting quotes, both from interviews and focus groups. The literature review and theoretical framework had been drafted over the analytical process.

Historical context of small-scale forest ownership in Slovenia

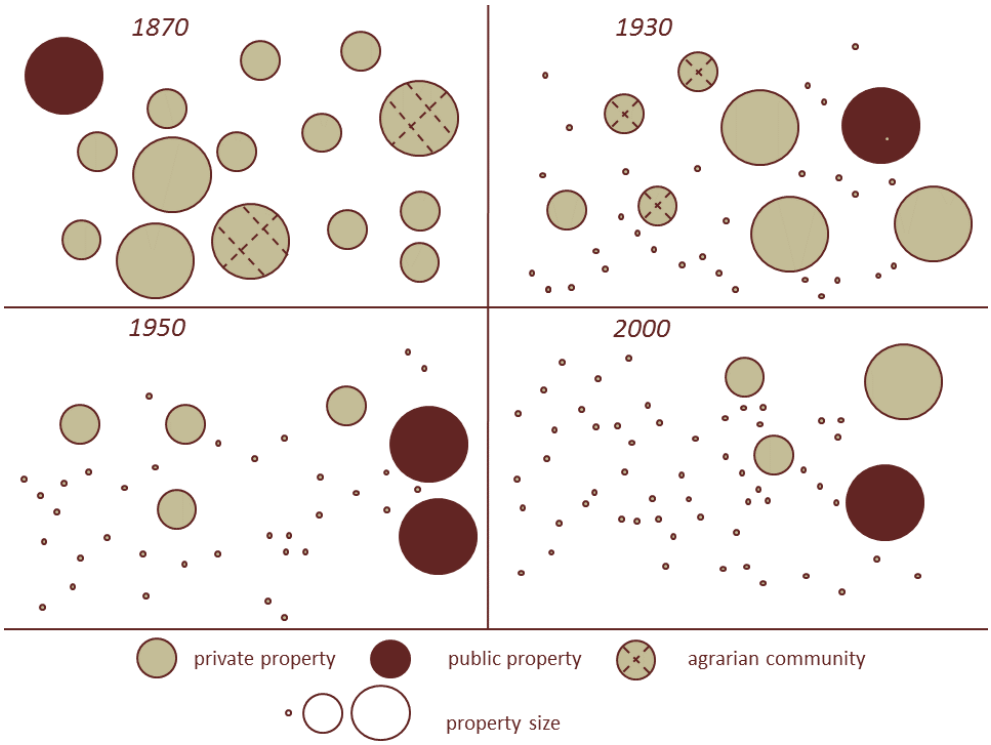
17 In the past forest was cleared for settling, cultivation and grazing. According to some sources the extent of forest cover reached its lowest level in the 18th and 19th Century (Remic, 1975; Petek, 2005). Since then the area under forest has been constantly increasing (NGP, 2008).

18 In line with the increased size of forest cover (Figure 1), the ownership structure has changed substantially (Figure 2) and has been affected by several factors. As serfdom was abolished in 1848, most of the forest came into possession of farmers. Common land was largely converted into agrarian community. Therefore, owing a forest in Slovenia has always been attached to agricultural affiliation. The advent of economic liberalization, high compensation prices, wars and economic crises forced farmers to sell their land. At the turn of the 20th Century the majority of the forests (50%) were small and belonged to the farms. Agrarian communities had gotten smaller. 30% of forest was owned by large forest landlords (including the Church). The average size of forest property was 4.4 hectares (Blaznik, 1970; Remic, 1975; Petek, 2005; Medved, 2013). Along with the changes in forest ownership, the forestry science was developed and the progressive forestry legislation and close-to-nature forest management was introduced. This led to revival of natural forest (Schültz, 1999; Bončina, 2000; Cunder, 1999; Gabrovec *et al.*, 1997)

19 With the 1945 land reform after Second World War the maximum size of forest owned by farmers was defined at 25 ha. Non-farmers were allowed to own only up to 5 ha of forest land. All other land was immediately nationalized. The stricter 1973 Law on agricultural land prohibited non-farmers from owing more than 1,5 hectares of forest (Avsec, 1988).

20 Collectivization however didn't affect Slovenia as much as it did other socialist countries (OECD Review of agricultural policies 2001, p. 9). Two thirds of forest were shared among private owners, who owned mainly small plots. One third of the forest area was state owned.

Figure 2. Model of time-space changes in forest ownership. The model is based on literature review.



21 Structural changes in agriculture and forestry have led to fragmentation of land and co-ownership (Follo *et al.*, 2016, 1; Eurostat, 2011; Stampfer et at., 2001). Besides formal restrictions in size of farm land which led to land abandonment (Zagožen, 1988), they have been characterized with declining role of agriculture and rural-out migration (Kladnik *et al.*, 2005; Ravbar, 1997). These changes have led to old-field succession and afforestation.

22 The decrease of publicly owned forest, caused by restitution and privatization (after 1991 when Slovenia declared independence), partial inheritance and old-field succession have sped up land fragmentation and increased the number of forest owners (State of Europe's Forests 2011; Winkler, 1994; Poje *et al.*, 2016). Owing and managing a forest in Slovenia has become an important societal phenomenon.

23 Between 1900 and 1990 the average size of private forest property in Slovenia decreased by more than 50%. In 1990 the average size was 2,7 hectares and it remained the same until today: the restitution didn't operate towards land consolidation but it produced a negative effect of reduction of the average forest property size (Winkler, 1994; Medved *et al.*, 2010). In smaller properties it is more difficult to obtain the economic advantages of scale. Additionally, the restitution has resulted in often more-than-one heirs per property.

24 The decrease in property size highlights the importance of examining the structure of small-scale forest ownership. It has also reduced the interest of owners to manage their forest (Resolution on National Forest Program, 2008). On the other hand, there are several positive impacts of small-scale forest ownership, e.g. maintained diversity of tree species; mosaic and attractive forest landscape, etc. (Summary of the report on Slovenian Forests and Forestry, 2016; Bliss & Kelly, 2007).

25 Apart from negative ownership aspects, forest has become over recent decades a public good to all citizens and a popular site for leisure, sports and recreation (e.g. mushroom or berry picking; Bell *et al.*, 2009). Forest and colors of green have become recognized symbols of the nation state (NGP, 2008).

Results

Concerns regarding forest fragmentation and co-ownership

26 Owners of small-properties expressed reluctance to harvest due to lack of advantages of scale. SPFO Robert (aged 42) noted that:

> "The annual increase of growing stock is very high but with 5 hectares you can hardly extract the wood for home purpose. /.../ The price of the timber has fallen substantially."
> "The harvested wood can only cover the cost for my work," complained Franc (aged 60).

27 A district forester Franc explained that the level of motivation for generating income from forest management correlates with the size of the forest property:

> "In the past small properties were managed for acquiring firewood. Small-scale properties have never contributed substantially to the family income."

28 Combined adjacent properties managed as a single operating unit could bring economic advantages of scale. Karmen, a female district forester, asked the owners if they are willing to come together to establish a cooperative. Such formal body would allow them to determine their own prices. The owners themselves would govern it. To her opinion, such bottom up initiatives could benefit a lot to the forestry in Slovenia. Anton (aged 46) had doubts about it:

> "The question is if we trust each other. I think owners always have this feeling that someone will earn more money from them. We would have to invest the initial 20.000 euros in such business and not many small owners are ready to invest such an amount of money. We will have to employ a person to run the cooperative. I don't think that there is a person who is able to work honestly. Every day we read about dishonest people in the media. If everyone works fair, why don't we all use the state sawmills? Unfortunately, it doesn't work that way."

29 Interestingly, there is a high distrust between owners.

> Vladimira, aged 82: "Since the adjacent owners are interested only in their own benefits, we rather manage our property alone."
> Aleš, aged 54: "I think this is impossible. Everyone only looks after himself. Maybe only small number of owners could work together, but bigger group couldn't. The problem in Prekmurje (NE Slovenia) is that there can be over 30 owners per few hectares."

30 The distrust often results in disputes regarding property boundaries. During interviewing, the owners often told a story similar to Nelka's (aged 60):

> "My neighbor started with tree felling and my brother notices that my trees were also marked for cutting. He harvested the forest for selling firewood and that bothered me. I decided to pay for land surveying so that the boundaries were strictly defined by authorized company."
> Irena, aged 67: We cut down a big maple tree that was close to the boundary but it was still on our side. The neighbor complained that we cut down his tree. I told him I would ask my father on which side the tree was because he knew where the boundary goes. The father showed me the boundary and the tree really was on our

side. But he told me, you know what, leave him that tree, don't argue with him. We decided to leave him the felled tree because we didn't want to have anything to do with him anymore."

Demographic concerns

31 The fact that most SPFOs are advanced in age (40 percent of studied owners are aged 55 or older) seems to have effect on owner's harvesting activity. Many elderly owners were removed from analysis of the questionnaire survey in the pre-processing of the data as they did not want to participate. Luckily, a few felt obliged to explain why they refused the participation.

"I am too old to help you with your survey," wrote a male, aged 92.
"He's too old and too sick to answer the questions," wrote a sun of a senior male (no age specified).

32 For numerous owners interviewed in our survey (roughly 80 percent), forest represents a link between generations. When asked to talk about the meaning of their forest, they remembered their youth, their parents and their hometown:

Irena, aged 67: "I grew up by helping my father with working in a forest. While he was working I was there to run for help if anything would happen. I was only six or seven years old."
Jani, aged 51: "While growing up, we mostly played in the forest. We were climbing the trees and running in the forest. As a youngster I walked my dog in the forest. A lot of my youth I spent at my uncle's and helped him with picking beanpoles from forest."

33 The emotional interest to hold the property as inheritance is strengthened if the owner has grown up on the property and the parents were active famers or foresters.

"I have a strong respect for the land, farming, fields, pastures and forest. I grew up on the countryside and it remained part of me." (Nelka, aged 60)
Milan, aged 60: "My ancestors were very involved in forest management. They had a large farm with a restaurant in Sevnica [E Slovenia]. When my grandfather married into the family, he decided not to invest in the restaurant anymore. He rather focused on buying the forestland. He believed that wood is something that could provide a decent livelihood to the family. They were also selling field produce, but their main source of income was wood."

34 Therefore, he was very protective when we later in the interview asked him about future generations:

"I won't sell the forest. Maybe future generations will harvest the forest if they lose other sources of income. Maybe they will need the firewood."

35 Viktor (aged 50) explained how important is the forest for their family. He also explained that intergenerational transfer of ownership is not the main concern for his family. He thinks that his father is an exemplary owner and that he learned a lot from him about forest tenure.

"He will transfer the land when the time comes and when we – the heirs – will know how to seize this as an opportunity. The advanced age is not an obstacle. The forest currently does not provide a great prospect therefore we can wait until the transfer happens. Besides, we have to reach maturity. The children are obliged to provide a sense of security to parents when they are old. This is how we earn their property."

36 Unfortunately, new trends show that children are getting less interested in forest ownership. Gabrijel (aged 80) is convinced that the main reason is the physical work which is unavoidable in forest management.

> "My son does not even want to hear about the land. Do you think young people are interested in land? They simply don't want it. Working on the land causes back pains!"
> Vladimir, aged 57: "Young people are not interested in forest management. Working in the forest is dangerous, difficult and ungrateful. They see no economic benefits in cutting the firewood after a week of hard mental work at the office. It costs only fifty euros to get home delivery of one cubic meter of firewood. Young people simply don't bite it. To work in a forest, one needs proper equipment especially on a hard terrain. The equipment can be expensive. Everyone just prefers to pay for the wood rather than acquiring it by themselves."

37 Borut, aged 43, thinks that attitude toward forest management changes with age of owners.

> "I was not interested in forest management when I was twenty-something years old. Young people simply try to avoid the work in forest. But things change when parents pass away. Parents don't trust their children. They think they are going to waste it."

38 On the other hand, older owners are reluctant to transfer forest ownership to their children.

> Anton, aged 55: "To me forest means the source of financial security in case of a hardship. A kind of a bank."
> Anton, aged 69: "My son told me that my forest is overexploited. He was thinking of himself. I told him to stop studying and I'll stop logging. Everyone makes his own money. I stopped logging as there are not enough trees to cut. I am saving the remaining trees for cases of hardship. I will sell the lend to my son so that I will have enough money in case I end up in home for elderly. The forest has no inflation. It's better than having savings account."

39 District forester Nina explains how forest quickly becomes a source of income:

> "When someone loses the job, he goes to the forest. When someone is retired, he goes to the forest too. They start calling me, when they are retired."

Views on remote ownership

40 Interviewed owners explained that forest has an important emotional value for them. We identified Nataša (aged 64) as an owner with short emotional distance to forest. Her mother grew up on a large farm:

> "They owned a large property in Dolenjska region [SE Slovenia] therefore I still sometimes long for spending time in the nature."

41 Contrary to owners who feel strongly attached to their land, there is a large group of those who live physically and emotionally far from their forest (30-50 %, Table 1). The dissociation of owners with the land is accompanied with inheritance of land through distant relatives. We could not interview them as they generally refused participation. We received some written replies though. A female who did not want to take part in the survey, wrote:

> "I am from Ljubljana and my forest is situated 60 km away from here. It is really far for me to go there. I think the trees have no quality, maybe they can be used for firewood. The co-owners are my sister and my female cousin and a few others whom I don't know. I have never managed the forest."

42 We examined other owners with long emotional distance indirectly, by studying the opinions of others. District forester Jože thinks that affiliation with agriculture (born or lived on farm) or type of inheritance (e.g. distantly connected relatives) is related to attitude toward forest management.

> "Those who did not grow up with forest and who were not raised to manage the forest, leave the forest intact."

43 In Prekmurje (NE Slovenia) the forest propertys are smaller than average [0,97 ha] and the number of co-owners is large [2,6]. A district forester Dejan from this region exemplified:

> "In my district there is one small parcel, only 80 ares in size, which is owned by 14 co-owners. This is the consequence of migration to United States and Australia."

44 Should the detached owners be taxed more than those who are actively engaged in management of their small forests? It turns out that the solution may not be that simple. Jože, aged 55, responded:

> "I am an acquaintance to the owners who do not want to be involved in management. I called the owners who are adjacent to my property. They technically know that they own a forest, but they are unwilling to spend their time on the land. For them, forest is a burden which they refuse to carry. They should either be forced to manage through taxes or through some sort of governance body. This would force them to either pay for the management cost or to sell their land."
> But not all are in favor of taxing the absentees. Francka, female owner, aged 61 noted: "Higher tax would not bring any substantial profit to the state budget. Single fines are more efficient. Higher taxes would contribute to enlargement of public forests [now 22% of total forest area] and small owners would disappear. Quite a few owners are considering selling the land, as the ownership doesn't bring them any benefits."

45 Perhaps the distant owners should be encouraged to manage with the help of the public network of district foresters. Drago, a district owner noted:

> "It is difficult to reach expatriate owners. I have a case of a deceased owner living abroad with no heir. I can't do anything. If there's an address or a phone number, I try to come in touch and motivate the non-resident owners. The best way to motivate them is personally or through the telephone. But there aren't many cases like this. I tend to invest more energy into owners who like to visit the forest and like working with trees."

46 On the other hand, there are also bright examples according to district owner Damjan:

> "There is always someone in the village who hires a forest operation company. Usually, one village takes advantage of a single company no matter where the owners come from. Sometimes even owners who live in countries like Australia come in touch. Unfortunately, this is not the practice in most of the cases."

47 Andrej, Forestry Service official, thinks that remote owners should take the advantage of Forestry Service and ask them for help:

> "Distant owners do not see their terrain and cannot take decisions. They should come in touch with their district forester, who visits the forest on a daily basis and is a professional. Foresters would be happy to help them with establishing a connection with adjacent owners, mark the diseased trees and prepare the management plan."

Discussion

48 Who is the SPFO? This was the central question being addressed at the study. We found that quantitative indicators (e.g. the size of forest) offer an answer, but explain the phenomenon only from a very narrow perspective. Wiersum *et al.* (2005) found that *"the concept of small-scale forest ownership means different things to different people in different countries".* Introducing the threshold at 5 hectares in Slovenia was based on relative importance of the group of people who own such land (89% of all the owners or 489,000 individuals) but have been under-represented or excluded from analysis in previous studies (see for example Ficko and Bončina, 2013). But what does this "regulation of size" tell us about the owner? Since they mainly inherited the forest, they constitute a very broad and heterogeneous group of people (also evident in other national studies, see for example: Dhubhain *et al*., 2007; Ingemarson *et al.,* 2006; Urquhart *et al.,* 2011). As noted by Bryant (1999), different types of work generate different identities. The social identity of SPFOs might help us answering the question. Social identity is constructed and reconstructed in a range of circumstances and settings (Brandth, Haugen, 2011). The contextual "situatedness" links it to the perception of self and how to act in a manner corresponding to prevailing expectations from others. It is through interacting with significant and generalized others that individuals develop their sense of selves. In political geographical context the phenomena are known as "neighborhood effect" and is based on the assumption that social interaction within their spatial realm (e.g. home-town community) affect people's behavior (Agnew, 1987).

49 Several socio-geographic characteristics of SPFOs shape their social identity as well (e.g. occupation, income, age and health, gender, individual forest experiences). A Norwegian study found that the more hours farmers work outside the farm, the weaker their farm identity seem to be (Watn, 2006; Brandth & Haugen, 2011, p. 36). Similarly, since several SPFOs are detached from every day farming (forestry) practice, their social identity has adapted (has been reconstructed) to newer circumstances. Well-managed forest is of vital importance for "residential" SPFOs who is daily interacting with his land. This is what governs other farmers´ impressions, gives status and confirms identity in relation to other forest owners. Remote owners are disassociated with forest management. They gain income from non-forest sector and might have taken up different social identity. The change in work gradually influences identity. The identity change usually occurs over a longer time period (Brandth & Haugen, 2011, p. 42). For them the income generation from timber production might not be the most important element of their identity since the attitudes towards land property have likely changed (Table 1). Consequently, environmental and social functions of forest might become more important (Kumer & Štrumbelj, 2017). For maintaining the productive function of private small-scale forest property as well, the role of district foresters' network becomes essential.

Table 1. Summary of the main aspects of the survey and the quantification of interviews' results.

prevailing issue	*sample quote*	*% total interview sample*	*typical owner type*
resistance to cooperate	I don't trust others. They would only serve their private interests.	90	engaged
	I have co-owners and we can't agree on shared management.	20	
	I am in border dispute with my neighbor.	90	
reluctance to harvest for economic purposes	Transaction cost is higher than profit.	50	detached
	I don't need firewood anymore.	50	
reluctance to harvest for general purposes	I have no time, knowledge and desire to manage.	30	detached
	I am not too sure where my forest is located.	30	
	I am too old.	40	
decision to hold the property in possession	Forest has belonged to my family for generations.	80	engaged
	I consider my forest as a savings account.	50	
	It reminds me of my childhood and birthplace.	80	
large emotional distance	I have inherited this land through distant relative.	30	detached
	I live in a city and/or far from my forest property.	50	
	I am not affiliated with agriculture.	30	

50 The demand on farmers and forest owners to fulfill many functions may result in more diverse identities. Identities seem to change slowly and some elements of identity may change while others remain stable (Brandth & Haugen, 2011). An important qualitative indicator of small-scale owners´ social identity is their attitude towards forest management. It might be an essential building block of their identity reconstruction.

51 A useful framework for addressing contingent and complex relations of SPFOs to their forest management practices and social identity-making could be linked to Halfacree´s notions on rural space as imaginative, material and practiced (2006). We draw upon this theoretical model due to the fact that the vast majority of Slovene private small-scale forest property owners are of rural origin. Herewith, he outlined a "three-fold model of rural space" embracing:

- rural localities, materially represented in relatively distinctive spatial practices linked to either production or consumption; in our case this is a fragmented forest landscape, the issue of co-ownership, where different forest management practices are evident;
- formal representations of the rural, mostly expressed by the politicians and representatives of capital interests which refer to the ways in which the rural is framed within capitalist processes of production and exchange; the public forestry service is efficient and relevant but it has a small impact on policy-making; timber value chain is not competitive and the marketing of small quantities is not optimal, several laws on forest have not had relevant impact on forest management, etc.;
- everyday lives of the rural, incorporating individual and social elements in the negotiation and interpretation of rural life; owners are motivated by a strong sense of attachment to their particular place and are motivated by an inclination to do what they believe to be right, they are endowed with high level of human and very modest level of social capita (the issues of suspicion and distrust, reluctant to cooperate, etc.).

52 These three facets are in constant tensions (Guštin & Potočnik Slavič, 2015). Thus, for example the formal representations never completely overwhelm the experience of everyday life, and the extent to which formal representations and local spatial practices are unified is also uneven. These tensions (or relations) drive the dynamism of rural space, enabling the opportunities for rural restructuring, and creating the space for a politics of the rural (Woods, 2011). The three facets are useful conceptualization of the construction of private small-scale forest property owners´ social identity which influences their forest management practices.

Conclusion

53 Several tensions (or relations) were identified in our study: from disputes between co-owners, adjacent owners to owners'suspicion toward forestry service. Distrust between owners is a very common result of fragmented land (Salamon & Lockhart, 1980) and, to some sources, the predicted legacy of former socialist regime (eg. Mishler *et al.,* 1997; Hacek *et al.,* 2013). Owners are also very often not aware of other co-owners due to complicated inheritance. Forest owned by several people is a firing ground for conflicts and an excuse for unmanaged land.

54 These relations can be explained by relational approach which has become popular in Human Geography over the last decade and may be described as an emphasis on the significance of network, connections, flows and mobility in constructing space and place and the social, economic, cultural and political forms and processes associated with them (Woods, 2011). The relational approach rejects concepts of space and place as fixed entities, constrained within the static and hierarchical architecture of territory and scale, and instead positions space as a product of practices, trajectories, interrelations, forever dynamic and contingent.

55 Darnhofer *et al.* (2016) argues that a relational approach, which conceptualizes the relations (rather than entities), enables a closer analysis of how ecological and social processes interact, it also allows to identify different relations that are enacted within a specific context, highlights that relations are continuously made and remade, putting the emphasis on change, and contributes to overcoming a one-sided focus on states and stability, shifting attention to the patterns of relations.

56 The intensive changes in Slovenian forest landscape have occurred relatively fast and have been loosely regulated. The small-scale forest ownership has appeared as a result of such changes. SPFOs have never been subject to specific policy or forestry legislature. No responsibilities have been assigned to people who own a small plot of forest. The cost of inheriting and owning the land has remained low. Difficulties with motivating the owners on one hand and structural issues in forestry sector bring no positive benefits to forest management.

57 Stakeholders involved in forest management should work closely together and prepare a detailed framework and guidelines for managing small-scale forest. As illustrated by Halfacree's three-fold model, the components of small-scale forest management are not in harmonized relationship. The model indicates that continual cooperation among stakeholders and co-production of efficient management solutions is necessary. But success in motivating the owners to work together largely depends on engagement of forestry service, especially by providing efficient planning and by establishing a detailed

and updated information service on SPFOs. Additionally, it seems that the importance of individual district foresters is underestimated. Our results show that they play a decisive role in motivating, organizing and extending owners. Therefore, the future of small-scale ownership largely depends on district foresters' engagement.

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ABSTRACTS

Forest landscape in Slovenia is large and fragmented. The majority of owners (489,000) own only small forest land (less than 5 hectares), which is a result of intensive societal, political and economic changes that have occurred over the last two centuries. Land reforms, old-field succession, impartial inheritance and restitution after 1991 are the main factors that have produced a large number of owners. Since they mainly inherited the forest, they constitute a very broad and heterogeneous group. The small-scale owners, as a specific social group, lack the knowledge, skills and capacity for efficient forest management. They have changed their attitude toward their forest in recent decades and have mostly shifted from production to multi-objective orientation. A three-step approach for theoretical sampling was used to collect variety of qualitative data suitable for Glaser's (1998) variation of grounded theory. The theory has emerged around three core categories: (1) land fragmentation and co-ownership and (2) demographics and (3) remoteness. We found that land fragmentation builds suspicion and distrust between owners and their willingness to cooperate. The disappearing group of residential owners, often affiliated with agriculture, holds emotional interest to manage the forest although income generation is insignificant. Remote owners are disassociated with their forest and carry almost no forestry activities.

Le paysage forestier slovène est à la fois étendu et fragmenté. La majorité des 489 000 propriétaires ne détiennent que des parcelles de moins de 5 ha en raison des bouleversements sociétaux, politiques et économiques survenus ces 2 dernières décennies. Les réformes affectant les sols, les règles de succession, les héritages impartiaux et la restitution après 1991 sont les principaux facteurs expliquant ce taux élevé de propriétaires, qui forment un groupe aussi large qu'hétérogène. Les petits propriétaires en tant que catégorie sociale spécifique, n'ayant ni les connaissances ni les capacités que requiert une bonne gestion de leur propriété, se sont principalement tournés vers une production à objectifs multiples. Sur base d'une approche en trois temps adaptée à la variation de Glaser sur la *grounded theory* et axée sur 3 catégories primaires (fragmentation du sol et copropriété ; démographie ; isolement), nous avons observé que la fragmentation engendre suspicion et méfiance entre propriétaires, ce qui impacte toute coopération. La catégorie des propriétaires résidentiels, en voie de disparition car principalement liée à l'agriculture, se distingue par un intérêt émotionnel pour la gestion de leurs forêts en dépit d'un gain dérisoire. Les propriétaires isolés n'ont pour leur part pratiquement aucune activité forestière.

INDEX

Keywords: non-industrial forest owners, forest management, rural areas, Slovenia, grounded theory
Mots-clés: propriétaires forestiers hors industrie, gestion des forêts, zones rurales, Slovénie, théorie ancrée

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