

Recent advances in land owner extension

Proceedings of the IUFRO 3.08 Symposium with a special theme of peer-to-peer learning among land owners, 3–5 April 2011, Kuusamo, Finland

Heimo Karppinen, Teppo Hujala and Outi Virkkula (eds.)

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Abstract The international IUFRO 3.08 (Small-scale Forestry) Symposium, held in Kuusamo, Finland, April 3–5 2011, gathered total of 30 participants from Australia, Canada, Finland, Indonesia, Latvia, Nepal, Norway, Sweden and USA to discuss recent scientific research and practical advances in woodland owner extension and advisory. The publication at hand contains the programme and proceedings of the Symposium, which was organized in collaboration by Metla, University of Helsinki and Oulu University of Applied Sciences along with the NordPlus Adult project "Mapping a peer-to-peer model for enhancing adult learning among land owners". The overall purpose of the Symposium was to shed light on the new forms and approaches of land owner extension, forestry advisory and rural communication with a special focus on peer-to-peer learning among land owners. Based on an open call for presentations, altogether 22 abstracts were accepted, and the contributed presentations covered a wide range of topics relating to peer-to-peer and adult learning, cooperation of forest owners, forest planning, extension and services, and forestry advisory in the context of reshaping communities. In the invited keynote talks, benefits of land owners' cooperation, social learning systems, and the Finnish forestry extension activities were introduced and elaborated. The five contributed full papers assessed the cases of land owner extension from the viewpoints of Finland, Latvia, Norway, the Philippines and Sweden.			
Keywords Adult learning, communication, family forest owners, forest planning services, forestry advisory, forestry extension, peers			
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Forewords

Dear Symposium attendees,

Finland is dominated by family forests. Previously, the main factor inducing structural changes, especially affecting the size structure of holdings, was war. We had Civil War in 1918, which led to the redemption of leasehold properties in 1918. We were involved in World War II. Thereafter we had a huge settlement challenge of the refugees from the ceded territories and of war veterans and their widows. Since the 1960s the structure of family forest ownership has changed in a more peaceful way, mainly via the inheritance system. The ongoing trends among family forest owners are absenteeism and urbanization, aging, occupational differentiation and separation from agriculture, parcelization of holdings and changes in landowners' objectives.

Forestry extension and extension organisations have also a long history in Finland. For instance, forest owners' own organisations, Forest Management Associations, have been lobbying forest owners' interests in timber trade over one hundred years and at the same time, they have given technical assistance as extension organizations.

Organizations adapt when the operational environment changes. Alongside with existing organizations and communication channels, new solutions must be sought for. This is what this Symposium is about: looking for innovative ideas, new ways to perform, such as peer-to-peer learning among land owners. This traditional but recently re-recognized means of communication will certainly be useful also for those 4,000 family forest owners in Kuusamo, managing more than 300,000 hectares of forest land.

Finally, I'd like to warmly thank the Scientific Committee and the organizations supporting this Symposium for their valuable contribution. Acknowledgements are extended to IUFRO, especially to Working Group 3.08 "Small-scale Forestry" for letting us use the status of a IUFRO meeting.

We wish you advanced scientific presentations, heavy discussions and an "easy touch" of northern forests and culture!



Prof. Heimo Karppinen
Head/Scientific Committee

Dear colleagues,

On behalf of the IUFRO 3.08 Small-scale Forestry Research Group, I welcome you to the International Symposium on “Recent advances in land owner extension”, with a special focus on peer-to-peer learning among land owners in Kuusamo, Finland from April 3 to 5, 2011.

The Kuusamo Symposium will shed light on recent scientific research and practical experiences related to the new forms and approaches of land owner extension, forestry advisory, and rural communication. Presentations and workshops will cover many aspects such as land owners’ collaboratives and co-operatives, cross-border co-operation, peer-to-peer learning, land owners’ social networks, innovation transfer activities, owner-targeted adult education in field settings, owner-oriented advisory services, cost-share programmes, and collaborative governance of renewable natural resources.

The Symposium is fortunate to have three excellent keynote presentations by Professor David B. Kittredge (University of Massachusetts, USA): Clues to cooperation: the obvious and not-so-obvious; Professor Nadarajah Sriskandarajah (Swedish University of Agricultural Sciences, Sweden): Social learning systems: what role in land owners managing change?; and Director Ritva Toivonen (Forestry Development Centre Tapio, Finland): Forestry extension activities in the new era – what does the Finnish case teach us?

In addition, there are twenty-two high quality presentations from a wide geographic spread (Europe, North America, Australia and Asia) and covering a multitude of highly interesting topics.

The Symposium has been organised by the Finnish Forest Research Institute (Metla), University of Helsinki, and Oulu University of Applied Sciences under the auspices of the IUFRO 3.08 Small-scale Forestry group. I would like to recognise the efforts of the Organising Committee coordinated by Dr. Teppo Hujala, and the Scientific Committee chaired by Professor Heimo Karppinen as well as the contribution of the NordPlus Adult project group led by Dr. Jukka Tikkanen.

I am sure the Symposium will be a great success.



Dr John Herbohn
Coordinator, IUFRO 3.08 Small-scale Forestry

Dear Symposium participants,

In agriculture and forestry sector there is a growing trend towards changes regarding the following aspects:

- land owner profile: more and more land owners and forest owners live in towns away from their property and have no connection to rural networks; they tend to be well educated having regular jobs far from land-based businesses or they are retired
- the demand on the usage of private land is increasing: among other things, climate change is leading to an increased demand for land for bio energy, and new forest-based activities like nature tourism and biodiversity protection are more and more fostered by means of land owners' voluntary measures
- land owners tend to need more and more support, advice and education in making decisions about how to manage their land

As a result of these changes, education, information and guidance addressed to land owners need to take new and innovative forms in order to reach the target group and to be useful. Traditional natural resource planning and guidance services can no longer fulfil the diverse needs of the modern land owner.

One course of action opening ways towards innovative land owner extension services is peer-to-peer learning (P2PL) approach. P2PL has recently been among the most widely used concepts in several fields of adult education, including agro-environmental extension. Forest-related land owners' peer-to-peer projects have been reported mainly from the US, but not in Europe. It is now due time for Europeans to scan the opportunities of P2PL within forestry extension on their side of the Atlantic Ocean.

The project group of "Mapping the Peer-to-Peer Model for Enhancing Adult Learning among Land Owners" would like to thank Symposium organizers for making this scanning happen in Kuusamo, April 3–5, 2011. Extended acknowledgements are given to the Nordic Council of Ministers' NordPlus Adult programme for supporting the Symposium and the project.

Along with the seminar we are hoping for inspiring discussions as building material for the "road map" on how the P2PL approach could be integrated in forest extension service tray in Baltic-Scandinavian countries.

We wish you a pleasant stay in Kuusamo and hope you enjoy the northern winter.

On behalf of the project group,



Dr. Jukka Tikkanen
Coordinator of the project "Mapping the Peer-to-Peer Model for Enhancing Adult Learning among Land Owners"

Practical information

The Symposium is organized at Oivangin Lomakartano Chalets (Junganjoentie 4, FI-93600) near Kuusamo town, which is situated in north-eastern Finland, the province of Oulu. To learn more about Symposium premises, please see <http://www.oivanginlomakartano.fi/en>. More about Kuusamo region and activities in wintertime, kindly visit http://www.ruka.fi/winter_eng/. Local weather observations and forecasts for the next few days can be checked at <http://en.ilmatieteenlaitos.fi/weather/Kuusamo>.

Symposium fee includes accommodation at Oivanki (twin rooms in wooden chalets), breakfasts, lunches, dinners and coffees during the Symposium (between Saturday April 2nd 13:00 and Tuesday April 5th 12:00 o'clock noon), paperback Symposium proceedings, a carry bag and a small souvenir, shuttle transport from and to the Kuusamo airport, and the in-symposium excursion programme.

Registration, HelpDesk and the technical environment

Registration takes place in the main building of Oivangin Lomakartano. For Symposium HelpDesk, please contact the Organising Committee, details below. Wireless Internet access is available in the main building and in chalets Singer and Junga (open network "Lomakartano"). There are data projectors in the presentation rooms (Ukonkivi main hall and chalet Singer) and a copier available in the main building. Both presentation rooms have hostesses who will take care of the technical facilities before and during the sessions.

In-symposium excursion takes place on Sunday April 3rd. For a detailed programme, please see page 12.

Optional outdoor activities (e.g. dogteam ride, snowcat drive, visit to a reindeer farm) are organised on Saturday April 2nd at 16:00–19:00 and on Sunday April 3rd at 08:00–11:30. Separate payment is charged at Oivanki; cash and common credit cards will be accepted. Details about these activities can be found in an email sent to registrants prior to the Symposium. For specifics, please contact the Oivangin Lomakartano reception.

Sauna, changing room and shower facilities are available in each wooden chalet.

Time schedule of sessions comprises 20 minutes for talk, 5 minutes for questions and 5 minutes for changing the speaker and moving between the sessions. However, the keynote presentations will have 40 minutes for talk and 10 minutes for discussion. Presenters are kindly advised to contact the session chair and upload their presentation files before the session starts. Presentation information, collected in advance, will be available for the session chairs in the presentation rooms. Session chairs are responsible for managing the time schedule of sessions, allowing due time for presentations and questions. Coffee, tea and refreshments during the coffee breaks are served in the main building, Ukonkivi restaurant.

Important numbers

Oivangin Lomakartano: host Mr Heikki Kilpelänaho +358 (0)40 528 4787, hostess Mrs Tuula Kilpelänaho +358 (0)400 106 121, fax: +358 (0)8 851 1985.

Email: [info\(at\)oivanginlomakartano.fi](mailto:info@oivanginlomakartano.fi).

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We thank the following sponsors for the support of the Symposium:

- NordPlus Adult project “*Mapping the peer-to-peer model for enhancing adult learning among land owners*”
- Niemi Foundation
- Finnish Society of Forest Science



Organizers



Programme outline

Date and time	What happens
Saturday April 2nd 2011	
Arrival to Kuusamo	
13:00–21:00	Registration
14:00–16:00	Arrival coffee with savoury
16:00–19:00	Optional outdoor activities, option to take a sauna
19:30–21:00	Welcome dinner
Sunday April 3rd 2011	
Introduction to Kuusamo nature, culture, and economy	
07:00–08:00	Breakfast
08:00–11:30	Optional outdoor activities
11:30–12:15	Lunch
12:30–22:00	Symposium excursion, including a coffee break and dinner
Monday April 4th 2011	
Scientific programme	
07:15–08:15	Breakfast
08:30–11:30	Opening and keynote session
11:30–12:15	Lunch
12:30–14:30	Parallel sessions
14:30–15:00	Coffee
15:00–16:30	Parallel sessions
16:30–17:00	Coffee
17:00–18:30	Parallel sessions
19:30–22:00	Symposium dinner
Tuesday April 5th 2011	
Plenary and workshop programme	
07:15–08:15	Breakfast
08:30–09:30	Plenary session: Insights into peer-to-peer learning
09:30–10:45	Group work for enhancing the peer-to-peer model for land owner extension
10:45–11:10	Concluding discussion
11:10–11:15	Closing of the Symposium
11:15–12:00	Farewell lunch
	Departure

Excursion

Sunday April 3rd

Guide: Mr. Hannu Virranniemi from Pölkky Oy

- 12:30 The bus starts from Oivangin Lomakartano
- 13:00 **Pölkky Oy**, Wood processing
(<http://www.polkky.fi/en/homepage.html>)
- 14:30 **EVO**, energy and water cooperative (<http://www.kuusamonevo.fi/>)
- 15:30 **Tourist and Nature Centre Karhuntassu**
(<http://www.luontoon.fi/page.asp?Section=5746>)
- Coffee**
- The Nature Photography Centre: "In Hannu's Footsteps", exhibition by the most famous Finnish nature photographer, Mr. Hannu Hautala (<http://www.hannuhautala.fi/en>)
- 17:30 Bus through town Kuusamo to Ruka area
- 19:00 Visit at the top of **Ruka mountain fell** (the sunset will be at 20:04)
- 19:30 Dinner at **Private Restaurant Kultala**
(<http://www.rukansalonki.fi/en/private-restaurant-kultala.html>)
- appr. 22:00 Back at Oivangin Lomakartano
-

Clothing instructions: Most of the excursion time will be spent indoors or in a semi-urban outdoor environment, thus no hiking or trekking clothes are needed. Please note however that we'll have short stop-overs and walks outside: warm socks, gloves, stocking cap and overcoat are recommended, naturally depending on the day's weather. In any case, kindly prepare for a nice casual dinner indoors at the end of day.

Detailed programme of the scientific sessions

Monday April 4th 8:30–11:30

Opening and keynote session

Venue: Ukonkivi Main Hall

Chair: Heimo Karppinen

- 08:30–08:50 Welcome words, **Heimo Karppinen**
- 08:50–09:40 Clues to cooperation: the obvious and not-so-obvious, **David B. Kittredge**
- 09:40–10:30 Social learning systems: what role in land owners managing change? **Nadarajah Sriskandarajah**
- 10:30–11:20 Forestry extension activities in the new era – what does the Finnish case teach us? **Ritva Toivonen**
- 11:20–11:30 Discussion

Lunch break

Monday April 4th 12:30–14:30

Parallel sessions, first round

Venue	Ukonkivi Main Hall	Chalet Singer
Session	Session 1: Peer-to-peer learning	Session 2: Forest planning, extension and services
Chair	David W. McGill	Mikko Tervo
12:30–13:00	Lotten Westberg: Peer-to-peer learning experiences in Sweden	Jack Baynes: Self-directed learners or not? Delivering agroforestry technology to farmers in the Philippines
13:00–13:30	Moira Moeliono: Peer-to-peer learning and transformation in natural resources management and sustainable livelihood: Results and impacts from shared learning workshops series in Indonesia	Mikko Kurttila: Finnish family forest owners' forest planning services and the role of personal guidance
13:30–14:00	Eli Sagor: Peers, personal networks, and family forest management in Minnesota, USA	Anne Polojärvi: Forestry services and extension practice in Kuusamo Forest Management Association
14:00–14:30	Katri Korhonen: Family forest owners' peer-to-peer networks: Experiences and potential in Finland	Raili Hokajärvi: Developing forest planning and extension: Developmental work research

Coffee break

Monday April 4th 15:00–16:30

Parallel sessions, second round

Venue	Ukonkivi Main Hall	Chalet Singer
Session	Session 3: Cooperation of forest owners	Session 4: Adult learning
Chair	Jack Baynes	Lotten Westberg
15:00–15:30	Ben D. Spong: Impacts from an Appalachian region cooperative of forest harvesting professionals	Outi Virkkula: Talk-in-interaction analysis enhancing collaborative learning in a forest advisory encounter
15:30–16:00	Jukka Kainulainen: Start up support to forest producers' organization in Amhara region, Ethiopia	Teppo Hujala: Finnish family forest owners' topics of interest and types of participation on online discussion boards
16:00–16:30	Gro Follo: Cross-border cooperation in the making? Small-scale private forest owners and the Norwegian case	Simon P. Mutabazi: Motivational factors influencing the development of sustainable forest management practices among small woodlot owners in Nova Scotia: A case study

Coffee break

Monday April 4th 17:00–18:30

Parallel sessions, third round

Venue	Ukonkivi Main Hall	Chalet Singer
Session	Session 5: Reshaping communities	Session 6: New approaches in focus
Chair	David B. Kittredge	Mikko Kurttila
17:00–17:30	Heimo Karppinen: Changing forest owners: A challenge to forestry extension in Finland	Kyle Eyvindson: Forest planning over distance – two experiments to construct a feasibility outline
17:30–18:00	Lelde Vilkrīste: Increasing role of informal learning of private forest owners in Latvia	Osmo Mattila: Conceptual model for mapping service innovations: case of forestry services in Finland
18:00–18:30	Chiranjewee Khadka: Improving forest governance through collaborative planning approaches in community forestry management: A reflection on Nepal's experiences	Erkki Mäntymaa: Market-based mechanisms for enhanced provision of forest amenities in private lands: A case in the Ruka-Kuusamo area

Symposium dinner

Tuesday April 5th 8:30–11:15

Plenary session “Insights into peer-to-peer learning” and workshop programme

Venue: Ukonkivi Main Hall

Chair: Jukka Tikkanen

- 08:30–09:00 A briefing on four forestry-related peer-to-peer networks in West Virginia, USA, **David W. McGill**
- 09:00–09:30 Peer-to-peer learning – from an old “art of practice” to a new mode of Nordic-Baltic forest owner extension?, **Jukka Tikkanen**
- 09:30–09:45 Introduction for group work, **Nadarajah Sriskandarajah**
- 09:45–10:45 Time for groups to compile their overviews
- 10:45–11:10 Concluding discussion
- 11:10–11:15 Closing of the Symposium, **Heimo Karppinen**

Farewell lunch

Papers of the invited keynote speakers

Keynote 1

Mon April 4th 08:50–9:40

Ukonkivi Main Hall

Clues to cooperation: the obvious and not-so-obvious

Kittredge David B.

University of Massachusetts, Department of Environmental Conservation, Amherst, USA;
email: dbk(at)eco.umass.edu

The greater social ecosystem benefits that accrue from forests are well known, and thoroughly documented in places like the Millennium Ecosystem Assessment (MEA 2005). Clean and abundant water; habitat and biodiversity; sources of outdoor recreation; support for local economies through tourism, wood production, and other forms of recreation; spiritual and cultural benefits; opportunities for carbon sequestration and a sink for deposited air pollutants all combine to make forests hugely valuable. In many parts of the world, forests are often owned by a myriad of private families and individuals, interlaced with community and organizational owners, as well as industrial and public holdings. Ownership boundary lines occur randomly, slicing across forests, irrespective of ecosystem or watershed functional boundaries, patterns, or processes (e.g., hydrology, migration, home range, forest type). The public ecosystem values do not often start or stop at ownership lines, and indeed can be enhanced or safeguarded when considering the spatial scales at which they have evolved to operate. These considerations are not new. American conservationist Aldo Leopold (1966) advised “thinking like a mountain” when it came to understanding the integrated nature of vegetation, herbivores, predation, people, long temporal scales, and large landscapes.

Enhanced or maintained ecosystem benefits provide good reasons why landowners might consider cooperating across property boundaries at scales more akin to these beneficial ecosystem services. Human nature being what it is, however, suggests some self-interest may be required to inspire landowners to think beyond their own properties and their individual decision making. From the perspective of individuals, forest benefits can be enhanced by thinking more broadly than a single property. Popular reasons for individual ownership such as outdoor recreation, wildlife habitat, nature appreciation, and timber products (e.g., both access to and marketing of) can be enhanced by exploring cooperation at scales broader than individual ownerships. American poet Robert Frost acknowledged that “Good fences make good neighbors” in his poem entitled the Mending Wall (1966), when he described the way two forest owners cooperatively maintained the stone wall between their respective properties. But he also implied a certain bond or kinship of cooperation between owners in the way they jointly walked along the wall each spring putting stones

Table 1. Yaffee’s (1998, Table 14.1) “rough taxonomy of cooperative behaviors.”

Behavior type	Definition
Awareness	Being cognizant of others’ interest and actions
Communication	Talking about goals and activities
Coordination	Actions of one party are carried out in a manner that supports (or does not conflict with) those of another
Collaboration	Active partnerships with resources being shared or work being done by multiple partners

back in place that may have become dislodged over the year. Many private forest owners in the United States (and probably elsewhere) cite privacy as an important reason for ownership. Is this in contrast with concepts of cooperation between owners? It depends of course on what we mean by cooperate.

The obvious clues or visible indications of cooperation

Coordination and collaboration are the obvious clues or visible indications of cooperation. They are actions or events that can be counted, measured, and recorded. Collaborative, active partnership activities include obvious things like shared equipment or machinery; joint sale or marketing of timber; marking and maintenance of property boundaries; development of maps, inventory, or management plans; development or improvement of access (for timber, recreation, or fire protection). Active owners who are managers do these things, or pay to have them done. These actions have results on the ground. People who do them can see the benefits to both their land and bank account, and these actions are easily measured, mapped, and estimated.

The less obvious or invisible clues to cooperation

Yaffee's awareness and communication are less obvious forms of cooperation, but are as important, if not more so, than the obvious ones. They include activities such as: exchange of factual information; sharing of opinion, perspective, or personal experience; suggestions of contacts, other connections, or sources of information. These "invisible" forms of cooperation are less obvious, and much harder to "see", measure, or detect. If you can't see them, they can be assumed to be somehow less "legitimate" or important or not worth investing in, or even non-existent. If you can't see them, how do you know if they are working? From the perspective of forest policy, how do you estimate your return on investment? Aren't they a waste of time or money?

But the invisible, less obvious clues of cooperation can be important precursors or prerequisites to the more obvious, visible, and tangible forms of cooperation

It is logical that before landowners engage in more active forms of cooperation with other landowners (e.g., share timber sales or management planning), they at least need to know them, and have some level of trust and shared common perspectives on land. Since many landowners profess privacy to be one of their primary ownership objectives (e.g., Rickenbach et al. 1998, Belin et al. 2005, Butler 2008), it is hard to imagine that they could suddenly engage in active forms of cooperation without at least first engaging in some less active, or less obvious forms of cooperation. This is even more important for people who reside great distances from their land and are not familiar with their neighbors (Rickenbach and Kittredge 2009). Importantly, studies of social networks suggest that people tend to associate with those perceived to be like themselves (i.e., homophily, e.g., McPherson et al. 2001). Foresters commonly believe that forest landowners think like foresters and share the same values, but this is not necessarily the case, and owners can commonly hold beliefs about forests that are more typical of the general public (Jones et al. 1995). Finley and Kittredge (2006) showed distinct segmentation of beliefs held by forest owners in Massachusetts (see also Finley et al. 2006), and Butler et al. (2007) have documented this for woodland owners throughout the United States, as well.

Forest landowners tend to place importance or credence in informal advice or information from others perceived like themselves, often making this at least important, or more so, than information from professionals (e.g., Gootee et al. 2010, Kittredge et al. in review). In cases of peer-to-peer interaction there is minimal perception of vested interest on the part of the other party, or a professional trying to impose a program or policy.

How do we estimate or measure these not obvious clues or precursors to cooperation?

Like fingerprints in a mystery, are the less obvious clues for cooperation really all that invisible, or are there ways they can be detected? Rickenbach (2009) studied the social networks around members of a woodland owner cooperative and discovered that members also interact with non-members and serve as a means to convey forest information. Kittredge et al. (in review) likewise studied the egocentric networks around private woodland owners and determined that peer landowners and other non-professional people with local knowledge and credibility are important sources of information when landowners are faced with a decision about their land. The egocentric networks consisted of an average of 7 people, with 2 people serving as particularly influential and involved in a decision to harvest timber or place an easement on the property. A more recent study (Kittredge et al. in preparation.) used different techniques to investigate landowner networks in two nearby states and generated similar results. In addition, 40% of participating landowners identified that they were not only receiving information from their informal network, but that they also served as sources of information, as well. In fact, ten percent of participating landowners disclosed that other owners seek them out and actively ask for information.

In an effort to assess the degree to which landowners are aware of conservation information and alternatives, Van Fleet (in preparation) surveyed landowners in a pilot study (i.e., n=500 owners in a 6-town area in western Massachusetts) to find out how much they knew, and where they might turn for information. Relative individual conservation awareness can lead to individual action, which in turn can lead to cooperative behaviors. First hand personal experience with a number of conservation activities (e.g., timber harvest, management plan, conservation easement, estate plan), was relatively low but second hand knowledge of someone else who had engaged in these activities was considerably higher. Though owners had relatively low first-hand experience with a number of management activities and decisions, it is clear they do know of others who have engaged in these activities, thereby implying the effectiveness of networks and informal information exchange. In contrast, fewer than 10 percent of participating landowners in the pilot study could correctly identify the name of the forester employed by the Massachusetts Bureau of Forestry to provide landowner assistance in their towns.

Social networking and the informal exchange of information between woodland owners does not have to happen face to face or at the local level. The same way that Amazon.com and other online retail shopping opportunities make anonymous customer reviews available for people to make purchasing decisions, Kittredge (www.massacorn.net) and Sagor (www.myminnisotawoods.umn.edu) use threaded discussion opportunities online for woodland owners and others to exchange information informally. Interestingly, though the number of postings or contributions to the discussion on [massacorn.net](http://www.massacorn.net) may appear low, the informal postings are the most frequently visited and popular part of the website. There is a significant difference between the number of posts, and the number of views of posts. Importantly, in spite of the fact that many woodland owners are older, their use of the internet as an information source is high and increasing (e.g., Belin et al. (2005)

estimated 75% of Massachusetts owners are online; by 2009, this had increased to 85%, with 66% online on a daily basis (Kittredge, unpublished data)).

Invisible cooperation happens, but how often do owners need information?

Landowners can engage in the invisible forms of cooperation (i.e., Yaffee's awareness and communication), but how often are they faced with a decision and would benefit from information? The informal exchange of information between peers can be very helpful for activities such as hobbies they engage in on a frequent basis (e.g., fishing, bicycling), or consumer decisions they might make (e.g., food, shopping, entertainment) on a daily, weekly, or monthly scale. But trees grow slowly, forests do not change much, and years can go by between decisions made about land. This also depends on the size of ownership. There may be active decision making and hence a need for peer network activation frequently if an owner's land is of a size to support annual activity. In places with numerous small ownerships (e.g., mean ownership in Massachusetts is 7.2 hectares; if ownerships < 3.6 hectares are excluded, the mean rises to 17.2 hectares; Kittredge et al. 2008), it is not hard to imagine years going by between decisions and hence a need to communicate with peers. The need to seek information through a peer network can be infrequent. Butler et al. (2011) for example estimate that in Massachusetts, 52% of owners (representing 74% of private family forest land) declare vague or no future intentions for their land in the next five years (e.g., "no current plans", "unknown", "leave it as is – no activity", "minimal"). If these invisible clues of cooperation occur infrequently, they are difficult to detect. Also, new or novice landowners may have difficulty in finding the clues themselves, especially if they are absentee. These kinds of invisible communication and awareness precursors to actual cooperation can be faint, infrequent signals not easily detected.

What does this mean?

In the United States, few woodland owners have professionally prepared management plans or consult with a forester prior to the sale of timber (Butler 2008). Data indicate that many owners do sell timber or some or all of their land, thus they appear to be making reactive decisions on the basis of immediate circumstances or need, and without formal, professional guidance or information (Kittredge 2004). In some cases, they may make decisions alone, yet in other cases, they may consult informal social networks and non-professionals. If they do consult peers and other non-professionals, it is possible that they could be pointed towards professional advice. They could alternatively consult non-professionals and receive inaccurate information or bad advice. It is likely, however, that informal and not-so-obvious forms of cooperation (e.g., Yaffee's awareness and communication) can result in improved decisions for individuals, and lead eventually to more obvious and organized forms of cooperation, the net effect of which can be enhanced ecosystem-scale effects. But calls to cooperate for the sake of cooperation (and enhanced ecosystem benefits), without the important precursors of sharing of experience, trust, and exchange of information can fall on deaf ears (i.e., "why should I cooperate?"). Indeed, such calls to cooperate, complete with programmatic inducements or incentives, without the invisible clues, could be as awkward or ill-fitting as an arranged marriage between two strangers.

In many landscapes dominated by a variety of small, private ownerships, the benefits to cooperative conservation are obvious, both for society and its dependence on ecosystem services, as well

as the owners themselves. Research suggests that the invisible clues to cooperation are important, thus making them worthy of attention from the standpoint of public policy. If landowner communication and sharing of information among peers are important precursor clues to cooperation, what can be done to promote these invisible or elusive behaviours?

First, it is worth realizing that all landowners are not the same. Foresters might perceive them to be one distinct type of people with the common bond of forest ownership, but research and experience shows us that in reality, there are many types of owners. Homophily is at work, and different types of landowners will naturally want to seek out others like themselves with common interests and perspectives. Landowner associations are not necessarily sufficient for this due to landowner segmentation. For example, in the United States, state forest owner associations often serve as sponsors of the Tree Farm program. Landowners who are attracted to the image or concept of their forest as a farm that grows products like wood are attracted to this concept, but collectively participation in the Tree Farm program nationally only represents roughly 3 percent of all owners. Indeed, the notion of farms and agriculture can actively repel some owners, who think of their forest as a representative or idyllic piece of nature (e.g., the “Muir” archetype or segment of owners; Finley and Kittredge 2006).

Existing landowner association structures have appeal to some but not all owners (Kittredge 2005). For example, though Sweden has a number of very successful landowner cooperatives, only roughly 50% of owners participate (Kittredge 2003). Based on our knowledge of people and their connections, it seems clear that the invisible clues serve as precursors to cooperation. Rickenbach et al. (in review) suggest the important role of so-called boundary spanners to facilitate information flow and exchange between owners through a landscape across property boundaries. This is especially important since landowners might only infrequently need contact with other peers and access to their experiences and advice. Boundary spanners would not necessarily be foresters or other professionals, but they would be in a position to connect owners with one another, or to maintain the existence of informal networks that can be tapped on an as-needed basis. Catanzaro (2010) and Ma et al. (in review) have suggested providing informal forums like pot luck suppers to create opportunities for landowners to engage one another to share experiences, build trust, and exchange information. These informal network opportunities to share, communicate, and learn will become increasingly important for owners given new issues evolving around woodland ownership (e.g., carbon sequestration and credits; green certification; biomass energy markets). The experiences of other owners on these subjects will only become a more important resource to cooperatively share. In general, these strategies provide opportunities for landowners to engage in the invisible, not obvious clues to cooperation. Research suggests that these invisible activities are already occurring and landowners are exchanging information. Public policy and outreach programs that value owner cooperation would use this knowledge and develop strategies to enable it to occur more often.

Conclusions

In many places around the world society has grown to depend on the wealth of ecosystem services that emanate from forest landscapes dominated by non-industrial private ownership. These services depend on fully functioning ecosystem patterns and processes that do not align with private property boundaries. Landowner cooperation in various forms can enhance and ensure management that is compatible with these larger scale social benefits. There is thus public value in facilitating landowner cooperation.

Obvious forms or clues of landowner cooperation are evident in many countries and are simple to quantify. These obvious indicators do not tell the entire story, however. Invisible clues like shared experiences, information exchange, trust, references to professional assistance, and moral support provide important means for landowners to acquire information and consider more obvious forms of cooperation. These invisible clues could be considered important precursors to more formal and tangible cooperative activities. Because of this, they are worthy of enhanced public policy investment to achieve additional cooperative results on the ground. The challenge lies in maintaining informal network opportunities that landowners can access as needed, recognizing that their demand for or interest in information and contact may occur infrequently.

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Keynote 2

Mon April 4th 09:40–10:30

Ukonkivi Main Hall

Social learning systems: what role in land owners managing change?

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Changes in forest ownership structure in recent years and the extent and quality of interaction among the diverging types of landowners and between them and the forestry professionals have been a concern for forestry extension planners and service providers. This is the basis for the interest in peer-to-peer learning networks among small scale forest owners in Nordic countries as an approach and strategy to support landowner learning and enhancement of their ability to deal with complexity and manage change. The role of existing social networks among forest owners and the part played by trusted friends and relatives in providing input to better decision making have been studied. In the same vein, the relative roles of expert-advisors and peers in landowner decision making, the importance of personal relationships and communication in identity formation and fellowship among newcomers and their sense of belonging to a cohesive forest community, and the quality of information exchange and learning that takes place in such learning communities and peer networks, with or without external facilitation, are all worthy of further examination.

This paper takes off from Kolb's notion of experiential learning which argues that knowledge is produced through the transformation of experience (Kolb 1984). Learning, therefore, is the basic process by which humans not only make sense of their experiences in an ever-changing world but also choose their responses and enact them. The paper argues that being responsive to change, the ability to reflect *in* and *on* one's action, and the capacity to link theory and practice in a dialectic way to be aware of one's praxis are integral to all learning. Learning takes place invariably with the involvement of other people, therefore, social learning gains meaning in this context. Learning taking place in groups, networks, communities and other social systems was defined as social learning. Wildemeersch (2007) proposed four dimensions, action, reflection, communication and negotiation, each dimension with two opposite poles, to collective learning and problem solving situations. He described social learning as the increased capacity of the social system to manage the tensions created by the opposite poles.

In this paper, a learning 'system' is conceived in the sense Bawden (1995) proposed it, as a coherent group of people collaborating purposefully together to achieve high quality transformations, with a keen sense of emergence, shared processes and levels and states of learning, thus highlighting its systemic qualities. While individual learning in social contexts are important, what is emphasised in this paper for landowner learning situations is a conception of social learning systems as opportunities not only for collective learning but also for the possibilities they afford for concerted action as a result of joint endeavour. This thinking is dominant among those working with situations of multi-stakeholder processes in natural resource governance.

Collective learning outcomes of relevance to peer-to-peer learning networks and such other social learning situations can be examined more closely by matching individual or collective learning *processes* against individual or collective learning *outcomes* in the way de Laat and Simons (2002) have done to distinguish four variations of learning in groups. Individual learning processes and individual outcomes characterise individual learning for members of the group; secondly, individual processes can result in collective outcomes for the group; as a third kind, collective learning processes yielding individual learning outcomes would simply be learning through social interaction for that individual; and lastly, collective learning processes aimed at collective outcomes would qualify as true collective learning for all concerned.

Where collective learning takes place in groups, de Laat and Simons (2002) recognise three broad types of collective learning according to the learning intention that the groups have: learning in *networks*, learning in *teams* and learning in *communities*. Learning networks are the loosest form of collective learning; teams are created with structure and intention to work on specific problems, while learning communities emerge around a topic of interest shared by voluntary members coming together with a learning goal and an intention to share, negotiate and create knowledge together.

Etienne Wenger (1998) identified certain social constellations as crucial loci for learning and called them Communities of Practice (CoP). The basic structure of a CoP in Wenger's terms is that it will be a combination of three fundamental elements: a *domain of knowledge*, which creates the common ground such as, in the case of forest owners, an interest in managing small forest blocks; a *community of people* that fosters interactions and relationships based on mutual respect and trust and who care about this domain; and, a *shared practice* they are developing with their ideas, tools, information, and stories that they share, and with that they can be effective in their domain. When these elements function well, a CoP becomes a knowledge structure and a social structure for developing and sharing knowledge together.

Having proposed *systems of social learning* and *communities of practice* as two frameworks for collective learning enterprises, this paper attempts to overlay these strands of learning praxis on peer-to-peer networks, existing and imagined, among landowners and foresters. The paper will close by examining the extent to which the two frameworks overlap and differ in this context, drawing on the work of Blackmore (2010). It will consider the possibilities these frameworks offer to voluntary groups such as peer-to-peer learning networks, irrespective of whether they are willing to organise themselves or become amenable to be organised and facilitated in order for them to grow into collectively learning communities.

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Keynote 3

Mon April 4th 10:30–11:20

Ukonkivi Main Hall

Forestry extension activities in the new era – what does the Finnish case teach us?

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Full papers

Self-directed learners or not? Delivering agroforestry technology to farmers in the Philippines

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Abstract

This paper presents an evaluation of the usefulness of a participatory approach and adult learning principles for agroforestry extension in the Philippines. Visual observations and analysis of interviews with farmers found that their ability to act as self-directed adult learners changed according to the situations with which they were faced. Farmers used a self-directed approach to their selection of inputs for the establishment of woodlots. However, when propagating seedlings, lack of technical knowledge caused them to shift to a state of dependency on 'top-down' didactic instruction. Farmers' familiarity with agricultural crops, e.g. rice and coconuts, did not provide them with the skills to raise tree seedlings. A consequence of farmers applying their own interpretation of woodlot establishment procedures was that some sites were destroyed and seedling growth on other sites was poor. These failed woodlots are likely to present a negative image of the program in the future. Contributing influences to farmers' limited uptake of technology may have been a lack of other sources of support and information and the difficulty of interacting and sharing ideas with their peers. The practical implications of this research are that farmers in developing countries may lack the education, support services and peer-to-peer interaction to behave similarly to self-directed learners in developed countries. A totally participatory approach to program delivery may maintain participants' enthusiasm and commitment but may result in unforeseen outcomes. Hence, a flexible approach to the use of adult learning principles may be necessary.

Keywords: participatory, adult learning, constructivism

Introduction

Despite technological advances, agroforestry extension has experienced uneven success in many parts of the world due to inadequate adoption rates or abandonment (Subhrendu et al. 2003). A contributing reason may be the manner in which farmers apply silvicultural¹ technology. For example, Harrison et al. (2008) found that low seedling quality is generic to small nurseries in south-east Asia. Poor tree growth resulting from farmers' reluctance to thin weaker and deformed trees is a major constraint to profitable tree farming in the Philippines (Bertomeu et al. 2006). However, until recently, agroforestry adoption studies have been concerned with biophysical rather than socio-economic variables (Mercer 2004) and there have been few studies in developing countries which investigated how farmers learn. Hence, the purpose of this paper is to report aspects of farmers' learning behaviour which affected the outcomes of an agroforestry extension program in the Philippines.

In the current ethos of rural extension a participatory approach is almost mandatory, participants' commitment being boosted by an extension process which encourages people to take responsibility

¹ In this paper, the term silviculture includes seedling propagation, site preparation, woodlot establishment and management.

for their learning (Franzel and Scherr 2002, Ganpat et al. 2009). This approach is in accord with Knowles' (1984) principles of adult or 'self-directed' learning that adults' past experience is the basis of their learning, they are most interested in learning which is applicable to their lives and learning is problem centred rather than content centred. Farmers' self-direction was metaphorically noted by Cramb (2000) that technological assistance may be described a 'cake' in which farmers shop around for technological 'ingredients' which they incorporate into their own 'recipes'. Providers act as facilitators rather than teachers and the process is participant-centred rather than technology-centred.

Although Knowles' principles are consistent with Cramb's metaphor, adult learning techniques have been criticised for representing an 'American' concept of independent, self-directed adult learners. However, a participatory approach to extension and adult learning principles are both underpinned by a constructivist² view of learning which is independent of race, culture and socio-economic status. Hence, if an extension process is considered as a system of inter-related variables, participants' ability to behave as self-directed learners is important. Recent research into participatory extension (e.g. Magcale et al. 2006, Minh et al. 2010) suggested that where participatory principles are not followed, (e.g. inflexible or top-down didactic delivery methods and failure to match participants' objectives), extension programs often fail. A consequence of a participatory approach is that extension program planners lose control over the extension process. As control of program activities is ceded to participants, the likelihood of unexpected outcomes increases.

One of the activities of Australian Centre for International Agricultural Research (ACIAR) project ASEM/2003/052, *Improving Financial Returns to Smallholder Tree Farmers in the Philippines* provided an opportunity to investigate the application of adult learning principles to agroforestry extension. A participatory approach which treated farmers as adult learners was used to deliver the program and collect qualitative and quantitative data which provided information about farmers' acceptance of agroforestry technology. During the program, changes in farmers' use of technology prompted questions as to whether a flexible rather than a totally participatory approach may be appropriate for the delivery of agroforestry extension assistance.

This paper provides an assessment of the usefulness of adult learning principles for an agroforestry extension program in the Philippines. In the next section, a précis of the methods of the extension program is presented. In the following section, farmers' attitudes and responses are analysed in relation to the situations and difficulties they encountered throughout the program. Finally, recommendations are made for the delivery of agroforestry extension in similar contexts and settings.

Research methods: The approach to the delivery of the extension program and data collection

The methodology and results of the extension program is reported in Baynes et al. (2009) and a précis is presented below. The influence of farmers' mental models on their acceptance of technology is also reported in Baynes et al. (2010).

² The principles of constructivism are that learners 'construct' new ideas based on their current knowledge. People come to learning situations with a mental structure of past experiences and this influences their understanding and uptake of information (Dewey 1995).

Between 2005 and early 2008, assistance was offered to farmers in four municipalities on Leyte Island to grow seedlings in home nurseries and establish woodlots. Deforestation of the countryside has been severe and there are few examples of woodlots grown by smallholders for commercial sale or domestic use.

The purpose of the program was to evaluate farmers' willingness and ability to adopt agroforestry technology. In the municipalities of Libagon and Dulag, extended assistance was offered in three stages, i.e. first, recruiting farmers and establishing their specific needs, second, propagating seedlings in home nurseries and finally, preparing sites and out-planting seedlings. In Libagon and Dulag 22 farmers participated in the program and 19 of them established woodlots. Farmers initially had little understanding of nursery and woodlot establishment skills. The only serious problem in the delivery of extension assistance occurred when persistent rain caused severe fungal infection of young seedlings and consequent loss of farmers' confidence until remedial assistance was made available. After one year, the survival of woodlots was 74%, remaining sites being abandoned, washed away by floods or burnt.

The participatory approach used to deliver extension assistance

The program was run by Filipino ACIAR staff who had extensive field experience of rural extension. It was anticipated that some farmers may wish to join the program to see what benefits it may bring. Hence, assistance was offered as a series of learning activities in which farmers were offered technical advice through group and on-farm visits. Farmers were offered assistance to collect seed, grow seedlings in home nurseries, prepare sites and establish woodlots. They were allowed to decide how many trees they wished to raise, and how and when woodlots were to be established. However, in order to propagate healthy seedlings and maximise site capture of out-planted trees, they were encouraged to maximise inputs, e.g. fungicide, fertiliser and weed control. Also, to remove as many barriers as possible to farmers' uptake of assistance, individual on-farm visits were arranged to accommodate farmers' availability. Fortunately, the traditional Filipino capacity for friendship and humour proved invaluable in breaking down social barriers between farmers and extension staff. Meetings became quasi-social and collaborative.

Data collected through analysis of interviews and observation of what farmers actually did

To test whether farmers were self-directed learners or not, extension staff conducted interviews in which farmers' progress, problems, attitudes and opinions were recorded. They also observed what farmers actually did and the extent to which farmers' actions complied with recommendations and advice. Data were collected on four main occasions:

1. Recorded comments and visual observations made during an initial field day;
2. Initial interviews with prospective program participants;
3. Interviews with farmers during the seedling propagation stage;
4. Visual observations of the methods farmers used to establish woodlots.

The purpose of the data collected during the recruitment stage (i.e. the field days and initial interviews), was to determine the level of assistance which may be required. During the second stage, the on-site interview provided information about farmers' seedling propagation problems and their plans for site preparation and out-planting. A comparison of farmers' stated intentions and actions was provided through a final inspection of their woodlots.

Recorded interviews were transcribed and analysed for sections of text that could be grouped into generic themes. During the initial interviews, for example, comments that indicated farmers' knowledge of potential problems relating to woodlot establishment were grouped under two generic headings *problems farmers can overcome* and *problems farmers cannot overcome*. During the seedling propagation stage of the program, farmers were asked whether they needed on-site assistance to establish their woodlots. Their responses were classified as indicating either a directed or self-directed approach to woodlot establishment. Responses that indicated that they had planned the establishment of their woodlots, e.g. 'I will slash the grass, burn it and then dig planting holes' were classified as being *self-directed*. Responses which indicated a need for assistance, e.g. 'I'll need your help because I have no experience of planting trees' were classified as being *directed*. The frequency of themed responses in the overall set of interviews was then used as an indicator of the relevance and importance of specific issues.

It was anticipated that a critical factor in the success of the overall program would be farmers' knowledge of potential problems concerning the establishment, maintenance and marketing of woodlots. Hence, to determine the way in which information would be presented, during the field days, the complexity of farmers' preliminary comments and questions was analysed using Bloom's taxonomy. This taxonomy was developed by Benjamin Bloom and a group of educational psychologists and one of its uses is to diagnose levels of understanding. Knowledge was classified by Bloom et al. (1956) as a 'cognitive domain' of six levels of increasing complexity and abstraction. The levels relevant to this research are level 2, an ability to comprehend knowledge and level 4, an ability to analyse knowledge. Values and opinions are also described in the taxonomy in five levels of an 'affective domain' in which level 2 is an ability to respond to information and level 3 is an ability to evaluate knowledge or provide an opinion. To ascertain how farmers reacted to information presented during the field days, their comments and responses to questions were recorded and classified into appropriate levels of the taxonomy. The results were then used by ACIAR staff to guide the delivery of subsequent stages of the program.

Results

The demographic characteristics of farmers who volunteered for the program, (particularly the size of their holdings and the proportion of their time spent farming) indicated they were a relatively wealthy group of smallholders compared to poor tenant farmers (Table 1). Most farmers had limited formal education and many of them were observed to have difficulty reading extension information that was printed in either their local dialect (mainly Cebuano), or English.

Evidence gathered at the field days of farmers' readiness to act as self-directed learners

A classification of 50 comments into levels of Bloom's taxonomy for the cognitive domain found that 64% of farmers' responses were at level 2 (information was comprehended) and the remaining 36% of responses were at level 4 (issues were analysed) (Table 2). As expected, many of farmers' more complex responses could also be classified at level 3 of the affective domain, i.e. as an expression of an opinion. The classification of comments was necessarily imprecise because paralinguistics³ were lost. Nevertheless, for the group as a whole, the classification provided an

3 Paralinguistics include body language and the pitch and the volume of speech.

Table 1. Demographic characteristics of volunteer farmers in the municipalities of Libagon and Dulag.

Demographic characteristic	Municipality	
	Libagon	Dulag
Number of farmers who received extension assistance	13	9
Number of barangays* represented	8	7
Average age of farmers	53	55
Average size of household	5	4
Average farm area (ha)	6.0	3.8
Average number of farm holdings	2.9	3.1
Percentage of working week spent working on farms	60	60
Most common farm use	Coconuts	Coconuts
2nd most common farm use	Bananas	Bananas

* A barangay is the smallest unit of local government in the Philippines and is approximately equivalent to a village.

Table 2. Examples of farmers' comments classified as level 2 and 4 of Bloom's taxonomy for the cognitive domain.

Comments classified as level 2 (comprehension)

This tree is crooked so we need to cut it out.

How about growing seedlings in sawdust?

Comments classified as level 4 (analysis)

Based on our understanding, mahogany always has that kind of roots, how can we overcome that?

It's easy to kill the grass. I give it to our neighbours. They'll cut it for free.

approximate test of farmers' understanding of agroforestry issues. The results indicated that they may be expected to behave as typical self-directed adult learners.

The initial interviews with farmers who indicated that they wished to join the program were purposely conducted in a loosely structured inductive manner in which farmers were given as few verbal prompts as possible. This encouraged farmers to speak their thoughts openly. Hence, farmers were asked about positive and negative aspects of growing trees and the problems that they either could or couldn't overcome. Themed responses showed that, not surprisingly, 70% of farmers wished to grow trees for housing materials and 43% of them wished to leave woodlots as a legacy for their children. Many of their answers indicated that they had considered their response before speaking. For example, at the start of the field day, 75% of farmers had indicated that they had little understanding of tree registration⁴ procedures. Extension staff had anticipated that their knowledge of this topic would be poor and had arranged for a lecture on tree registration procedures by the Department of Environment and Natural Resources (DENR). Several weeks later, during the initial interview only 17% of farmers considered it as an issue with which they may have difficulty with in the future. Similarly, the 48% of farmers who held title to their land with other family members or sub-leased it to tenants indicated that it was a problem that could be successfully negotiated. In addition 52% of farmers discussed how they would market lumber from their woodlots. Overall, the farmers presented an image of independent and self-directed learners (Table 3).

Table 3. Examples of farmers' responses which indicated an ability to behave as self-directed learners.

In regard to fire, I'll conduct brushing during rainy season and conduct only a strip brushing with a 1 m wide strip

Financial problems can be managed if you base your planting on your capability to manage and maintain the trees

4 In certain circumstances, woodlot trees must be registered with DENR before they can be harvested.

Table 4. Typical farmers' responses to interview questions concerning fungal infection of their seedlings.

I don't know what to do Ma'm, please help me?
What do you mean by hardened sir? Kindly explain.

Farmers' reaction to technical difficulties

The possibility of farmers quickly becoming independent of technical assistance was lost once they encountered technical difficulties. When persistent rain caused widespread fungal infection and consequent losses of seedlings, farmers became discouraged and the program came close to collapse. Only 9% of the 22 farmers were able to grow healthy seedlings without personal assistance. During interviews, farmers' comments reflected a complete dependence on extension assistance and advice (Table 4). They had no other basis for comparing information provided by ACIAR staff. There are few municipal libraries in Leyte and the focus of the 'Techno Gabay Program', which provides extension information to farmers, is agricultural crops and production systems. Even if farmers had been able to access the internet, their reading skills (particularly in English) would probably have precluded them from finding a remedy for their problems.

Difficulties accommodating farmers' schedules necessitated individual on-farm visits and inevitably, the mode of extension assistance reverted to top-down didactic instruction. However, farmers responded positively to instructions and almost all of them managed to grow sufficient healthy seedlings to warrant out-planting.

Comparison between preliminary evidence of farmers' self-direction and what they actually did

The final stage of the program involved site preparation and out-planting. By this stage of the program almost all farmers had regained their confidence and had raised sufficient seedlings to warrant out-planting. In some cases it had not been possible for extension staff to visit sites before seedlings were planted. Hence, the main source of evidence of farmers' acceptance of technology was a comparison of farmers' stated intentions and a final inspection of the woodlots.

The interviews that had been undertaken in the previous stages were examined for sections of text which could be classified as indicating a directed or self-directed attitude towards further assistance. In 20 interviews, 85% of the farmers made comments that indicated that they were no longer reliant on extension assistance (Table 5). For example, several farmers had planted trees on previous occasions. Consequently, they felt confident of their ability to do so again. Other farmers made comments that could be interpreted both ways, i.e. they requested assistance and then made comments that indicated that they had already decided how they were going to establish their woodlots. Despite being offered individual on-farm assistance, only six farmers (i.e. 27% of the original cohort of 22 farmers) accepted an offer of final assistance from extension staff to set out, plant and stake trees.

Table 5. Examples of farmers' comments which indicated that they were not reliant on extension assistance to establish woodlots.

I'll plough before planting and clean up the area. I don't need other assistance.
If I want your presence or help, I'll contact you. I have Mr Duan's number and he will call you.

Table 6. Characteristics of sites chosen by farmers for reforestation.

Municipality and number of sites	Percentage of sites with specific characteristics			
	Infertile or eroded	Dense canopy	Flood prone	Integrated with other crops
Libagon (12)	42	8	0	67
Dulag (7)	0	0	43	100
Total (19)	26	5	16	79

Final inspections revealed that some woodlots had been planted on very steep or eroded sites, underneath a dense canopy, in flood prone locations or directly adjacent to coconuts (Table 6). One year after planting, site maintenance (i.e. slashing of competing vegetation) had virtually ceased even though seedlings had not achieved dominance over weeds. In each case, these decisions had long-term implications for the growth of the woodlots. Neglecting weed control before seedlings have achieved site capture is likely to result in poor seedling growth and stagnation of the stand. Planting trees underneath a dense canopy is also likely to lead to very poor growth. Trees planted on the flood prone sites were washed away soon after planting and not surprisingly; those farmers became disenchanted with the program. One year after planting, seedlings that had been planted adjacent to coconuts showed poor growth and evidence of suppression. Despite extension advice to the contrary, some farmers had applied technology in a manner inconsistent with sound principles of woodlot establishment.

Discussion and conclusion

For the cohort of Filipino farmers served by this extension program, their self-directedness varied according to the challenges they faced. A participatory extension approach in which farmers were allowed to apply technical information to their own circumstances maintained their cooperation and enthusiasm but in situations in which they realised that they were knowledge-deficient, they also accepted didactic and top-down instructional methods. In a broader context, these results suggest that self-directed extension program participants may not object to inclusion of top-down instruction, provided that they see the need for it.

The results of this program suggest that although a participatory approach may be required to ensure farmers' participation, their interpretation of technology may compromise program goals. Farmers' initial ability to list, discuss and analyse issues (e.g. tree registration), suggested that they would act as self-directed adult learners. However, their lack of technical knowledge constrained their ability to evaluate the veracity of technical advice. In situations where they chose to ignore advice, their personal interpretation of the principles of tree growth resulted in the establishment of woodlots, some of which are unlikely to present a positive image of agroforestry in the future. Seedlings that are grown on infertile sites in competition with weeds are likely to become chlorotic and spindly and the entire woodlot may stagnate. Farmers' subsequent disappointment is likely to result in negative publicity. In this instance, a participatory approach that encouraged farmers to interpret and apply technology to their own circumstances resulted in negative consequences.

Farmers' low-input approach may have been modified if they had been able to access complementary sources of information. A contributing influence to farmers' lack of competency in raising seedlings may have been the dearth of other information or support services. Unfortunately, farmers were unable to transfer their knowledge of other farming practices to tree seedling propagation. Although information concerning growing and marketing of other crops (e.g. rice, copra) is available through farmer co-operatives and government sponsored information services, this

information is not applicable to agroforestry. In addition, the geographically scattered occurrence of participating farmers, i.e. the recruitment of 13 farmers from eight barangays in Libagon and nine farmers from seven barangays in Dulag, inhibited farmer-to-farmer interaction. Consequently, those intuitively self-directed farmers who would have welcomed other sources of information were unable to access it.

A general problem confronting rural extension planners in developing countries is to maximise recruitment and maintain participants' enthusiasm, consistent with program goals. Farmers' interest is often sparked by an inclusive extension approach that offers information and expertise in a new agricultural activity. The promise of new knowledge *per se*, also has a novelty value. In this program, the low level of farmers' acceptance of out-planting assistance indicated that the novelty had partly dissipated by the time seedlings were ready for out-planting. Hence, some of them opted to ignore offers of assistance and to use inadequate woodlot establishment practices that were derived from their prior knowledge and experience. These results suggest that if farmers in developing countries are not supplied with a range of experiences and background information, (e.g. demonstration farms, peer-to-peer interaction) which allow them to develop as informed self-directed learners, then they are unlikely to fully benefit from assistance. In this sense, these farmers have special needs that set them apart from 'western' self-directed adult learners. Hence, providing them with complementary learning experiences may be well rewarded.

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Cross-border cooperation in the making? Small-scale private forest owners and the Norwegian case

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Abstract

Norwegian forest ownership is fragmented with privately owned forest properties (≥ 2.5 ha) numbering ca. 113,000. These small-scale owners account for 80% of total productive forest area. The counties in the coastal forest area have roughly the same number of forest properties as the remaining inland counties, but their average property size is smaller and strip forestry is more common. The owners' level of forestry competence varies. According to Norwegian forest policy, the forestry sector shall contribute to the climate, preservation of biodiversity and creation of economic value. The sector is expected to do this while the public forest service is reduced and little is being done to adjust the structure of the forest properties. Since the forest owners' organizations do not imply cooperative management of the forest, the present structure with a number of small properties becomes a basic premise for future actions. In the project "From ten to one — multi property cooperation for personal forest owners in the coastal forestry", actors in the coastal forest area try to establish such cooperation. The attempts are subjected to trailing research i.e. the researchers follow and influence the processes. The project will yield a description of the conditions promoting and hindering cooperation, evaluate costs and benefits, and derive practical solutions and implications for Norwegian forest policy. According to the project actors (interviewed in 2010) there is no need for change, and much can be achieved through cross-border cooperation. However, the actors' stories reveal that the dialogue with forest owners is a challenge.

Keywords: collaboration, cross-boundary coordination, forest management, NIPF-owners, Norway

Introduction

Norwegian forest ownership is fragmented. In 2008 there were about 119,600 forest estates with 2.5 ha of productive forest area or more, with personally owned forest properties numbering ca. 113,000 (Statistics Norway 2010a). "Personal forest owner" is a term Statistics Norway applies and defines. International scientific publications name this type of owners as "non-industrial private forest owners" (NIPF-owners), "family forest owners", "private individuals and families" or "small-scale private forest owners". In Norway these small-scale private forest owners account for 97% of all forest estates and 80% of total productive forest area, with an average forest property in this category of about 45 ha in size (Statistics Norway 2010a).

Personal forest owners earn little money from their forest areas. The average income among the 25,200 owners with business income from forestry in 2008, was 36,000 NOK, amounting to 7% of their average total gross earnings that year (Statistics Norway 2010b). The counties included in the coastal forest area (Rogaland, Hordaland, Sogn and Fjordane, Møre and Romsdal, South-Trøndelag, North-Trøndelag, Nordland, Troms and Finnmark) have roughly the same number of forest properties as the remaining inland counties, but their average property size is smaller and strip forestry more common (The Coastal Forestry Project 2008). The average forestry income

among owners with business income from forestry in 2008 is lower in the counties of the coastal forest area than the Norwegian average (Statistics Norway 2010b).

There are great variations in the level of forestry competence among the forest owners. It is striking that among the forest owners in Trøndelag, 23% of the men and 49% of the women, could not answer a question about the proportion of mature forest area on their own property (Follo et al. 2006). The level of professional knowledge is low also among forest owners on the west coast (Amdam et al. 2000). Demands on the forestry sector are not likely to be reduced in the future and owners' cost of acquiring and maintaining a satisfactory level of competence will increase.

According to Norwegian forest policy, the forestry sector shall contribute (and much more so) to the climate, preservation of biodiversity and creation of economic value (Ministry of Agriculture and Food 2010, Stortingsmelding No. 39 2008-09). These enhanced goals are in line with the forest situation. We have an increased standing volume, the annual growth in the forest is more than triple that of the annual felling, and 25% of the Norwegian land area is productive forest area (Statistics Norway 2010c, d). The forestry sector is expected to contribute to the mentioned goals while at the same time, the public forest service is reduced (Stortingsmelding No. 17 1998-99, The Coastal Forestry Project 2008), and little is being done to adjust the structure of the forest properties.

The forest owners' organizations are not a solution to the structural problem. Even if Norway is among the 19 countries with forest owner cooperative associations (Kittredge 2005), neither organization in The Norwegian Forest Owners' Federation nor in Norskog does imply cooperative management of the forest. In addition maximum 54% of all Norwegian personal forest owners with 10 ha or more of productive forest area, joined forest owners' organizations in 2009 (Follo 2011). The percentage varies heavily in the coastal forest area depending on whether the county belongs to the traditional forest areas or the post-second-world-war afforested area. The present structure with a number of small properties becomes a basic premise for future actions. However, cooperation resulting in a shift "from ten to one" forest owner or forest property, could be a moderate restructuring of the forest properties which can be implemented on a relatively short notice. Is cross-border cooperation for personal forest owners the mechanism for overcoming the structural challenge and filling the gap between political ambitions and facts on the ground?

In this paper the result section will present three main issues: The "honeymoon"-situation, the "all"-embracing benefits from cross-border cooperation for forest owners, and the challenging forest owner-dialogue. Based on this I discuss and elaborate on the question of progression, the relation between forestry activity and interest, and the forestry actors' huge investment.

Material and method

Actors in the coastal forest area wanted to explore if cooperation for personal forest owners may be the solution regarding how to utilize in various ways, the great forest resources in the coastal counties (Øyen 2008). In the project "From ten to one — multi property cooperation for personal forest owners in the coastal forestry"⁵, the actors try to establish such cooperation at four field sites:

5 "From ten to one" is funded by Agricultural Agreement Research Fund, Research Council of Norway (project number 189950/I10) and the forestry industry in the counties participating in The Coastal Forestry Project. The project period is 2009–2013. The research institutions participating in "From ten to one" are Centre for Rural Research and The Norwegian Forest and Landscape Institute (NFLI). Birger Vennesland (NFLI) has participated in the data collection and analysis of this paper.

Feios (Sogn and Fjordane), Ørsta (Møre and Romsdal), Levanger and Frosta (North-Trøndelag) and Beitstad (North-Trøndelag). Feios and Ørsta are located in the afforested area, implying that they have much lesser established forestry infrastructure, business enterprises for forestry work, culture for forestry activities, etc., than Levanger/Frosta and Beitstad. The four field projects are organized with a project group and a project leader each, and have their own funding and budgets. They choose if they want to try to establish cooperation for forest owners where the owners cooperate with each other, or a cooperation where forestry actors coordinate and organize the forest owners across the borders without owners cooperating among themselves. Being under the umbrella of “From ten to one” the field projects have to accomplish common prerequisites as: (i) the cooperation shall focus on management of the forests, not the owners’ practical work in the forest, (ii) timber brokers’ everyday work for motivating forest owners to harvest simultaneously shall not be incorporated, (iii) to motivate the forest owners to participate in the cross-border cooperation, the field projects shall employ arguments such as the importance of forests for the climate, the preservation of biodiversity, creation of economic values and/or the maintenance of active rural societies.

The attempts the field projects are making to establish cooperation for personal forest owners, are subjected to trailing research. In English research terms the wording “formative dialogue research” is commonly used for this type of research, and the research itself is process oriented and allowed to influence and shape the process followed (Baklien 2004). The trailing research is still research, catered for by the researcher’s changing role as active and passive in the interaction with the actors. “Passive” when tapping the field projects for empirical data, “active” when for instance giving feedback to the project group in the specific field project. “From ten to one” includes *inter alia* three rounds of interviews with the field project actors who try to establish the cooperation, and three sets of data (two sets of interviews and a survey) from the (possibly) participating forest owners.

This paper reports from the first set of interviews with the field project actors. In April–June 2010, 18 informants related to the four field projects were interviewed by phone, three informants from one field project, five from each of the others. The actors might be a field project leader, a person from the public forest service (county/municipality level), a forestry adviser (Norwegian “skogbruksleder”), a chairman of the local forest owner organization, a forest owner that may end up as participating in the cross-border cooperation, etc. Interview guide was applied, and the interviews lasted between 0.5–1.5 hours. They were recorded, and a report (almost transcription) from each of them was written later. The actors were interviewed at a point in time when they did not know if the forest owners wanted to participate in any owner cooperation, and before any data collection from forest owners was carried through.

Results

The “honeymoon”-situation

The project actors in the specific field project looked upon each other sympathetically; this was clear when they talked about each other. When they were asked if anything could be done differently with regard to cooperation between them, “no,” was the prominent answer. To use the metaphor, they were still in the honeymoon phase: With a common if somewhat vague goal and with strong interest to achieve what they had set out to do.

The cost (economic, social, cultural) for themselves and the authorities some of them represented, was time spent in attempting to establish cooperation for forest owners. The forestry employed actors justified the use of time by understanding the work as something one's organisation would benefit from in the future and by pointing that the work was defined as something they should or could do. For the non-forestry-employed actors the time spent had to be compensated in one way or another. Some economic compensation or self-interest (for instance receiving information or contributing something to one's local area) was seen to be acceptable.

Even if the actors understood their own cooperation as well functioning and suggested there was no need for change, the mutual goodwill concealed two topics, each present to varying degrees depending on the informant/field project. One topic was: Was the field project's progression good enough? The responsibility for the progression seemed to be given to the leaders of the field projects more or less solely, while the project leaders themselves expressed uncertainty in how to proceed. The other topic was: Was the municipality able to fulfil its role? "Municipality" was here understood as the public forest service (agricultural authorities) at the municipality level, that is, the front line support for forest owners, etc., and a body commonly understood as very important for the local forestry activities.

The "all"-embracing benefits

According to the actors, much could be achieved through cross-border cooperation for forest owners. Primary benefits were increased forestry activity and increased forestry interest among forest owners and others, this being the case for informants both in the traditional forest areas and the afforested areas.

In more detail the actors talked about many possible gains from cross-border cooperation for forest owners:

- increasing the income for forest owners
- overcoming the problem with strip forestry
- taking landscape into consideration, making landscape variations, designing the landscape
- facilitating the recruitment to forestry courses
- facilitating the work of plant sellers
- making it so easy for those who are "non-active" per. date, that they let their property be included in an activity when they are invited into
- bringing in different forest owners' different skills and experience, which overall will lead all a bit further
- making it easier for the authorities to administrate the planting
- making it easier to give forest owners forestry information and education
- getting large timber quantities and secured delivery
- making efficient harvester operations
- allowing the forest owners to motivate each other
- ensuring that forest owners who do not regenerate properly do so
- receiving cooperation on logging, planting, cleaning, thinning
- designing more easily areas for harvesting in accordance with wind and weather conditions
- establishing professional and social network for farmers

- achieving that forest owners with little or no forestry knowledge are helped by the forest owners who have such knowledge
- ensuring the forest contractor (harvester, cableway) arrives [*i.e.* to do the forestry work]
- preventing the forest roads ending in a “pig’s tail” in each forest strip
- getting the timber to the end user (out of county) more easily because you [with cross-border cooperation] know where to log the timber, when the harvesting should be done and how it should be done
- making plans across property boundaries for the preservation of biodiversity
- strengthening landowners’ right (as a group the forest owners may be given importance and can make a voice)
- removing spruce that do not fit [in the landscape]
- giving timber brokers increased opportunity for long-term planning of forest harvesting
- providing the public better access [to the forests]
- gaining an increased understanding of forest industry
- providing a basis for harvesting and other forest activities on properties without such basis when managed solely
- removing forest that blocks the view
- preparing the harvesting coming in 5–10 years
- getting the timber of the future forest, and not the current timber, to pay for the forest road

The list is unsorted and unranked, and some items are gains for the forest owners, other for instance for the forest service, but all the gains listed are effects of the multi property approach itself. The gains mentioned by the actors varied across the field projects and also according to whom the person was (for instance employer/working place), and none of the field projects had a uniform communication of the advantages from cross-border cooperation. There was not, for example, five identical “arguments for” cooperation from all the persons interviewed from the same field project.

The challenging forest owner-dialogue

The four field projects wanted to establish cooperation for forest owners where the owners cooperate with each other, and the actors’ stories told that the communication with the forest owners was highly prioritized in the ongoing processes at that moment. The actors attempted to motivate and make contact with forest owners via media, meetings, letters, phone calls, “kitchen-table-talks”, etc.

The actors’ stories from the unsettled situation, at a time when cooperation was possible but not at all guaranteed, reveal that the dialogue with the forest owners was a challenge. However, the owners had not reacted negatively to the actors’ attempts to establish cross-border cooperation. Instead, the actors told about forest owners varying from a “wait-and-see”-attitude to very enthusiastic.

A specific communication quality seemed desired for when the actors interacted with the forest owners: A two-ways communication (and not unidirectional), with equal positions (and not power or domination based), and heterogeneous and specifically tailored to the individual forest owner (and not uniform and general for all forest owners).

The dialogue with the forest owners required that the actors had to spend some time on that part of the work, but according to some actors some time also had to pass. As one actor claimed: “The

mental processes we have to initiate among [forest owners], we have to respect.” The time had to work a bit, he continued, just to get people most motivated and ready, maybe, to go further.

The challenging forest owner-dialogue was related to one scale issue the field project actors met when they tried to establish cross-border cooperation for forest owners: The more forest owners the actors envisioned would be interested in participating in the specific cooperation and tried to incorporate, the heavier the work load.

Discussion

In 2013, when the “From ten to one” project concludes on the goals mentioned in the Material and method -section, three issues will probably be important: (i) progression, (ii) the relation between increased forestry activity and interest, and (iii) the huge efforts from forestry actors. Here I will anticipate some of the aspects I foresee may be relevant in 2013.

The question of progression is: How fast is it optimal to proceed when trying to establish cooperation for forest owners, and “optimal” for what? The question of progression has many facets in the field projects ongoing processes. One rather easy to recognize from the result section is the effect the emphasis on the forest owner-dialogue probably has. The more the dialogue requires, the more the actors have to invest in it and the more slowed down the progression may be. Aiming for a specific communication quality, adds to needed investment. However, the owner-dialogue-emphasis is consistent with juridical definitions of the forest owner as the responsible person, a responsibility principle commonly phrased in laws and reports as the owner as the “decision taker” (Follo 2008, in print). A more open question is how much the actors have to invest in the owner-dialogue to realize the ideology of owner as decision taker. Perhaps lesser investment had been enough. But the time resources the field project actors are putting into the task, are probably also a result of their goal to establish a situation where the forest owners cooperate with each other. This may demand more of the forest owners than if the actors had gone for a forestry-actor-coordinated organization of the owners without owners cooperating with each other. It is in this cooperation perspective we have to understand the argument some of the field project actors bring to the table: Some time has to pass. It is the indecision over whether or not to cooperate that gives the somewhat slowed down pace adapted to the forest owners: One step at the time, let the owners think about it, let them come up with their doubts and second thoughts, include the owners’ considerations into the process — so one more step. This description is from a specific field project, and one lesson to learn from them is their ability to split a process into smaller units and then approaching the “nearest” one apparently without giving the forest owners a feeling that an exposed card must be played. This seems to be an optimal strategy when it is urgent to get all (or most) of a specific group of forest owners to join the cooperation, but perhaps not so important when that is not the case.

Increased forestry activity and increased forestry interest are the paramount benefits from cooperation for forest owners. Forestry activity and interest are rather tightly connected, still it may be fruitful to hold the two phenomena apart (Follo 2010a). For one thing, a forest owner’s increased forestry interest does not have to imply increased forestry activity if “forestry activity” is understood as what happens in or with the forest. Instead the increased forestry interest may manifest itself by a not-before-taken call to the public forest service in the municipality. For a second thing, it is possible to increase the forestry activity without (much) increased forestry interest from the forest owner’s part. Only one moment’s increased interest from the owner is necessary, and that is the time required to say “yes” when for instance forestry actors put forward an offer of forestry

activity. Such an approach is compatible with a forestry-actor-coordinated organization of the owners across the borders without owners cooperating with each other. So why don't the field project actors choose that variant of cooperation for forest owners? The answer is probably the forestry interest. There seem to be an understanding that cooperation among forest owners go along with their more lasting forestry interest and then also more forestry activity in the long-term perspective. Related to such an understanding is a wish not to pacify the forest owners. We see that in a mapping from earlier cooperations for forest owners in Norway (Follo 2010b). One of the cooperation examined, the Holsmoen-project in South-Trøndelag, realized a forestry-actor-coordinated organization of the owners. The project succeeded with taking a multi property approach, for instance they achieved an optimal logistic, reduced harvesting costs, logged 6,000 m³ timber in two years, and ended up with more differentiated landscape. "This is very easy," the main actor tells. He worries only: Did they (the forestry actors) arrange too much for the forest owners and in doing so pacify the owners?

The forestry actors invest a lot in the attempts to establish cross-border cooperations for forest owners. Time and money the field project actors spend are mentioned. In this matter they do as other Norwegian forestry actors have done before when trying to take a multi property approach (Follo 2010b). At the end of "From ten to one" in 2013, the question will be: Was it worth it? What were the gains? The list of the "all"-embracing benefits is presented in such detail and length in the result section because the list, in all its heterogeneity, summarize different actors' anticipated benefits from owner cooperation. The list is somewhat of a starting point against which later development can be compared. Do the benefit considerations change when the processes develop in the field projects? How are the gains weighted with the costs (broadly understood) the actors perhaps meet when their work proceeds? And whose gains and whose costs — the forest owners, the actors, and whom of the owners and the actors?

Cross-border cooperation for forest owners may be one solution to the structural problem with the many and small forest estates owned by personal forest owners — one of, in my opinion, six options for filling the gap between the political ambitions for the forestry sector and facts on the ground. The others are:

1. carry out more of and more specific forest owner-adapted initiatives accomplished through forestry employees' proactive, outreaching actions
2. introduce new passive incitements (for instance tax-reductions, grants related to forestry activity) more adapted than today to different categories of forest owners
3. introduce regulations that will effect a change towards more forest estates owned by enterprises/firms and lesser owned by personal forest owners
4. change the property structure (increasing the productive forest area of each holding) by modifying for instance the regulations hampering the selling of forest
5. introduce a legal duty to carry out forestry activity at the holding

When the research project "From ten to one" is going to evaluate the merits of cross-border cooperation as a gap-filling mechanism, the forestry actors in the coastal forest area and the researchers have to take also the other options' possible gains and costs into consideration. At that time it will be a strength that knowledge from five years with trailing research on cooperation for forest owners can be incorporated. For the moment, however, and because the data was collected when nothing was settled regarding forest owners' participating in any owner cooperation, the paper's title truly highlights the situation: Is this cross-border cooperation in the making — or not?

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Family forest owners' peer-to-peer networks: Experiences and potential in Finland

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Abstract

In Finland, forest owners' professional guidance has traditions and it is comparably well organized. However, guidance does not reach all forest owners and it has been suggested that peer-to-peer (P2P) networks could complete the guidance. Through these networks, owners could share their experiences and learn from each other. The aim of this report is to map the existing P2P networks and examine their future possibilities. In a mail questionnaire forest owners' mutual conversations and co-operation in forestry-related issues were inquired (n=1244). In addition, meaning and possibilities of P2P networks were studied in seven focus group interviews, which were directed to national developers of extension systems, local forestry professionals and forest owners. The results of the questionnaire indicate that Finnish forest owners have conversations with other forest owners in issues related to silviculture and timber trade. The operations that extend over several holdings, such as ditching and forest road construction, demand co-operation between forest owners. The focus group interviews denoted that some forest owners are considered as experts who have local knowledge. Especially in the countryside, forest owners know each other and they are able to perceive and follow the actions that neighbour forest owners are completing. In cities, meeting other forest owners is more difficult – a workable way to bring forest owners together could be groups that are focused on learning some specific, practical issue or associations for distance forest owners. To be able to better utilize social media among forest owners more facilitative control and/or community spirit is required.

Keywords: co-operation, family forest owners, focus group interviews, learning survey studies, peer-to-peer networks

Introduction

Forestland ownership structure in Finland

Non-industrial private forest owners (later referred to as forest owners) are the major forest ownership group in Finland (Fig. 1). Their ownership dominates particularly in southern Finland. Of the 60% of non-industrial private forest area, families own 76% and heirs or private partnerships own the rest. Forests pass typically to next generation as a heritage. Only 10 percent of forest owners have bought their forests from free markets (Metsänomistajien neuvonnan... 2002). The average size of forest holding is 30 hectares (holdings below 2 ha excluded; source: Hänninen & Peltola 2010).

The share of agricultural and forestry entrepreneurs among forest owners (16%) has decreased in over the past few decades. During the last ten years, also the share of those forest owners who are living in rural areas has decreased from 63 to 55 percent (Leppänen 2010). In other words, share of

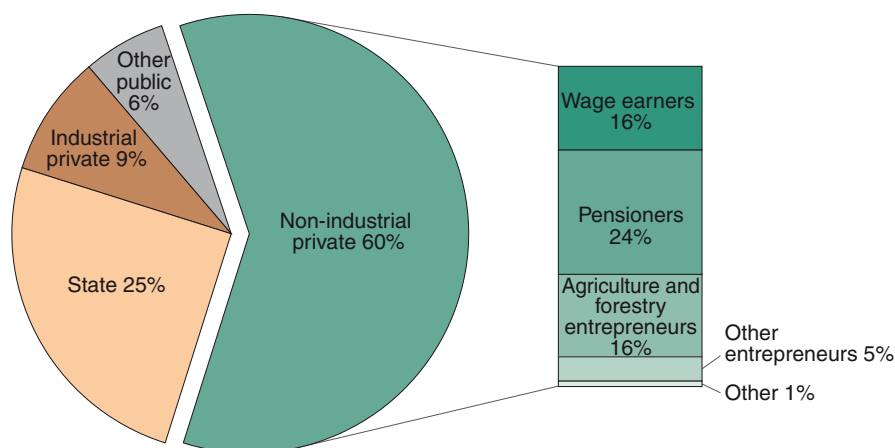


Figure 1. Forestland ownership in Finland 2009 (Forest Finland in brief 2009, Hänninen 2010).

those forest owners who are not living next to their forest holdings is increasing. Simultaneously, forest owners are ageing. The average age of forest owners has risen during the past twenty years from 54 to 60 (Leppänen 2010). At the same time, the share of pensioners among forest owners has increased to 34 to 45 percent (Leppänen 2010). According to current estimate, one fourth of forest owners are women.

The great change in forest ownership structure will happen after 15–20 years when the so-called baby-boomers' generation will hand over their forests to the next generation: late middle-aged people who have not been living next to their forest holdings (Karppinen & Tiainen 2010). This means that the emotional meaning of ownership may change from what it is today. The change may result in increase of free sales of forest holdings, but at least it is predicted to increase the demand of forest guidance and services.

Forestland owners' guidance

In Finland, many different organizations guide forest owners in forest related tasks. The main public organizations giving guidance directly to forest owners are local Forest Management Associations (FMAs), sometimes also referred to as forest owners' associations (e.g. Kankaanhuhta et al. 2010) and regional Forestry Centres (FC). Below the roles of different organizations are shortly described.

FMAs are associations that are formed by local forest owners (possessing over 5 hectares of forest land), who are practically obliged to become members of FMAs. The number of individual, regional FMAs in Finland is decreasing due to organizational merges and it is currently 110 (2011). Number of forest owners in one FMA varies between less than 1000 to over 20 000. Forest owners' membership is based on a statutory forest management fee, which is mainly derived from forest holding size. The operations of FMAs are financed by these fees and payments from the services that FMAs provide. At the country level, the collected forest management fees are 27 million Euros per year (Metsänomistajien neuvonnan.. 2002). Local FMAs help forest owners in various practically oriented management operations such as timber sales, regeneration activities and silvicultural operations. They offer also training and guidance. There were about 1000 people working in FMAs year 2009. FMAs are supervised by councils that comprise member forest owners elected every fourth year.

Forest owners' unions are regional organizations established by regions' FMAs. They lobby for forest owners' benefit in various issues such as development of timber markets and marketing forest products. In addition, they aim to develop the functioning of FMAs. The total number of these unions is eight.

Regional Forestry Centres are operating under the guidance of Ministry of Agriculture and Forestry. Forestry Centres (FCs) offer guidance, services and education for forest owners in forest planning, maintenance ditching and forest road construction. In addition, FCs control that forest owners obey the forest law and they allocate the state funding to forest owners. At present, there are thirteen FCs in Finland with about 1080 salaried employees in 2009. The operations of FCs are divided into promotion of forestry and public authority operations. Currently, the FC organization is under changes, which will affect their organizational structure as well as their operating principles. From the beginning of 2012, there will be one national FC divided into regional units, and the market activities will be organizationally separated from the state-funded activities.

Tapio is a development organization in which about 90 people are working in various forestry development duties. Tapio is specialized in technology transfer in a wide sense. Tapio produces services for silvicultural practices and sustainable forest management, biodiversity conservation and environmental management in private forests, management of forest resource data, and development of information technology and quality control systems. Tapio also produces communications and marketing material to forest owners and forest professionals, including the official forest management recommendations for Finland, and organizes professional development education and training for forestry extension practitioners who work in the field with forest land owners. The organizational change of FCs will affect also the duties and focus areas of Tapio.

There are also other organizations that offer guidance and services for forest owners such as forestry schools, including universities of applied sciences, offering e.g. forest owner courses, Finnish Forest Holding Owners' association (16 local voluntary organizations, parallel to the statutory FMAs), forest industry (e.g. Stora Enso, UPM, Metsäliitto), banks and small private forest service entrepreneurs.

The guidance given to forest owners can be divided into personal, group and mass guidance. FMAs do most of the personal guidance and FCs do a smaller share. During the last decades, the extent of personal guidance has increased due to its perceived effectiveness (Metsänomistajien neuvonnan...). For example, when a forest plan is created for a forest owner, also some personal guidance is often connected to the delivery of the plan (Hokajärvi et al. 2009). Personal guidance has reached 85 percent of private forest owners at least once during the last five years (Hänninen 2010). Guidance is concentrated in timber trade, silviculture and regeneration issues.

Objectives of the report

Despite the fact that there are several organizations that offer guidance for forest owners in Finland, the guidance fails to reach all forest owners due to scarce resources and owners' passiveness. Peer-to-peer (P2P) networks could fill the gap in guidance. After familiarizing to each other, forest owners can share their experiences and, in addition, networks could support and ease forest owners' learning. The aim of this report is to discover the existing P2P networks and examine the need for such networks.

Data and methods

Forest owners' conversation and co-operation with other forest owners in forestry related issues were inquired via a mail questionnaire. The questionnaire was sent to 2084 private forest owners around the Finland in autumn 2009. Response rate for the questionnaire was 59.7 percent (for more details of data acquisition, see Hujala et al. 2010). In addition, seven focus group interviews were conducted. The aim of focus group interviews was to study the meaning of P2P networks for forestry and forest ownership and the future possibilities of such networks. The interviewed groups consisted of national and regional developers of extension systems (total 4 people), local forestry professionals (25) and forest owners (15). Local forestry professionals and forest owners represented two distinct regions from eastern and northern Finland. For this report, notes of interviewers' observations were analysed jointly by the present authors to generate a condensed list of most relevant aspects.

Results

Existence of peer-to-peer networks

Conversation and co-operation among forest owners were asked in mail questionnaire by using open questions. Due to open question form, response rates for these questions were notably lower than in the total questionnaire (n=91–137). Forest owners have had conversations with other forest owners mainly in issues related to silviculture and timber trade (Fig. 2). In addition, forest damages caused by voles and moose, bioenergy issues and conservation of forests were discussed.

Forest owners have had practical co-operation with other forest owners mainly in peatland forest maintenance ditching and in forest road construction and maintenance (Fig. 3). Part of forest owners has been co-operating also in timber trade and some owners have even sold timber together.

Usefulness of co-operation between neighbouring forest owners in forests and forestry related issues was inquired with eight statements. Three-fourths of forest owners consider co-operation

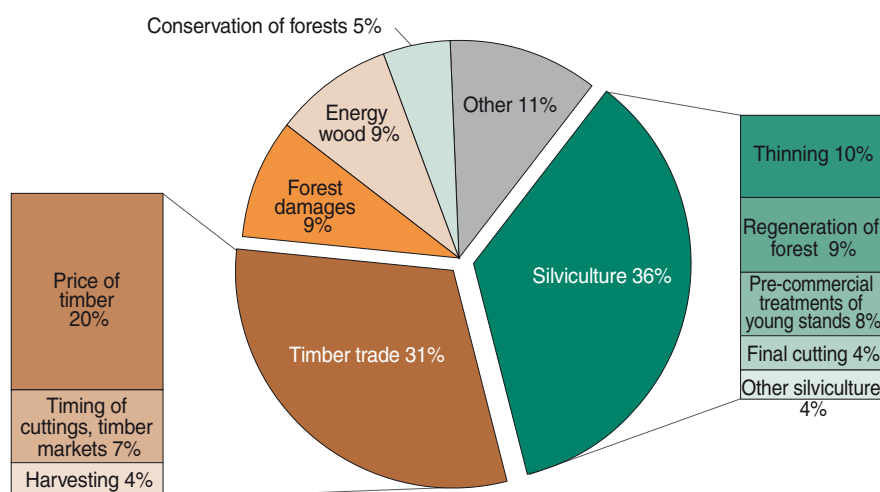


Figure 2. Subjects related to forests or silviculture of which forest owners mentioned having had a conversation with other forest owners; focus in silviculture and timber trade (n = 137).

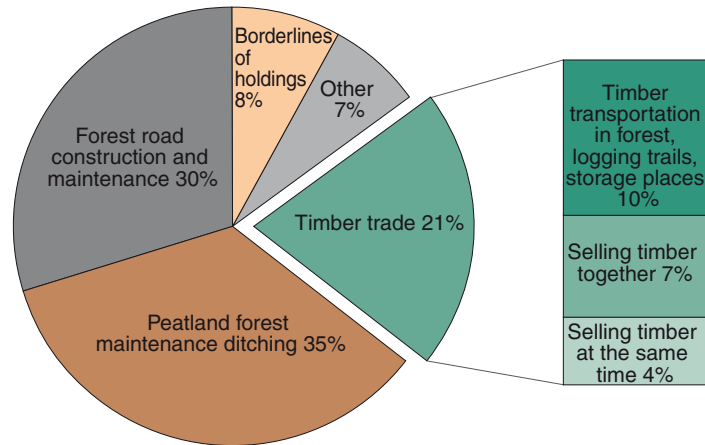


Figure 3. Forest-related actions in which forest owners mentioned having had practical co-operation with neighbour forest owners; focus in timber trade (n = 91).

between neighbours useful because they think that it increases community spirit and co-operation in other contexts (Fig. 4). Better quality of water was a perceived outcome of co-operation for some 70 percent of respondents. 60 percent of forest owners think that through co-operating with neighbouring forest owners in timber trade they can have higher timber price. Forest owners doubt or they were uncertain with the statement that co-operation with other forest owners would bring extra income for them from multiple use of forest.

Forest owners' social networks in their latest timber sale were also inquired in the questionnaire (see e.g. Korhonen et al. 2010). During the latest timber sale 19 percent of forest owners have been in contact with a neighbouring forest owner (app. 3 times during the sale) and 16 percent with someone who they considered as an expert forest owner (app. 2 times). This indicates that there exists some kind of peer-to-peer networks among forest owners in timber sale. However, the roles of FMAs and timber buyers are much more important in timber sale than are connections with peer forest owners.

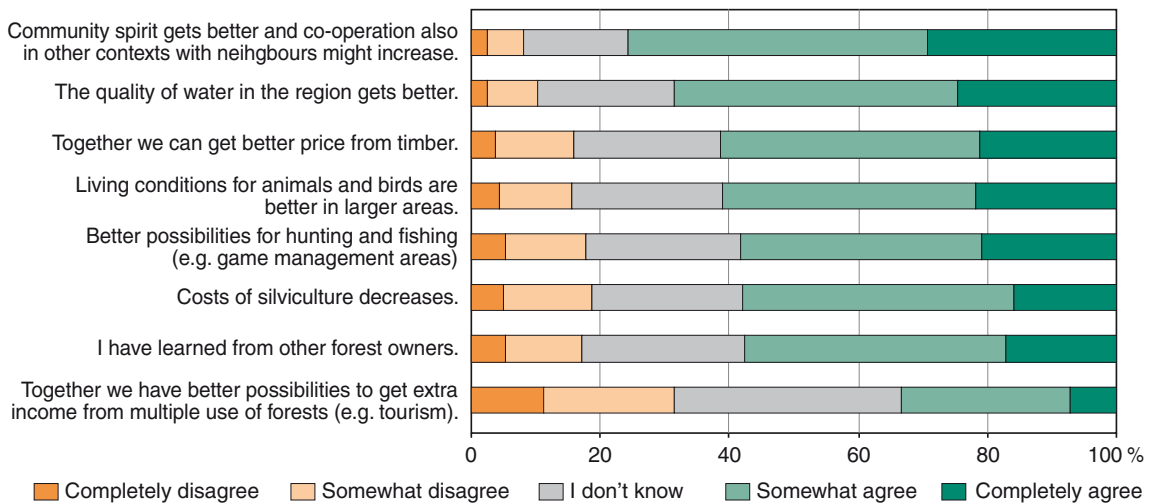


Figure 4. Usefulness of co-operation with neighbouring forest owners (n = 1049–1099).

The advantages and challenges of peer-to-peer networks

Focus group interviews indicated that there exists different peer-to-peer networks in Finland that relate e.g. to familiarizing forest owners into woodchips heating systems. In addition, active and discussing forest owners' clubs exist in some cities. Interviews also suggest that there are some forest owners who are considered as experts and thus role models. They have local knowledge in practical forest-management-related issues and they are contacted in decision-making situations.

Majority of the participants in focus group interviews agreed that P2P networks could be useful among forest owners. Advantages, which participants pointed out, are that through P2P networks, owners that are more "professional" could share and pass their entrepreneurial like attitude to other owners and this could activate passive owners. An additional advantage could be that owners would be (more) daring to ask questions in small peer networks (than in large groups or with professional foresters).

In focus groups, it was suggested that P2P networks could be regular clubs or they could concentrate on some specific issue. The idea that network would focus on specific issue or problem, such as inheritance arrangement or planting the seedlings, was more popular among the interviewees. To be interesting enough for forest owners, the topics of the networks should be planned carefully and owners should be like-minded enough. P2P networks evoked also doubts; can forest owners really learn from each other and is the existence of professional anyway needed to correct the misunderstandings or too black-and-white opinions of forest owners? It was suggested that in workable networks, professionals would participate by introducing the selected issue and afterwards forest owners could have conversation together. The predicted challenges in P2P networks are financing the actions and an assumption that only those forest owners who are in any case active would participate.

Forest owners' communication channels and possibilities of social media

In the mail questionnaire, forest owners were asked which nature-related organizations they belonged to or participated. 40 percent of the respondents participated in actions of hunting clubs. Almost 30 percent of forest owners participated also in the actions of village associations and fishery collectives. Results of the questionnaire and focus groups reveal that especially in the countryside there are several informal opportunities and existing networks to meet other forest owners. Particularly hunting-related activities can be a fruitful situation for enhancing learning opportunities e.g. with respect to considering game management in forestry operations. In addition, forest owners meet each other in normal village-living-related activities and places such as, coffee bars, dance halls or forest mensuration competitions. In the countryside, forest owners tend to notice and get inspired by the concrete actions that neighbouring forest owners are or have been conducting.

Those forest owners who live in cities, far from their forest holdings are in a more difficult position what comes to P2P possibilities. Traditionally, forest owners' mutual networks do not exist in cities: it is difficult to find and get to know other forest owners. Focus group interviews indicate that distance forest owners do meet each other e.g. in courses of forestry. However, forest owners were skeptical that these courses could really bring forth P2P networks. The forests of distance forest owners are typically located in places where the owners have grown up and they can still have e.g. their summer cottages in those places. Discussions indicate that distance forest owners would like to increase and intensify the connections that they with locals on those areas.

Traditional communication channels in the Finnish forest sector between forest owners or between owners and professionals are face-to-face meetings and phone calls. Thus far, passive receiving e.g. through magazines, radio and TV programs has remained as the most desired way of information gaining among landowners (Hänninen et al. 2010). Though the share of Internet as forest owners' information source has almost doubled during the last ten years, social media has been relatively unfamiliar especially to elderly forest owners (Hänninen 2010, Pasma 2010). There are some on-line discussion sites (message boards or Internet forums) where forest owners can share their experiences and knowledge. The most popular dealing only with forest was Metsälehti.fi –platform (Forest Magazine) (Pasma 2010). The most common discussion topics during the past years have been clear cutting versus uneven-aged forest management, education for forestry professions, and the quality of forestry services. However, focus group interviews gave rather negative picture of the quality of discussions in those forums. The problem is the lack or weakness of control and easiness of transferring faulty information. In general, social media is seen as a possibility, but workable ways and means to make use of the opportunities are needed. In addition, integration of social media features in web-based forestry services may prove beneficial (Pasma 2010).

Conclusions

The review on forest owners' peer-to-peer experiences from Finland shows that some informal networks exist. Practical co-operation is conducted mainly in issues that consider area of several holdings such as in ditching and forest road construction. **Among forest owners, some are considered as experts who have local knowledge in practical forest-management-related issues and they are contacted when owners need hints or guidance to make decisions and put them in action.** These kinds of connections are informal. However, the existence and the strong position of FMAs, in which owners are obliged to be members, makes the need for establishing these networks less important.

Unofficial P2P networks exist especially in the countryside, where forest owners know each other and notice the concrete forest related actions of other owners. In cities, the development of reasonable P2P networks is needed. Workable ways for such networks could be projects that concentrate around some specified issue. Additionally or alternatively, formation of regular clubs for forest owners could be supported. Practical local pilot projects could and should be launched to test at least the former network idea when some new forest management issue emerges. One possibility for this in Finland could be the uneven-aged forest management. At yet, social media is not utilized in forestry and among forest owners as well as it could be. Reliable and easy ways to use social media are needed.

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Peer-to-peer learning experiences in Sweden

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Abstract

This paper reports the results of an investigation on peer-to-peer learning (P2PL) experiences among small-scale forest owners in Sweden. The Swedish study circle as a specific instance of P2PL in operation was examined through an observation and interview study of a group of forest owners taking part in an ongoing study circle. The quality of P2PL offered by the study circle network was discussed through the lens of the three dimensions of communities of practice, mutual engagement, joint enterprise and shared repertoire. Swedish study circles appear to be a promising and time-tested model of P2PL. It appears worthwhile to envision P2PL platforms not simply as social networks to be exploited for knowledge sharing and learning gains but as opportunities for some of them to graduate into becoming active communities of practice. The paper concludes that a more comprehensive investigation might give insights into the opportunities of P2PL in the forestry extension sector in the Nordic region.

Keywords: peer-to-peer learning, forest owners, study circles, community of practice

Introduction

Peer-to-peer learning (P2PL) networks among small scale forest owners have recently been in focus as they are considered to have a potential to contribute to the development of forest owners' ability to deal with complex (and sometimes contradicting) demands related to climate change, production of bio energy, preservation of biodiversity, tourism and recreation etc. An increase in the proportion of forest owners who are urban dwellers and the consequent lack of their connection with a forestry community have been seen as reasons for seeking greater engagement of landowners through local landowner associations and redirection of efforts towards educational models such as P2PL (Rickenbach 2009). If social networks among forest owners have provided the means for sharing of stories and experiences and for trusted friends offering input to better decision making, how could these voluntary, non-hierarchic and non-formal learning opportunities and their cost-effectiveness be taken advantage of and supported in ways complementary to the already existing formal educational programmes? The relative roles of experts and peers in landowner decision making, and the quality of information exchange and learning that takes place in peer networks, are worthy of examination before choosing directions in this regard. These questions also have relevance to those involved in education of the professionals who will serve the sector in the face of the complexity referred to above.

This paper results from an exploratory project aimed at mapping the experiences of adult P2PL activities among private forest owners in Sweden. Our brief investigation indicates that in Sweden there are no clearly identifiable learning networks among forest owners that could be named as absolute P2PL constellations in the way these have been described. We believe that because of the very loose nature of some of these networks, and in the absence of formal websites, brochures

or statistics on their existence, it is difficult to locate these networks or to ascertain the form and quality of learning going on in them. It is also likely that in instances where P2PL is at play and experiences are being exchanged as part of 'normal' practice of forest owners, the people involved may not be aware of what they are engaged in nor have a name for it in the way we see things.

Therefore we take departure from the Swedish study circle tradition. Some study circles concerning forestry related issues might correspond very well to the definition of P2PL as outlined by Catanzaro (2008):

- *Spreads information through formal or informal social networks;*
- *Involves two-way (or more) communication;*
- *Recognizes that every participant can be a teacher and a learner;*
- *Is community- and participant-driven; and*
- *Can occur through either an ongoing forum or one-time exchange.*

Based on literature of the Swedish study circle tradition and an in-depth exploration of one such study circle of forest owners, in this paper, we aim to contribute to the discussion about the learning qualities offered by P2P learning networks from the point of view of those involved themselves. More precisely the aim of the paper is a) to develop an understanding about why forest owners themselves chose to take part in the network and why they perceive them as beneficial, and b) to characterise the qualities of learning that seem to take place in these settings and discuss them in relation to the overall expectations of the learning outcome of P2P learning networks.

We begin the paper by presenting some relevant statistics about the Swedish forestry sector including examples of support and guidance given to Swedish forest owners. We then describe the Swedish study circle tradition, followed by a description of the study circle case that was examined. We conclude by discussing our findings and raising some questions that could form the basis for development of future studies in this area.

Forestry in Sweden

Sweden is a sparsely populated country with 9.4 million inhabitants living in a total land area of approximately 40.8 million hectares. It is most certainly a forested country with 28.5 million hectares or approx 70% (according to the definition of the Forestry Act) are forest land of which 22.7 million hectares (80%) are productive forest land (according to the Swedish definition of forest land).⁶ The remaining 5.8 million hectares consists of non-productive land such as marsh-land, bare rock and sub-alpine woodlands.⁷

Even if the forest sector in total does not amount to more than about 4.2% (2006) of the Swedish GDP, it is of importance to the national economy. Export value of all forestry and forest industrial products was in SEK 122 billion, corresponding to 11.2% of the total value of export goods. The gross output of the forest sector was during the same period 209 billion. The total gross value of timber fell during 2007 and it was 28.1 billion.

⁶ The statistics in the introduction and in section 1 are based on the Statistical Yearbook of Forestry 2009 and the Swedish National Forest Inventory 2009. The currency referred to in the text is Swedish kronor (SEK).

⁷ Non-productive land includes bogs, marshes, mountains, sub mountain forest and areas with inferior climate conditions.

The Swedish forest land is categorized as public forests (2.8 million ha) company forests (11.2 million ha) and private forests (14.1 million ha). Especially apparent when comparing Sweden to other timber-producing countries is the fact that the state (not including the state-owned corporations) owns only 4% (1.1 million hectares) of the productive forest land. The main part of the state owned forests was transferred in 1994 to the National Property Board or the forest company AssiDomän. During 1999, the state purchased nearly 900,000 hectares of forest land from AssiDomän to form the forest company Sveaskog AB, and in 2001 the state acquired all shares in AssiDomän via SveaskogAB.

There are some 329,300 forest owners. The number of forest entities are 239,973 of which 67% (160,120) are locally owned, 26% (46,741) are owned by non-residents and 8% (15,801) partly by non-residents. The age group distribution among forest owners (private persons) are: 0–29 years: 6,913, 30–64 years: 220,837 and 65 years and above: 101,519.

The distribution of forest by ownership category is:

- 50% individual private owners
- 6% other private owners
- 3% state-owned
- 14% state-owned corporations
- 1% other public ownership
- 25% private-sector corporations

Large-scale forestry employed about 2,500 people, and forest contracting companies employed 11,700 people (2008). The number of hours worked in forestry amounted during the same period to 25.8 million, out of which 11.9 million hours were in the individual owners sector.

The number of graduates with forestry education from the Swedish University of Agricultural Sciences (SLU) during 2007/2008 was 17 forest engineers, 17 MSc in forestry and 82 advanced MSc in forestry.

Advisory support available to forest owners in Sweden

Private forest owners can receive assistance in forest management, such as preparation of management plans, forest valuation, capacity building and environmental advice, from the consultancy service provided by *the Swedish Forest Agency* (Skogsstyrelsen). A successful framework for information and education on environmental protection and forestry practices for forest owners are the information campaigns launched by the Swedish Forest Agency. The highly successful campaign “A Richer Forest” was initiated in 1987 and engaged some 100,000 participants. The last major information campaign, “Greener Forest” (1999–2001), reached every third forest owner with indoor classes as well as field discussions. *The County Administrative Boards* (länsstyrelserna) provide additional service on environmental protection. *The forest owners` associations* with 111,000 members with a total forest area of 6.3 million hectares (2008) also provide similar services as well as coordination of the timber trade. Another private organization, *the Forest Society* (Skogssällskapet) assists municipalities, private forest owners (usually larger estates) and various foundations with forest management services. There is also a non-profit organization, *the Swedish Forestry Association* (Skogsvårdsförbundet), active in educational matters and spreading information on different topics related to forestry to forest owners as well as the public.

Swedish study circle tradition

The study circle is a form of non-formal adult learning that was introduced in Sweden in the beginning of the 20th century due to a growing interest in adult education. Since then study circles, partly financed by the state and a number of Adult Educational Associations that were established at this time, have been of great importance for the standard of general education, and not at least in the Swedish farming community. In fact, the Federation of Swedish Farmers, FSF (Lantbrukarnas Riksförbund, LRF) is itself a member organisation of one of the largest Study Associations in Sweden, called Studieförbundet Vuxenskolan (SV). A number of study circles covering subjects connected to farming are organised by SV every year (Ljung et al. 2000). As landowners, many farmers in Sweden are owners of forests as well, so some of the study circle initiatives focus on farmers as forest owners rather than as food producers.

Almost every Swedish farmer has at least once participated in a study circle and there are several reasons for their popularity. First, there are not so many opportunities for farmers to attend relevant educational programs. Secondly, by creating learning environments which ‘fit’ farmers’ daily or seasonal working situation, for example “on-the-job-training” or educational programs in the winter, it is more likely that farmers can participate. Finally, the study circles have an important social function. Studies have shown that almost 60% of the participants who attend study circles do so mainly for social reasons (Ljung et al. 2000).

Generally, a study circle is based on a certain number of meeting occasions (7–10), taking place during three to four months and consists of both in- and outdoor activities. The role of the circle leader is not the same as that of an extensionist, as the leader does not have to be more knowledgeable about the subject in question than other members of the circle. His/her role is mainly to get the circle running and for this purpose, he or she would have taken a short course on circle leadership. A study circle is also supposed to adapt the design of the circle to the needs, wishes and conditions of the members. Landowners can join a scheduled study circle, but if there is none available, there are opportunities to initiate such circles themselves (Studieförbundet Vuxenskolan n.d.).

One recent example of a study circle program directed towards forest owners is the campaign *Kraftsamling skog (Mustering of Strength – Forest)*. This campaign running between 2007 and 2010 was aimed to support the economic gain from forests by increasing the target group’s knowledge and skills as forest owners. In order to support forest owners “getting rich on their forest”, the campaign included both traditional study circles and study circles on distance. At the end of the campaign period around 8,000 forest owners had taken part in the study circles (Lantbrukarnas Riksförbund n.d.).

The principles and philosophy behind the study circle concept cover all the criteria of P2P learning listed above. However, in practice, the P2P learning qualities may vary a lot depending on the leader, the members and the improvements that the circle is supposed to reach.

Communities of Practice as theoretical framework

Etienne Wenger’s work under the rubric of Communities of Practice, developed mostly in the context of formal organizations and work places, offers a useful framework to understand the workings of study circles and such other voluntary formations of learning communities. Wenger (1998)

places learning in the context of our lived experiences of participating in society, and in the communities and organisations to which we belong. Learning is not viewed as a separate activity, but as an integral part of our lives. Learning starts from the ability of humans to experience the world and their engagement in it as meaningful. To Wenger, significant learning “... *is what changes our ability to engage in a practice, to change the understanding of why we engage in it, and the resources we have to our disposal to do so.*” (Wenger, 1998 pp 95-96).

Learning is gaining habits, skills and memories and the formation of our identity. Recognising the importance of *participation*, Wenger has identified certain social constellations as crucial loci for learning. These are called Communities of Practice (CoP). The basic structure of a CoP in Wenger’s terms is that it will be a combination of three fundamental elements: a *domain of knowledge*, which creates the common ground such as, in the case of forest owners, an interest in managing small forest blocks; a *community of people* that fosters interactions and relationships based on mutual respect and trust and who care about this domain; and, a *shared practice* they are developing with their ideas, tools, information, and stories that they share, and with that they can be effective in their domain (Wenger 1998). When these elements function well, a CoP becomes a knowledge structure and a social structure for developing and sharing knowledge together (Wenger 2002).

CoPs are everywhere and we all belong to several, at work, with a group of tight friends, within a political movement etc. By associating practice with community, it is possible to get a more distinct picture of what kind of communities the theory is focusing on. The practice of a CoP is giving coherence to a community in three dimensions:

- *Mutual engagement* – the members of a CoP maintain dense relations of mutual engagement which are organised around what they are there to do.
- *Joint enterprise* - working with others who share the same conditions is a central factor in defining the enterprise that the members engage in. This gives rise to relations of mutual accountability and shared responsibility among those involved.
- *Shared repertoire* – by their mutual engagement and joint enterprise the members over time create a shared repertoire including routines, words, styles etc, which have become part of their practice and which express their identity as members.

A study circle in operation

In order to get some indications about why forest owners chose to be part of and contribute to peer-to-peer (P2P) networks and what qualities of learning these constellations might offer, we conducted an observation and interview study of a group of forest owners taking part in an ongoing study circle.

Through a contact at the Swedish Forest Agency we came to know about a group of forest owners that was continuously arranging study circles around forest issues. The group members all lived in the village of Osby, located in a district dominated by agriculture and forestry in the south of Sweden. Two of us were invited to visit the group and attend one of their regular evening meetings in January 2011.

The visit was divided into two parts lasting about one and two hours respectively. During the first part the members were asked to discuss and do whatever they use to do at normal meetings, while

Box 1. The Osby study circle

The group that we met consists of 7 small scale forest owners, all men from the village of Osby, with forest holdings ranging from 13–275 ha in size. Most members of the group have more or less regularly been taking part in study circles on forest related issues every winter for over 30 years. As one of the older members said, when they were young, study circles were the only alternative form of education for many farmers and forest owners. The average age of the group is around 60, and some of them are retired and have their estates transferred to their children though they are still taking part in the management. Younger forest owners have been joining some of the circles though in this particular circle only one younger man participated though he had no forest holding of his own yet. According to him, younger people might find it difficult to commit themselves to regular activities of the group, busy as they are with families, children and full time occupations.

The study circle is officially arranged by Studieförbundet Vuxenskolan (the Study Association that the Federation of Swedish Farmers is cooperating with as described above). The members pay a small fee to cover the administration costs for the circle. One member is official administrator of the circle being responsible for the economy, and for handing over information about the study circle (number of members, the title of the book they read and what subjects that the group deals with during the meetings). The meetings are held on Thursdays between 7 and 10 pm in a building that is at SV's disposal, located in the centre of the village.

The group forms a study circle around a new book every winter, the title of which is sometimes recommended by SV, and chosen by the group itself at other times. Titles of the books read in recent years are "The water directive" ("Vattendirektivet"), "Greener forests" ("Grönare skog"), "Laws for forest owners" (Juridik för skogsägare). The book being read this year by this study circle is "The forest that we inherited" ("Skogen vi ärvde"), a book that, according to the members, is a bit strange, being more like a novel than a book full of facts like the earlier books they read.

All meetings are designed according to certain routines which they themselves have developed. The members take seats around the table and then take turns at reading parts of the book in question aloud. Whenever someone feels like commenting on the content, the reading stops for a while and the members discuss the matters as long as they find suitable. Except for a short brake, when they have coffee and sandwiches (that they take turns to prepare), this is what takes place during the study group's meetings.

we remained as observers. This gave us inspiration and useful experiences that we referred to during the second part of our visit that was shaped like a group interview. After some basic questions regarding the members, their forest holdings etc, we asked the members what they thought about participating in study circles in general; what kind of topics they discussed and why, what they gained from being members, and if there were things that they were not satisfied with.

The subsequent analysis of the data obtained was based on notes taken during the visit and it was guided by three questions: 1) what do the study circle members talk about and how? 2) what do the members seem to gain from being part of the network? 3) what characterises the (P2P) learning qualities offered by the network? The last question is discussed through the lens of the three dimensions that, according to Wenger (1998), are giving coherence to CoP, namely, *mutual engagement, joint enterprise and shared repertoire*.

Some findings

What they talked about and how

The discussion we observed covered a wide range of subjects. The subjects that several members of the group commented on are listed below with some explanations.

- Reductions in the services offered by the local branch of Swedish Forest Agency leading to fewer face-to-face meetings with the authorities. For instance, previously a certain forest officer of the Swedish Forest Agency used to come to visit the circle at least once a year to discuss important news in regulations and what they might imply for the forest owners. When asking the Agency for support on management matters nowadays, they were so late in coming that the matters were of no interest when they finally showed up.
- The way Swedish County Administrative Board is managing a nature reserve that was recently established at a forest holding in the neighbourhood. It appeared from the discussion that the members disliked the way the reserve is treated by the authorities and questioned it. Trees have been cut down and left to moulder which seems to cause irritation (or even anxiety) both due to messy impression it gives and due to the increased risk of distribution of bark beetle. As one man said indignantly: *In contradiction to us (forest owners) Authorities are apparently allowed to do as they wish...* Some other old “injustices” on the part of the authorities and affected farmers/forest owners were mentioned as well.
- Practicalities regarding environmental certification according to the PEFC and/or FSC schemes. The members discussed regulations regarding the minimum proportion of deciduous trees demanded in coniferous forests for being certified. The species of deciduous trees that were suitable to mix with spruce were mentioned and the reasons why and on which kind of land they should be planted were also discussed.
- Ironical (disparaging) utterances were made about the big state owned forest companies and their, according to forest owners, “bigwig” ways of raising claims. Shift in generations in general and problems they had met when releasing forest properties to the next generation.
- The extent to which their way of life in the village had changed and how forestry had changed since the time they were young. Old forest management methods as for instance the use of defoliants (Agent Orange) and clear cuttings were discussed. One of the forest owners told an anecdote about an eccentric person that was living in the village long ago. Prices, purchasers and suppliers were mentioned but these subjects did not seem to lead to any lasting conversations.

Some of these subjects were most certainly brought up because the group was inspired by our presence as observers, two persons quite ignorant about, but interested in their lives and what they were doing. However, we do believe that the members occasionally forgot that they were being observed and talked about things in the way they always did during their study circle meetings. Besides, since the book that they were reading at the time contained short stories about forests and forestry in older times, they would most certainly have been inspired to talk about the past even without us being present.

Four of the circle members dominated the discussions in the group. They were the ones who more or less spontaneously introduced new subjects and commented on each other’s statements, whereas the three others mostly agreed with what was being said either by nodding or expressing their opinion in a few words. Few direct questions were asked and all of those came from the younger man. The conversation reminded very much of any small talk taking place in a situation where

those involved are familiar both with each other and the context as such. The conversation seemed unstructured, relaxed and seemingly without any other aim than to talk about whatever came up in the minds of the group members.

Reasons for participating in the circle

When asked why they chose to participate in the study circle, the most clearly stated answers were that they joined the circle for social reasons. They said they liked seeing each other this way, and perceived the meetings as opportunities to talk about and listen to others' thoughts on things of mutual interest.

We also asked them to compare the study circle meetings with traditional advisory situations. Were there any aspects or problems connected to their forestry that they prefer to discuss within the group of study circle members rather than by contacting traditional advisory bodies or vice versa? This was perceived as a trickier question than we had imagined it to be. None of the members answered the question directly. One possible interpretation to this is that the two situations are so different from each other that the members do not spontaneously think of them as comparable. In fact the forest owners did not seem to perceive the study circle specifically as a place where you ask for or expect receiving advice or indeed learned, even though they admitted that sharing experiences about various managerial issues was one form of "advice". One forest owner added: *I do not take advices from anyone. I ask people what they think and then I make my own decisions.* Another said that the circle was a place where they felt free to discuss problems, but not to solve them.

Characteristics of P2PL qualities

The study circle that we visited can certainly be described as a community enabling its members to take part in practice that they find meaningful. The question that follows is what characterised the learning qualities offered by this CoP. Below we discuss this question with the help of the three dimensions of a CoP described by Wenger (1998).

What keeps them going – above all the *mutual engagement* of this particular CoP seems to be about fulfilling the members' desire to develop and improve social relations with people eager to share their interests, experiences, doubts, stories and memories connected to forestry. Another important reason for their engagement seems to be that the discussions taking place served as support for complicated decisions they needed to take as forest owners, which is to improve skills that they themselves considered needing improvement. This engagement binds the group members together as a social entity in all kind of matters connected to forest and forestry.

How it is designed – the *joint enterprise* of this CoP has certain characteristics in order to satisfy the engagement and interest of the members. The enterprise is carried out through certain specific routines (as for instance the way the meetings are shaped) that they have developed together and for which they seem to be mutually accountable. Though the routines might be seen as odd for an outsider, they fulfilled certain purposes for the members.

What capability has it produced - the *shared repertoire* of routines, sensibilities, vocabulary and styles that members of the CoP have developed over time seem to strengthen their roles and identities as forest owners. In this case we particularly noticed their ways of making disparaging and ironic remarks over powerful bodies that they as forest owners are dependent on and might feel subordinated to. Judging from the extent to which the study circle expressed such attitude towards

the agencies like the County Administration Board and the Swedish Forest Agency during the meeting, we could imagine that it had matured into a CoP sufficiently to see the meeting as space to breathe and a place to talk about their inconveniences with peers whom they trust.

We have presented the Swedish study circle as a specific instance of P2PL according to the emerging descriptions of the latter and in terms of the gains in knowledge sharing it is capable of producing. Furthermore, we have argued, though based on limited evidence, that study circles demonstrated the attributes of communities of practice. From the point of view of this study of mapping and planning for P2P networks to serve the forestry sector, it appears worthwhile to envision such learning platforms not simply as social networks to be exploited for knowledge sharing and learning gains but as opportunities for at least some of them to graduate into becoming active communities of practice of the study circle kind.

Discussion and further questions

The forest owners themselves never talked about the study circle in terms of learning or receiving direct advice. The primary purpose of taking part in the study circle seems to have been to fulfil other needs compared to the traditional advisory situations with more clear instrumental purposes of receiving support for certain, more or less well defined problems. Nevertheless, being part of a study circle of this kind, certainly contributes to strengthening their identities as forest owners, changing their ability to engage in and to cope with complexity in forestry matters (c.f. Wenger 1998, pp 95–96). However the learning that is taking place in this network constellation is probably difficult, if at all possible, for an outsider to control, as any such effort would be counter to the reasons for the members' overall engagement.

A further dimension to P2PL networks and such other situations of social learning which De Laat and Simons (2002) bring up from organizational and vocational learning contexts is the difference between individual learning outcomes and collective learning outcomes. Without going into the details of the classifications used by these authors, it is sufficient for our discussion to recognise that even when there is collective learning in groups, three broad types of collective learning could be recognised: learning in networks, learning in teams and learning in communities. De Laat and Simons argue that the difference between these types lie in the learning intention that the groups have. Again, how far would voluntary groups such as P2P networks be willing to organise themselves or be amenable to be organised and facilitated in terms of their learning intentions for them to grow into collectively learning communities? Swedish Study Circles appear to be a promising and time tested model of P2PL.

The findings from Sweden highlight the existence of a tradition of non-formal learning among peers through study circles and experience-sharing groups. Though these have been developed much in the context of agricultural extension and have been institutionalised in the farming sector, we have shown here specific instances of both kinds of groups having been operational among forest owners. A more comprehensive investigation might give us insights into the history and functioning of these few groups in existence and further lessons that could be drawn from them. Even then, we wonder what it might take to really get to know the less public and perhaps entirely informal networks that exist, and indeed to understand their characteristics.

This takes us back to a fundamental question with regard to our interest in this project on the subject of P2P learning among forest owners. *Are we interested in the sharing of knowledge and*

experiences that may take place in all forms of social networks that exist among forest owners, or is our concern more towards the facilitated learning spaces of the kind explicated in the work in USA where the professionals have a formal role?

The answer to this question will determine the choice of approaches to follow in gathering further information about the existence of P2P networks and mapping them more fully in the Nordic-Baltic region. If we are interested in all forms of networks, then a few secondary questions could also be raised:

- *Do we, as professionals with an interest and capacity to facilitate learning among forest owners towards improved forest management and better decisions, want to influence / enhance learning in the informal social networks as well? Is that a role we are seeking for our intervention?*
- *Can we consider the interactions among forest owners taking place in the social networks, which include conversations, cooperation in practical matters etc as recorded in the survey in Finland, as learning?*
- *What do we consider as quality in learning in such instances? Which measures or criteria would we assign to exchanges among forest owning peers to call them as learning? Is it important to assign such qualities for the learning outcomes, individual and collective?*
- *Do we recognise that among forest owners there would be a section that are not particularly interested in their forests and consequently not motivated towards learning for betterment? What can P2P offer to such people?*

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Increasing role of informal learning of private forest owners in Latvia

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Abstract

The role of forest sector and non-industrial private forest owners (PFOs) as providers of forest resources is increasing day by day. In 2010 approximately 41% of forest land was under the management of 145,000 forest owners. Changing ownership structure, frequent alterations in legislation and market, and programs of EU should increase the request of PFOs for information and new knowledge. After the declaration of independence in Latvia in 1991 the forest properties were given back to their previous owners or their inheritors. Extension system was established in 2000 under the State Forest Service (SFS). Development of extension system was very fast and considerable achievements were made. First steps to promote peer- to-peer learning (P2PL) among forest owners were also taken by the SFS. Consultancy Service Centre (CSC) was established to provide services and extension to PFOs in 2006. However, in total quantity of different extension activities has decreased. In last 5 years the number of forest specialists involved in extension activities has decreased considerably, and today PFOs have to find advisers also outside the forest organizations. It can be stated that the role of other forest owners as advisers is increasing. Government has to find ways to increase the level of forest related activities of forest owners and to support informal learning of PFOs to ensure appropriate forest management and sustainable principles in the private forest sector. To clarify the situation on informal education telephone interviews with PFOs were conducted in 2010.

Keywords: extension, opinion poll, informal learning, sources of information

Extension system in Latvia

Soon after Latvia declared its independence from USSR in 1991 forest properties were given back to previous owners or their inheritors. Today the forest coverage in Latvia exceeds 50%, and 145,000 private forest owners (PFOs) manage some 41% of total forest area. The size of average forest property doesn't exceed 8 ha. Nearly 75% of PFOs live close by their forest property. For the first time extension system under the SFS was established in 2000. There were 26 head forestry units and 197 local forestry departments. Around 400 workers and 831 forest rangers involved in extension activities by the forestry departments. The training of foresters was an important task of the SFS and more than 700 seminars were organized to increase the communication and other skills necessary for extension in 2001.

In first five years the extension system had developed very fast and on a wide-scale with multi-faceted activities. The number of published informative and educative articles in the regional and local mass media had exceeded thousand units in 2004. Notable amount of various leaflets, informative pages, factsheets and brochures were published or printed in the first years of operating. Forest newspaper “Čiekurs” (Cone) has been issued quarterly from 2004. Regional foresters were also active in cooperation with TV and radio.

The SFS organized up to 1,000 seminars with 14,400 participants in the first 2 years of duration of extension system. Later the number of seminars went beyond 350 with 4,000 visitors yearly. To promote the best forest management practices a special competition was arranged in 2001 for the first time and after 2 years there were more than 500 forest owners who reported correspondence to the criteria defined by the jury. Groundwork was done to establish demonstration plots at owners' properties as well as cooperation in organizing seminars. A peak in the activity level in providing advice was reached in 2005. The number of provided consultations reached 94,700 cases, of which 53,200 were provided in owners' properties.

The extension activities started to decrease rapidly in 2006 with the optimization of the functions of the SFS. The number of head forestry units and local forestry departments as well as forest staff were reduced. New structural unit the Consultancy Service Centre (CSC) was established under the SFS and the majority of extension functions were transferred to the newly established organization. The CSC offers also various chargeable services in forest management, except forest harvesting and timber selling activities, which were previously demanded by PFOs. One year after the optimisation SFS reported 2,207 consultations and CSC 1,752. CSC came up with 245 charged consultations in 2007 and 494 in 2008. About 2,000 service inquiries were made by PFOs to CSC in 2007, a year later this number had reduced by 25%. In 2007 both institutions organized only about 40 seminars each, but a year later the number of seminars reached 120. The increased interest of PFO caused the availability to EU funds. CSC reported 109 articles in 2008. Today SFS consists of 10 head forestry units and 77 local forestry offices. The Forest Consultancy Service Centre (FCSC) continues the functions of the previous CSC as affiliate of the Latvian Rural Advisory and Training Centre since March, 2010.

Methods of the research

The objective of the research was to elaborate opinions of different target groups regarding extension on informal or peer-to-peer learning (P2PL). Three divergent groups were chosen for interviews: decision makers and top-level officials; foresters who do practice more with extension and active forest owners who advice other owners. Four to five people were selected for interviews from each group. Discussions consisted mainly of open questions and they differed from group to group. The first question concerned sources of information – where do private forest owner usually receive information on forest management issues. Positive and negative aspects of peer-to-peer and informal learning were analyzed and possible progression of this subject was discussed.

In the group of top level officials four different organizations were represented: SFS, FCSC, Pa-saules dabas Fonds (PDF; previous World Wide Fund) and the Society of Forest Owners. Foresters represented two organizations – SFS and FCSC. Two of the active forest owners had some background in forestry, but two of them had learned forestry by doing. One of the active owners cooperates with PDF in organising seminars.

Telephone interviews were the most effective way to obtain information from active private forest owners who were identified by SFS as collaboration partners in 2003. Totally 164 active forest owners, who managed their properties in a sustainable way, accepted proposal of SFS to use their property as a seminar venue and to share their knowledge and experiences with other owners. Random selection of PFOs in this group was done and 16 of them were interviewed. The data of previous opinion polls of PFOs were analysed to evaluate the role of different information sources.

A specific focus was to describe the group of owners who had conducted as advisers or consultants on forest related issues.

Results

Opinions of top-level officials

The initial source of information for PFOs was printed or written materials such as newspapers, multiform literature and the internet. Two experts noted that printed literature is mostly for owners with experience or owners with bigger properties than those with small ones. The role of printed literature in informal learning could increase, but someone has to lead this activity by providing proper quality of information. All experts agreed that the role of forest specialists has decreased in the last years. It has been influenced noticeably by the reduction of number of forest staff and forestry offices in SFS. As a result forest specialists became more inaccessible and the role of local authorities started to increase. However foresters today are incontestable advisers on issues related laws and regulations. It was also mentioned that in order to maintain their necessity, local foresters do not only have to be good specialists, but also authorities.

Opinions on informal learning were more multiform and diverse among experts. They all agreed that P2PL exists in the countryside more than in towns and cities. All experts pointed that the average level of knowledge of PFOs has increased considerably. Most of experts couldn't estimate the number of presumptive proportions of owners somehow involved in P2PL. The opinion being "not so many". Only one of the experts (with longer experience in extension work and being owner herself and living in countryside) expressed that the percentage of PFOs involved in the informal learning differed from 20 to 50%. The proportion depended on the activity level of local authorities and associations or societies of PFOs in region.

All experts agreed that role of associations is very important in informal learning and it was necessary to promote any form of cooperation of PFOs. It would improve the quality of information and create an environment where owners could meet each other. Two of the experts mentioned that forest owners were the target group to develop education of PFOs, since they were authorities or leaders of formal or informal societies. The input would be cost-effective and information and knowledge would be spread.

Several experts mentioned the dual role of some P2PL activists, who were local authorities with good knowledge and at the same time were involved in forest business offering services to PFOs. On one hand the support in organizing extension would increase the level of knowledge of neighbouring PFOs in general, and on the other hand it would also support their business. Today the number of seminars for PFOs has decreased to minimum and the number of meetings of PFOs where experience can be exchanged has reduced. Organisations interested in promoting extension actively search for appropriate cooperation with PFO partners, who possess initiative, experience and willingness to organise and promote peer-to-peer extension.

Opinions of active forest owners involved in informal learning

Although active PFOs had varying backgrounds in forestry, skills and experience in forestry and their opinions on informal learning was very similar. All of them mentioned printed materials as the primary source of information. The internet was considered to be equally good, but only for

owners among 45 to 50 years. Forest specialists were important advisers for legislative issues, but in general their knowledge and skills in practical forestry was considered incomplete. An exception was made, if they were active forest owners by themselves.

All respondents in this group expressed the opinion that seminars were important not only for education purposes, but also as a meeting place. Unfortunately in most cases target group of the seminars organized by SFS and FCSC were PFOs without any knowledge and with trivial skills. This was one of the reasons why active owners lost interest in attending ordinary seminars and at the same time losing the possibility to meet peers. Another reason for the lack of interest were demonstration plots where “how to do something” or “how something was done” in a correct way were presented whereas stands enabling discussion of best practices, analyses of mistakes and problems were missing.

All respondents in this group also agreed on the fact that their first choice for asking advice was their friends, colleagues or other persons they knew as authorities for a specific question. The number of such contacts depends on activity level of each owner. Respondents were considered as authorities to their acquaintances and sometimes were asked for advice or consultation. In this case three to eight consultations per year to other owners were provided.

Active PFO who had no forest education and had never worked for forest related organisations were more active in information seeking and obtaining knowledge, especially if they were interested in non-traditional forest management such as selective cutting. The most effective way to obtain information was to visit and discuss with other PFO who also had the same aspiration. Additionally most of the active PFOs were willing to pay for seminars or cover travel expenses themselves if seminar would be organised on the level of their knowledge. Meetings of such kind could be a place where to exchange information and obtain knowledge from owners who are actually managing their forest.

One of the respondents is still active in organising seminars at his property in cooperation with PDF. Virtually most part of organising activities is done by PDF, and the owner allows visits at his property, tells about his activities in forest and discusses with visitors. He was also a member in one of the forest owners clubs several years ago. In the beginning the club organised meetings regularly, but gradually the number of participants and also the frequency of meetings decreased. There was no practical need for meetings and discussions among club members and it was the reason why the club was closed down. Two of the respondents mentioned that in future local forest owner associations would be a good place to promote peer-to-peer or informal learning. Several respondents also mentioned that in general PFO wanted to operate within 10 to 20 km of the residence. The most important aspect for active owners was finding authorities and distance wasn't a limiting factor for them.

Telephone interviews

25 PFOs which had been identified as potential partners of the SFS for extension activities in 2003 were reached by phone. A striking fact was that every fifth owner didn't remember his/her previous commitments or weren't actually interested in any forest related activity. 16 PFOs had accepted taking part in a discussion. The average forest property in this group was 52 ha, but the size of individual forest holdings varied from 2.2 to 205 ha.

Printed information and materials inter alia mass media was mentioned as the most important source of information. Quite often also the internet was mentioned. If there was a need for information on normative acts usually a forester were contacted. Only a few respondents had pointed out to seldom advising other owners. This usually occurred only when foresters were located far away or weren't available. In most cases persons who asked for advice had been having problems and foresters couldn't help then. An argument for this was the fact that foresters in most cases were state officials and protected state interests, whereas PFOs needed somebody interested in their problem solving.

Also obtaining information from other owners was not very popular by respondents. Several of them mentioned the exchange of information in an informal environment (e.g. hunting club). In those cases it was information about practices and businesses. A qualitative analyses of information showed that 7 from 16 respondents had had education in forestry; they had worked for forest organizations or had provided services to PFOs. It was found that usually in such situations advice was asked from "existing or previous colleagues, classmates or business partners" not from other owners even if they also were PFOs. Every third respondent mentioned that existing information flow on forestry issues was good in general and there was no need to improve anything. Most of the respondents had noted that seminars were an advisable way for improving knowledge and exchange of information with other owners. Criticism was given on the quality of seminars – most of them were for beginners, not for owners with previous experience. Two respondents were still active in organizing seminars at their property and only a few respondents were ready to participate in them, but only if no money and time input was necessary and the topic was interesting. Most of the respondents accepted to use their property for seminar purposes, but they had no motivation to organise seminars themselves.

Results of previous opinion polls of PFOs

Three opinion polls were designed and realized by author in 2001, 2003 and 2008 to obtain also information about the knowledge of PFOs and about the sources of information. The proportion of PFOs without knowledge and practice in forestry had increased from 24% in 2001 to 66% in 2008. At the same time the proportion of PFOs with forest related education slightly increased and reached 12% in 2008. In 2003 less than 8% of PFOs didn't plan forest activities in the nearest future, but in 5 year period this indicator had reached 55%. Correspondently the demand for information had also decreased from 51% in 2001 to 44% in 2008. PFOs with some knowledge were more interested to get extra knowledge than in the ones without proficiency. The small size of holdings was the reason for half of the respondents not to be interested in further education in 2001. Two years later the dominating factor in group of un-interested owners was the age. In 2008 about 14% of respondents who disclaimed a need for further education answered that they had enough knowledge.

The sources of information had changed a lot, for example the proportion of mass media decreased from 72% in 2001 to 19% in 2008. Also the demand for seminars in the research period increased considerably. The role of forest specialists kept a leading position in information flow for all years. In 2001 up to 17% of PFOs mentioned that they obtained information from friends, neighbours, relatives or other persons outside group of forest specialists (henceforth –acquaintanceship). In later opinion polls the role of acquaintanceship slightly decreased to 14%. PFOs were asked also about desirable sources for information in future. In 2001 3% mentioned acquaintanceship as information source, but in 2008 the percentage was 0. A few changes were discovered among the groups of PFOs who had used or would like to use acquaintanceship as advisers. For example, in

2001 respondents who had been advised by acquaintanceship had a slightly higher forest activity level and they were more interested in obtaining new knowledge than on average. PFOs with smaller properties (in average 3 ha) and without wish to increase knowledge would like to get information from acquaintanceship.

The opinion poll in 2003 showed that acquaintanceship as source of information was rarely mentioned by PFOs who had forest related education. PFOs with some knowledge used acquaintanceship as source for information than ones without knowledge. However, these PFOs used several channels for information. Acquaintanceship was used by PFOs with higher economic motivation. The situation changed in 2008. More active use of acquaintanceship as the information source was in the group of small forest properties (in average 4.2 ha) dominated. Every fifth respondent mentioned them. In comparison only 8% of the respondents remarked the acquaintanceship as advisers in the region where average forest property exceeded 9 ha. Respondents who mentioned acquaintanceship as the informative source were less active and less interested in obtaining information on forest issues, but had more contacts with forest specialists than on average.

Discussion

Within the framework of the research three forest rangers and two service providers for PFO were interviewed. Their opinion on informal learning as well as evaluation of current situation regarding extension differed great deal. For example the knowledge of PFOs was either underestimated ('only few PFOs could do something themselves without the help of specialists') or overrated ('only some PFOs needed advise, while most owners were clever enough to make decisions by themselves'). The situation was the same with informal learning – it didn't exist and it wasn't serious or the base for ongoing activities in the private sector. However, it was noticed that there were only 5 basic factors influencing on different viewpoints: status of respondent (forest owner or not); residence place (farm or town) and availability; status of authority; age and education; challenge to work in extension and communication skills. Sometimes it was very hard for this interviewee group to take a reasonable role in the communication with forest owners. Some of them considered themselves first as forest owners and then like specialists, and some of them considered just the other way round. It was difficult to distinguish the border between neighbour, relative and forest specialist. If the forest ranger was a local authority, had good communication skills and was open-minded how he would be viewed by PFOs in interviews – as a friend, a neighbour or a specialist?

More detailed studies and analyses of current extension system are necessary to summarize the opinions of the foresters directly working with extension questions. Interviews with 5 representatives of this group can be considered as pilot attempt. Results are very subjective and can't be presented as opinions of this group. The research shows that the number of forest specialists, consultations as well as other educational activities have decreased while the proportion of PFOs without knowledge and skills on forestry issues have increased. On the one hand harvesting activities in private forest sector have reduced in the last 3 years by 3 times, which does not result in the same decrease of other activities. PFOs have to find other sources for information outside institutions providing services and that there is a network of owners.

The fact that the decline in demand by PFOs for different services is affected by the price is indisputable. Hard economic conditions and crisis are not only reasons for that. For several years the extension services in SFS have been free of charge, and a change in this system evokes negative emotions by PFOs. Several specialists have moved from SFS to FCSC, which was another

notable change: most owners had had their own trusted authority and they continued to visit the same authority apart from organisation. The third step was the closing of several forestry offices in rural areas and the increased distance to specialists. Changes in system induced uncertainty, mistrust and decreased loyalty of PFOs. At the same time foresters who lost jobs started to offer their services in market as self-employed persons. In most cases prices for such services are smaller than in FCSC.

It was found that part of informal learning was a result from self-evident activities that nobody marked as learning or education in the first moment. Several interesting facts were discovered in the interviews. For example, one respondent declared that he never looked for information and there was no need for extra knowledge. If he had some problems or had to solve management issues he would phone his neighbour (a forester) or to some relative who always found some suitable person to help for organising management activities. There is a network for informal learning and exchange of information, but such network has not been previously recognized and assessed. The research shows that there is a comparatively good communication network among PFOs sharing similar level of knowledge or social status. Problems regarding informal learning can rise when the exchange of any information doesn't reach beyond the established network or the flow of information is very slow. The research demonstrates that the opinion on informal learning and sources of information differ not only among foresters and PFOs, but also among different groups of forest specialists and PFOs.

Today it is difficult for an "average active" PFO to find something suitable for their further education. Usually seminars are organised for beginners or high level specialists, and promoting or supporting activities of PFOs above average level. Some solutions were proposed by both – top level managers and active PFOs. First, forest organisations have to promote the best practices of PFOs and create some kind of virtual network where PFOs can find their like-minded fellows, exchange contacts, get specialist comments etc. Both groups thought that the first initiative should come from forest extension organisations or specialists. Secondly, the growing role of cooperation of PFOs was mentioned. Local associations could become like a place for local authorities, owner and forest specialists to meet. It is necessary to continue the research and to find the best tools to develop P2PL in forestry. Workgroups of top level officials and decision makers, forest extension staff and active PFOs are one possible presumable solution. Furthermore existing network of information exchange of PFOs should be studied in more detail.

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Abstracts

Peer-to-peer learning – from an old “art of practice” to a new mode of Nordic-Baltic forest owner extension?

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Peer-to-Peer learning (P2PL) has recently been among the most widely used approaches in several fields of adult education, including agro-environmental extension. Forest-related landowners’ peer-to-peer (P2P) projects have been reported mainly from the US, but not in Europe. It is due time for Europeans to scan the state-of-art and opportunities of P2PL within forestry extension on their side of the Atlantic Ocean.

The aim of this presentation is to consider the P2PL concept from the view of Nordic forest owner extension. The presentation is a synthesis about the literature review; surveys, focus-group interviews and workshops conducted in Finland, Sweden, Denmark and Latvia along the project “Mapping the Peer-to-Peer Model for Enhancing Adult Learning among Land Owners” in 2009–2011.

In the presentation, the forest-related P2PL concept will be outlined for the Nordic forest extension purposes, starting from the definition used in the US. Thereby the US definition and experiences are benchmarked and the essential learnings are transferred into the European context.

Using this concept a short comparative introduction on the present forest owner extension practices in Sweden, Finland, Denmark and Latvia will be given. Despite the P2PL is not a consistently used concept among Nordic forest extensionists, several comparable practices still occur. According to the interviews forest owners are keen on learning from the experiences of their peers. This has been widely used in campaigns e.g. by introducing exemplary owners or woodlots in newsletters and field trips. Still those extension means are professionally led and thus not P2PL by definition. Furthermore, forest owners exchange experiences by their own initiative always when they meet each other, physically or more and more often in social media. In the presentation we will outline the present situation on that art of practice, also by giving some illustrative examples from the field.

Both forestry professionals and forest owners consider that the importance of informal P2PL will increase. This is mainly seen as positive direction, evoking activity and providing meaningful information from trusted sources, but especially forest professionals emphasize also the negative indications because of the varying quality of delivered information. In the presentation we will report the probable surpluses and challenges the forestry-related P2P projects will face.

According to the results from the four Nordic-Baltic case countries, almost all actors in the private forestry sector see P2PL model as a promising new means in forest owner extension. We will end the presentation by examples on how the P2P processes can consistently be contributed in the Nordic countries.

Keywords: Peer-to-peer learning, forest owners, North Europe

Forest planning over distance – two experiments to construct a feasibility outline

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The use of internet based tools for the development and comparison of forest plans is steadily increasing. The internet can be an ideal platform for timely communication about forestry issues and the promotion of participatory or collaborative planning when distances prevent face to face discussion. Internet-based advisory services may be particularly appealing for family forest holdings with multiple distant owners, e.g. group of heirs representing different households.

The focus of the Internet tools aimed at assisting owners' learning and decision-making should be to enhance the planning service process, while minimizing the costs and promoting a more in-depth understanding of owners' holding and its opportunities. The tools used in the promotion of forest planning over distance should be easy-to-use and flexible enough to incorporate multiple users.

This presentation analyses and incorporates the feedback of two separate studies that used the internet based decision support tool MESTA. The first study involved a jointly held family forest holding, where most of the owners lived away from the holding (Eyvindson et al. 2011a). The goal was to test the feasibility of MESTA where only a remote contact was given with regard to the operation of the tool. The primary results of the study were that the forest owners appreciated the tool, and considered it beneficial to learn about the alternative forest plans and their associated tradeoffs. The second study focused on the actual selection of the alternative forest plans, and compared how the selection changed with a change in only a brief description of the plan (Eyvindson et al. 2011b). An interesting result from this study was that while those individuals who have not experienced how forest planning was done in the past preferred using MESTA as opposed to a selection from the written description of the forest plan.

Both of these experiments show the potential of MESTA and related forest plan comparison tools as decision support facilities. MESTA was able to serve as a method to illustrate the differences between alternative plans and as a participatory planning tool, thus evoking communication about the holding among the owners and with the forestry advisor. As a participatory planning tool, it can describe those regions where a compromise is required and where an agreement exists between participants. The primary shortcoming of this tool is the initial learning curve behind its operation, but this is primarily due to the frustration exhibited when the user realizes the compromises required for a feasible forest plan. Developing internet-based tools to support family forest owners' peer-to-peer learning and collegial decision-making is a feasible idea but it will require more usability studies and to re-educate advisors.

Keywords: forest management planning, multi-criteria decision-making, tradeoffs

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Developing forest planning and extension: Developmental Work Research

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Developmental work research (DWR) is a methodology based on Activity Theory. In this research developmental sessions were conducted with professional planners in one Regional Forestry Centre. The aim was to find out new models for planning work and related extension. The starting point was the updated data on which new service products for forest owners could be constructed. There were 10 sessions aiming at an expansive transformation of planning practice. The present way of regional forest inventory has a long tradition with established practices since 1970s. It appears as a safe working environment with routines and a kind of freedom but also as a physically and mentally demanding working model.

It seems that the present way of planning does not motivate planners any more. The planners find that there are too many land owners outside the planning system. Growing amount of forest-owners and their alienation from forest mean demands for planners. The planners do not have ability or means to reach them. The change of land owners is perceived but in the present system it seems to be impossible to activate them.

There were lot of ideas to develop planning related services and extension: modifying the contents of the plan or diversifying services connected to plan. A big question was whether a plan should be free for all the forest owners. The need for diversified services for smallholdings and for owners living apart from their forest holding was recognized. An idea of repeated contacts with the forest owner was strengthened. It might be a part of new services. Extended co-operation with forestry community is called for to create new services and activate owners. In practice it was not easy to make changes or even experiment, which was an essential part of the methodology.

As a conclusion, the extension roles of a planner should be strengthened. There could be two sub-roles. A mediator mainly informs the owner about forest and its opportunities while being sensitive to the owner's needs. An activator, in turn, assists the suggested operations to become realized in the forest. This role would primarily concentrate on the instant consequences of forestry operations.

Keywords: Activity Theory, forest planning, advisory

Finnish family forest owners' topics of interest and types of participation on online discussion boards

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Internet provides multiple of opportunities for ordinary people to seek technical advice for various everyday problems, including consumer's choices concerning products and service providers. Learning from a practical experience by someone with whom you can identify yourself supersedes official sugarcoated marketing arguments. But what are the most common topics in land owners' online discussions and how are their discourses typically constructed?

To answer the above questions two most popular Finnish open web discussion forums for forest matters were assessed. The Metsälehti discussion board (<http://www.metsalehti.fi/fi-FI/forum/ryhma.aspx>) contains more experienced participants while the branch of Suomi24 discussion board for forest management (<http://keskustelu.suomi24.fi/debate/4389>) has attracted a wider group of participants. A publishing house specializing in forestry maintains the former, and the latter is a tiny fraction of Finland's largest web community, a service offered by a big general publishing house. From both forums, top 20 discussion topics according to the number of posts were taken into a closer analysis. Topics participated evidently by forest owners were analyzed; others (e.g. students or foresters without an outspoken parallel role as a forest owner) were filtered out. From the final dataset, topics and observed discourse structures were grouped.

Land owners' most popular discussions at Metsälehti forum (total of 231–768 posts per topic between June 2007 and January 2011) related to the profitability of forest management, especially continuous cover forestry; service quality of forest management associations, management of moose population, ethics of hunting, groupies' live meeting, and domestic firewood technology. Only the latter comprised explicit sharing of experiences; often participants' personal experiences only supported the main arguments. Popular and expert articles were rather often linked, and some active researchers even took part in the debates. In turn, the most popular forest-ownership-related topics at Suomi24 online forum (total of 20–59 posts per topic between January 2006 and January 2011) were how to conduct timber sales, profitability of self-active loggings, price and device for tree planting, access management of forest roads, price of timber and forest land, and growing exotic tree species. Variety of topics was wide, and discussion often involved simply practical questions and satisfactory answers.

The above analysis of two main Finnish online forums for forestry matters failed to recognize strong signs of a virtual community formed around the forest owner identity. This may be due to a strong topic orientation and technical and psychological limitations of the simple message board structure. However, weak signals of a potential rise of such communities were observed. With a careful launching, an owner community resembling the famous PatientsLikeMe could arise. Following its MIT-based role model at the health care sector, the 'OwnersLikeMe' community could contain (1) targeted questions to others with relevant experience, (2) advice and recommendations, and (3) forming and solidifying relationships based on similarity.

Keywords: debate, experiences, social support, social web, testimonials

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Start up support to forest producers' organization in Amhara Region, Ethiopia

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The Smallholder Forest Producer Associations Development Fund (2009–2013) is part of AgriCord's interventions to strengthen farmers' organisations in developing countries. It is being implemented in 5–7 countries with as Ethiopia one of the implementation sites. Based on feasibility study and a planning mission which were carried out, a one-year pilot project will be implemented in the Amhara region. The policy environment, institutional and regulatory framework is favourable for promotion of small-scale farmers practising forestry. The situation analysis revealed two main challenges facing small scale forestry. These are inadequate knowledge and information among small scale farmers on issues related to commercial aspects of forestry and weak farmers' organization to support and promote small scale commercial private forestry.

Forest producers' organisation's well functioning service delivery contributing to sustainable forestry, restoring the environment and improving the lives of small scale farmers is the overall objective of the project. The purpose of the project is to work out the framework for increased financial returns from forest management and utilization to small scale farmers improved through increased capacity for service delivery among union and cooperatives as well as mechanisms for involvement in pole marketing. The project strategy is to focus on both building capacity among forest producer organisations for efficient management and service delivery as well as developing mechanisms that will deliver concrete financial benefits to cooperative members/forest producers in the pilot areas.

Zenbaba Union is the Ethiopian Host Organisation and Kyyjärvi Forest Owners' Association serves as the twinning partner in Finland. The project is implemented in three pilot areas and involves three cooperatives. Local institutions are providing needed extension, management and auditing services. The market information system as well as the intervention mechanisms will be developed through a participatory process involving the union, cooperatives and their forestry practising members. Awareness raising and various meetings to facilitate information exchange and dialogue will comprise part of the development process.

The aim of the project is to create sustainable market oriented extension organisation, which is driven by forest producers and assisted by local authorities. Silvicultural practices will be improved and palette of forest products increased. Markets of carbon offsets could be one resource of income for small scale forest producers in future. By management planning and inventories readiness for that business will be improved. Peer-to-peer learning will be used to improve extension work and to spread activities to other cooperatives.

Keywords: market intervention, twinning partner, small scale forest producer, pole markets

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Changing forest owners: A challenge to forestry extension in Finland

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The Finnish economy is dependent on non-industrial private forests which cover some 60% of the total forest area. Family forests provide with, in addition to around 80% of the round wood used by export-oriented forest industries, also various ecosystem services. The main changes occurred in the structure of forest ownership during the last two decades have been a decline in the number of full-time farmers, forest owners moving house to outside the forest holding connected to migration to urban areas, and an ageing of the population of forest owners. Polarization has also taken place in the size distribution of forest holdings, the dominant development being parcellization. For instance, the proportion of full-time farmers was 16% in 2009 compared to 31% in 1990. The mean age of owners has grown from 54 to 60 years during the same period. Absenteeism has also increased clearly: only 42% of the owners resided permanently on the holding in 2009 compared to the corresponding 59% twenty years earlier.

The trends in forest ownership, urbanization and absenteeism in particular, create a challenge to forestry extension. Outreach, information channels and resource allocation should be reconsidered. However, according to previous study results, forestry extension and public cost-sharing have had positive effects on forest management behaviour on the holdings.

This study gives an outlook on the structural changes which have taken place in the Finnish family forestry during the last two decades. In addition to forest owners' demographics and holding characteristics, owners' attendance at forestry extension and their preferences concerning information channels are concerned. Especially, the user profile of internet is presented, on which conclusions are drawn concerning peer-to-peer learning. The study data was collected by a nation-wide mail inquiry in 2009 comprising the responses of 6318 forest owners.

Keywords: family forest owners, forestry extension, information channels, non-industrial private forestry, structural changes

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Improving forest governance through collaborative planning approaches in Community Forestry Management: A reflection on Nepal's experiences

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Nepal is becoming a world leader in the promotion of the community-based forest management approach known as “community forestry”, with the aim of managing forests for the mitigation of environmental degradation and furtherance of poverty reduction. In practice, the approach empowers local communities and is an important vehicle for social transformation and experimentation with participatory systems of forest governance. This paper is based on the findings of a case study with the Gyneshwar Community Forest User Group (CFUG). In order to enhance equity, sustainability and livelihoods participatory planning processes were implemented through the identification, development and critical analysis of institutional arrangements. This contribution highlights (i) the principle issues of the collaborative planning process and (ii) how power relations are balanced in forest user group committees. It describes how negotiation activities among stakeholders are implemented as a participatory action and learning process, including the concepts of awareness building, workshops, trainings, face-to-face meetings, public hearings, public auditing, exposure tours, exchange visits, pro-poor policy and budget analysis. It will be demonstrated how the collaborative planning process supported the formulation of pro-poor policies in preparing the constitutional and operational plan of the CFUG. Examples will be given how provisions are used for enhancing the livelihoods of rural people through the allocation of funds for social security programs and community infrastructure development, targeting on the poor, women and adult communities in particular.

The results indicate that forest users groups have still made limited efforts to claim their rights and strengthen the responsibilities for improving governance due to the weak performance of institutions and a low-level of policy awareness. The community forestry groups tend to have no proper institutional structure, as well as no proportional representation of poor and disadvantaged households (and women) in decision making forums. The elite dominate the decision making process and funds are to less allocated for women and the poor. There are lacks in the trustworthiness of the executive committee and community leaders to really influence the governance system and improve the development activities. In this context, both time and effort are required for the modification of the collaborative planning process (as well as its outcomes) for an increased transparency in decision making as well as for the facilitation of a positive discrimination of the poor and marginalized in benefit-sharing. This paper concludes that the improvement of community governance depends on the relationship amongst stakeholders, the awareness level of forest user groups, the commitment and quality of leadership and proper institutional arrangements. Only a conducive environment will help to overcome the problems of poor Nepalese community forestry governance.

Keywords: Devolution, governance system, transparency, collaborative planning, decision-making process, community forestry, Nepal

Finnish family forest owners' forest planning services and the role of personal guidance

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In the recorded development path of forest management planning for family forest holdings in Finland, adult-educational objectives and owner-specific advisory means have had a gradually increasing role. To date, however, forest-planning-related personal guidance has mainly concentrated on communicating to the owner expert's advice concerning the enhancement of wood production on the holding. This expert-dominating approach is now giving room for extension activities where owners' own aims, wishes and concerns are given more attention. It is evident that the designing of appealing advisory and decision support services for owners' typical decision situations should be supported by research that is free from the biasing effect of traditional institutional settings.

In a recent survey study, we clarified the forest planning service needs of 1,244 Finnish family forest owners. The results showed that most commonly owners' forest-related considerations are targeted to the forthcoming year and to the whole forest holding. The TOP3 topics of these considerations were: (i) what in general could be done in my forest; (ii) what is the correct order of suggested forestry operations; and (iii) is now a good time for timber sales. The preferred style for decision support was an open discussion with a forestry professional. One evident development need was that owners need more detailed services that support operational planning and the implementation of concrete activities in their forests.

The demand of forest planning services is not only determined by the match with owners' actual decision support needs but also by the price and availability of such services. Since Finnish forest planning has traditionally been subsidised and thus have been relatively cheap for the owners, selling market-driven services is a great challenge. Costs of actual forest planning services are composed of the demanded amount of field work, the calculations that are included in output and the amount of personal interaction with the owner. The same decision support need can be served by different combinations of these three components, and, the resulting cost of the service can vary a lot. In our owner survey, we recognized seven new forest planning service concepts. In this presentation, we extend the analysis so that we analyze the quality and quantity of the above components in these service concepts and give special attention to the personal guidance that these concepts could include. The analysis will address the key occasions for personal communication during the planning process, including important owner inputs and opportunities to cut costs by replacing face-to-face meetings with online contacts.

Keywords: advisory services, decision support, forest management planning

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Conceptual model for mapping service innovations: case of forestry services in Finland

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The whole forestry service market in Finland is undergoing a major change based on changing the public financing base of service offerings, which also provides opportunities for emerging new businesses. Few earlier studies for Finland have more extensively focused on customer expectations on perceived service quality, the changes in forest ownership structure and the related management preferences. It is nevertheless doubtful whether the existing forestry services in the markets really are meeting the changing needs of forest owners and are offering such benefits that the future owners are willing to pay for. Furthermore, most previous studies are concentrated on small separate issues and segments while a general view of the service markets – including property administration services – is not available. Thus, there is lacking research in the field of forestry service markets from the viewpoint of mapping service innovations, and in understanding the critical success factors in terms of developing new forestry service offerings.

In this study the service offering and the organizations are studied comprehensively from the viewpoint of customer value by applying a conceptual model of consumer pre-purchase decision taxonomy. Empirically, the current forestry services and profiles of service providers are examined in order to create a general overview to be used as a base for predicting the expected changes. Qualitative research and method of content analysis are used in examining service marketing materials with the main source being the internet pages of the services organizations. 13 themed interviews of professional service organizations and experts in the field have been used to deepening the view.

According to our results, for the Finnish private forest owners, four general types of services are available in the market: forest operations and management services, wood trading related services, property administration and information services. Service supplier organizations differ substantially from each other in terms of size and their institutional background: some of the service organisations are clearly more market oriented private firms while others are publicly financed and their existence is based on the law. In the changing market environment, it is crucial in the future to focus on creating new service offerings that really attract the current and future forest owners. Based on conceptual model, it is also possible to find some services, which are more critical for the customer value creation.

Keywords: Forestry service, wood trade, administration of property, information services

A briefing on four forestry-related peer-to-peer networks in West Virginia, USA

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Peer-to-peer (P2P) networks are important to timber and nontimber forest products producers in West Virginia, USA. Each of these networks has a unique character and play a range of roles related to the theme of the network. Perhaps the oldest P2P network in the state is the West Virginia Christmas Tree Growers Association (WVCTGA). First forming in the late 1940's, the WVCTGA still has one living founding father and combined has hundreds of years of tree growing experience among the members; new growers benefit from the willingness of the existing members to share their Christmas tree growing experiences. While not as long-running as the WVCTGA, the WV Ginseng Growers Association is a fairly low key organization that commonly has just one meeting per year to discuss current business and cultivation concerns. In 2002 when the USDI Fish and Wildlife Service unilaterally put new regulations restricting ginseng (*Panax quinquefolius*) harvesting, the group sprang to life and put up resistance to those regulations that they felt were unwarranted and not proven.

The longevity of an organization is a testimony to the value derived by its members. However, within the past decade or so, these networks have undergone rather drastic changes in organizational structures and membership. Aging membership, access to land by new, passionate producers, and lack of general awareness of the benefits associated with growing timber and nontimber products are some hypothesized reasons for the decreasing numbers of christmas tree growers, tree farmers, and ginseng growers. This presentation will give a brief description of four of these organizations, the WVCTGA, the WV Ginseng Growers Association, the American Tree Farm, and WV Woodland Owners Association. We will discuss the P2P nature of these organizations and some of the temporal changes, challenges and successes they have experienced and continue to undergo.

Keywords: peer-to-peer network, woodland owner association, ginseng, nontimber forest products, regulations

Peer-to-peer learning and transformation in natural resources management and sustainable livelihood: Results and impacts from shared learning workshops series in Indonesia

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Between 2003 and 2010, CIFOR with an NGO partner PILI organized a series of workshops known as 'shared learning' workshops. Originally intended as a multistakeholder forum to support possible collaborative management schemes of forests, it grew into a workshop where mainly forest owners shared experiences and lessons with government agencies, NGOs and the occasional forest based company acting as resource persons.

Legally the forest in Indonesia belongs to the state; de facto local people perceive themselves as owners of the forests and act accordingly. Over the past 10 years some attempts to reform forest tenure has resulted in some rights in some places being devolved to local communities, i.e. mainly short term management rights. More recently the government has approved a scheme whereby villages can have management rights over longer periods. Increasingly, the government is looking to local communities to support protected area management.

In this context, shared learning became important. Peer-to-peer learning resulted in people becoming more confident in their efforts to manage forest; new techniques and technology were disseminated, marketing issues discussed and a network of forest owners developed. This last was greatly aided with the increased use of mobile telephones.

This paper is an attempt to evaluate the results and impacts of the shared learning workshops. It is based on a tracer survey of alumni assessing results in the sense of using the learning obtained, impact, and networking among the SL alumni. It is expected that the results will confirm the anecdotal evidence of continuous networking; new initiatives started and improved collaboration. While set in a tropical country among forest dwelling communities, lessons learned might also apply to the growing urban forest owners in Indonesia as well as elsewhere.

Keywords: peer-to-peer learning, forest management, collaborative management

Motivational factors influencing the development of sustainable forest management practices among small woodlot owners in Nova Scotia: A case study

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Purpose of the study is to identify motivational factors influencing the development of sustainable forest management practices among small woodlot owners in rural Nova Scotia. The research examines experiences of small woodland owners leading to a commitment to ecological values and sustainable management of forestry resources. According to Lange (2010) the theory and practice of environmental education for adults in North America has been underdeveloped. She advocates the need to expand the pedagogical entry points for engaging adults and catalytic factors in moving people to action, as well as, effective environment learning processes across the lifespan, and the potential of intergenerational learning. The theoretical framework includes a range of adult learning theories including motivational theory, transformative learning theory, and informal learning theory. In-depth semi-structured interviews are used to elicit participants' reflections on motivational aspects in a decision to learn more about and to practice sustainable forest management practices. The experience of the participants with informal, non-formal and formal learning opportunities in woodland education is examined; including recommendations they may have for program planning and for the design and facilitation of forestry education programs in a largely rural context.

Initial study findings reinforce Lange's notion that intergenerational learning plays a part in moving people to action, as well as, effective environment learning processes across the lifespan. For some, leaning based on a practical need to learn a specific skill needed to accomplish any given treatment in the management of their woodlots is a starting point. Irrespective of the starting point, the accounts of woodlot owners in this study suggest that learning related to broader ecological values and sustainable forest management practices is a gradual process best facilitated by combining progressively more complex formal and non-formal educational opportunities with peer learning opportunities achieved through informal dialogue between woodlot owners and learning achieved through participation in land owner organizations at a local and regional level. Information sharing among woodland owners reveals new understandings and insights leading to a motivation to know and do more. Providing opportunities for continuous learning and for woodland owners to dialogue and demonstrate their lived experience are key elements towards sustainable resource use. This study increases understanding of adult environmental learning as it relates to sustainable forest management practices, and reveals motivational factors in a decision by small private woodland owners across the province of Nova Scotia and potentially in other parts of Canada to engage with learning opportunities that enable them to understand and increase their capacity to sustainably manage their small woodlots and to become stewards of their land. The study has the potential to inform the development of an appropriate educational response and programs that will potentially help educators working in the realm of natural resource sector understand how to motivate woodlot owners to increase their awareness of good woodland management practices.

Keywords: Informal learning, dialogue, land owner experience

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Market-based mechanisms for enhanced provision of forest amenities in private lands: A case in the Ruka-Kuusamo area

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Visitors to resorts like the Ruka-Kuusamo area pay for the accommodation and other services provided by tourist enterprises. For forest-based environmental services and amenities, such as a pleasant landscape, no payments are made. In economic terms, environmental benefits are externalities of forest management that tend to be produced less than socially optimal. If the tourism business continues to increase in the future as it has in the past few decades, conflicts with forest management may appear. The question is whether it would be possible to internalize these externalities by creating a market-like arrangement through which private landowners could be compensated for the enhanced provision of currently non-marketed services.

As landscape and recreational benefits are mainly based on direct and indirect use values of forests, it might be possible to create a direct compensation mechanism between the users and providers. Unlike Trade in Nature Values where the buyer is the government, the payer/buyer would be an individual, a group of individuals, a municipality or an entrepreneur. Private forest owners would enhance the provision of environmental services through forest management practices suitable to the region. Funds for running the mechanism and compensating the forest owners would be collected in connection with the prices of accommodation and programme services.

Under this kind of Trade in Landscape and Recreational Values private landowners would make voluntary contracts and get compensated for managing their forests in ways that maintain and enhance landscape and recreational values in the region. To what extent these are valued in a tourist resort depends on the preferences of the region's visitors and users.

This presentation describes starting points for developing Trade in Landscape and Recreational Values in Finland. In addition, it illustrates a model that will be tested in a study to be conducted in the Ruka-Kuusamo area in 2011–2013. The study is part of the NEWFOREX project (New Ways to Value and Market Forest Externalities, 2009–2013) funded by the European Union. The project examines four environmental benefits produced by forests: biodiversity, nature tourism and recreation, water quality and carbon sequestration. The benefits are analyzed both from users' and providers' point of view.

Keywords: environmental benefits, non-timber forest services, market based mechanisms

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Forestry services and extension practice in Kuusamo Forest Management Association

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Private forest owner families own most of the forests in Kuusamo, almost 90% of forest area. There are 6,000 forest holdings, 4,000 proprietary units larger than 7 hectares. The average size of a family forest holding in Kuusamo is 50 hectares. Almost one third of the forest owners live outside of Kuusamo area. One third of forest holdings are co-ownerships of 2–10 owners. Collective forests (each individual owning a share) cover 20% of Kuusamo's forests. They are joint ownerships with separate professional administration.

Forest Management Associations (FMAs) are governed and financed by family forest owners. In Kuusamo region, all forest owners possessing more than 7 hectares forest are automatically members of the local FMA. They also pay a statutory annual fee, which is based on hectares (currently 64 euros on average). There are altogether 110 FMAs in Finland covering area of one or more municipalities. Local forest owners are decision-makers in the associations. A council whose members are elected by mail voting is holding the highest authority of FMA. In Kuusamo FMA there are 33 representatives in the council, which chooses the executive committee of 5 members. Today 9 employees are working in Kuusamo FMA. Executive manager leads the practical operations.

The FMA provides services for forest owners. Annually about 1,000 forest owners use the services in Kuusamo. Year 2010 there was 490 timber sales plans (total amount of 200,000 m³), 330 timber sales competitive biddings (150,000 m³), 15,000 m³ intermediate cuttings and energy wood harvestings, 900 hectares site preparation (190 sites), 1,100 hectares forest cultivation (sowing or planting, 260 sites) and 900 hectares tending of young stand (175 sites). In addition the market value was determined for 170 forest holdings (10,500 hectares) and assisting on forest property sales was done 13 times. 40 forest management plans were made and the tax form was filled for 260 forest owners. Many times the professional of FMA contacts the owner after finding the need for treatment in a database or an aerial photograph. In timber sales the owner is active.

Informing, training and advising are important tasks for the FMA. The newsletter called 'Leikko' is the most important way of information delivery. It reaches both forest owners and local people, 3 times during the year 2010. Circulation of the paper is 20,000 including three neighboring municipalities. The newsletter can also be read at website www.mhy.fi/kuusamo. Altogether 900 forest owners visited the 12 training events arranged during 2010. The topics in these events were for instance moose damages, forest taxation, energy wood supply and the generational change of forest property. Some events are field trips to private forest holdings. Also schools were visited 5 times, totally 550 pupils joined them.

The FMA Kuusamo is developing its services. The owners outside the services (for minimum 6 years) were recently surveyed to inform the service development. In forthcoming years the aim is to intensify the use of forests.

Keywords: forest management association, forest services, private forest owner, advisory

Peers, personal networks, and family forest management in Minnesota, USA

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Personal networks have been shown to influence a wide variety of behaviors, including those many would think immune to network effects (e.g. Granovetter 1985). While network effects are likely to affect family forest owner behavior, social network analysis is only recently being applied to this domain.

This study uses a basic SNA approach to investigate Minnesota family forest owners' sources of forestry information and the implications for natural resources professionals concerned about private land management. In the summer of 2010, just over 1,000 Minnesota family forest owners completed a written survey addressing land management activities and sources of woodland information. Although only 23.1% had a written management plan, respondents were remarkably active managers: 82.9% had harvested timber and 74.5% had completed at least 4 of 9 management activities.

The three most common forestry information sources were other landowners, family members, and friends or co-workers – all peer sources. Next, in declining order, were logging contractors, public sector foresters, and private sector foresters. Sixty-eight percent of respondents had received information from any peer source compared with 64.5% from any professional source, including logging contractors.

Asked to name actual people or other sources of information, the median number of information sources ranged from 0 to 14 with a mean of 2.92 and a median of 2. Landowners with a written plan and larger ownerships had larger networks and were more likely to include a professional. The most common print and media sources of forestry information were publications and fact sheets followed (in order) by magazines, the internet, newspapers, newsletters, and workshops or classes.

Results confirm that both peers and professionals are important information sources for Minnesota forest owners. Current outreach and assistance programs predominantly support effective yet costly one-on-one contact between a professional and a landowner. Given current constraints on funding and professional capacity to provide one-on-one assistance, there may be an opportunity to increasingly leverage peer and personal networks to efficiently promote sustainable family forest management. Possible strategies include increased use of mass media to promote the stories of active landowners and strategies to foster information exchange among landowners and between landowners and professionals.

Keywords: networks, private forests, social network analysis, Minnesota

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Impacts from an Appalachian region cooperative of forest harvesting professionals

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A number of logging contractors from the mountain region of West Virginia, Maryland, Pennsylvania, and Virginia were underserved by the existing associations and organizations in the local forest industry. To coordinate and develop programs that provided positive public relations, safety and other educational programming, purchasing benefits, and other activities, they organized into a cooperative association. Over the years, the group has adapted its programs and structure to meet the pressing needs of the members.

One of the initial catalysts to start the organization was to be able to establish a local *Log a Load for Kids* organization to support the West Virginia University Children's Hospital. The cooperative association is now the second largest charitable contributor to the Hospital and coordinates a number of fundraising and service activities around the region each year. The cooperative has also developed programs to assist with safety in the workplace for logging businesses through their unique Logger Safety Program. This program was set up to improve and document the participating members' safety programs in order support negotiations to lower Workers Compensation Insurance premiums. These and other programs coordinated by the cooperative are specifically developed by and target the logging community to improve business practices and provide a coordinated effort to display the positive impacts of the profession in the community.

Keywords: cooperatives, logging contractors, forest products, safety programs

Talk-in-interaction analysis enhancing collaborative learning in a forest advisory encounter

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Studying talk-in-interaction in the context of holding-specific forest management planning is essential for practical development but yet is not extensively conducted. It reveals the operation patterns of the practice (e.g. advising) and the variation of roles of the professional forestry advisor (consultant) and laymen (land owners). Furthermore, it shows the means of the interlocutors to maintain and update inter-subjectivity in an encounter pursuing collaborative knowledge-construction of the participants. In this presentation one of the first examples of such studies is presented and preliminary research results are cautiously formulated.

The operational environment of family forest owners' extension is being redefined in Finland. Laser-scanning-based forest inventory is claimed to result in more precise and more frequently updated data of one's forest, but also in relevant suggestions for forestry operations. 'A forest bulletin', to be delivered to all land owners free of charge, is estimated to replace the traditional forest plan as the holding's basic information package in the future. It will contain concise data of the owner's forest stands with expert-driven treatment suggestions. Land owners' own goals and wishes are to be discussed within complementary forest planning services, which are currently being outlined for market. Simultaneously initiatives for renewing the Finnish forest law emphasize the need to diversify services targeted to land owners, who today value their land increasingly for non-material benefits (conservation, recreation), along with still remaining economic aims. An enhancement of illustrating and explaining the various action alternatives to land owners is called for. This is particularly relevant for the increasing number of distant land owners.

In this presentation land owner consultation is evaluated from the perspective of an institutional conversation. Forest consultant and land owner meet, when the professional has completed a 10 year forest plan, ordered by the land owner. In the meeting a shared understanding of the forest holding and related aims is pursued. Also an agreement of harvestings, silviculture activities and forest improvement work is sought. The research data covered five video recordings (total duration 6:15:48), which were analyzed with conversation analysis (CA). Preliminary results show that speech turns during the advisory conversations seem cautious; both interlocutors have difficulties in producing their turn (lack of eye contact, document orientation). Stances, advice and assessments are often being re-formulated. Furthermore both interlocutors produce various affordances, which enable participation and promote modification in participation.

With CA we can describe the operation models in particular talk-in-interaction beneficial for collaborative learning. How matters are discussed, and the means with which learning can be enhanced are addressed. Sensitivity, listening and mutual awareness of the interlocutors' roles are crucial in face-to-face meetings aiming at a shared agreement of the decisions and activating land owners.

Keywords: conversation analysis, forest management planning, forestry consultation, video data

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