

## **SHORT TERM SCIENTIFIC MISSION Report**

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<b>STSM reference number:</b>	<b><i>COST-STSM-FP1201-18965</i></b>
<b>COST Action:</b>	<b><i>FP1201</i></b>
<b>STSM title:</b>	<b><i>Novel models of ownership regime</i></b>
<b>Working Group:</b>	<b><i>WG 1 – Forest ownership types and motives</i></b>
<b>Applicant:</b>	<b><i>Stanislava Brnkalakova, Babin 54, 029 52 Hrustin, stanislava.brnka@gmail.com</i></b>
<b>Home institution:</b>	<b><i>Institute of Management and CE SPECTRA at the Slovak University of Technology and Slovak Academy of Sciences (Bratislava, Slovakia)</i></b>
<b>Host:</b>	<b><i>Prof. Dr. Gun Lidestav, Department of Forest Resource Management, Swedish University of Agricultural Sciences (Umea Sweden), Gun.Lidestav@slu.se</i></b>
<b>STSM time period:</b>	<b><i>from 8.9. 2014 – to 3.10.2014</i></b>

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## **1. Purpose of the STSM**

The purpose of my stay at the Department of Forest Resource Management at the Swedish University of Agricultural Sciences in Umea was to develop the research plan for my PhD thesis that investigates the novel models of forest ownership regime. All that in great deal will be able to contribute to some of ECOST FP1201 FACESMAP Action objectives.

During my STSM I have predominantly focused on forest commons - forest common pool resource (CPR) regimes. In these regimes property is shared among limited number of users (shareholders, commoners) owning a core bundle of rights (and obligations) in a resource system as a group. Moreover, the shareholders follow management rules that are derived and operated on self-management, collective actions and self-organization (of rules and decisions). In our opinion, this type of regime could play a crucial role in a sustainable use of forest natural resources with the emphasis on providing public goods.

Some forest CPR regimes were established long time ago and have overcome (and are still facing) diverse social and natural disturbances over time. Despite of many changes in society and natural environment they were not erased and thus proved their robustness and resistance against these disturbances. Of course, it would not be possible without adaptation and new changes in their organisation. Except these traditional forest CPR regimes, new forest commons have been currently created (e.g. woodlands in the United Kingdom). Despite of rights of commoners slightly diverge and circumstances, as well as reasons of their establishment differ in comparison with traditional commons, they both operate similarly and have to face the same internal and external disturbances such as varying values of shareholders, global market, global governance, climate change and many others. Therefore, my aim of STSM was to build up a research plan according to which we will evaluate root causes, adaptation processes and changes in traditional, as well as new forest commons with the aim to suggest novel/adapted model of ownership or rather management of forests.

## **2. Description of the work carried out during STSM**

During my STSM I was personally supervised by Gun Lidestav, a researcher in Section of Forest Resource Analysis at the Department of Forest Resource Management at the Swedish University of Agricultural Sciences, as well as by my supervisor Tatiana Kluvankova-Oravska from the Institute of Forest Ecology of Slovak Academy of Sciences and Institute of Management at the Slovak University of technology via email communication.

To be able to work out my research plan, I have firstly studied the theory of CPR regimes. I went through following publications:

- Anderies, J.M, Janssen, M.A., 2013. Sustaining the commons. Arizona State University.
- Berkes, F., Folke, C., 1998. Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience. Cambridge: Cambridge University Press.
- Carlsson, L., Hall, J., Pimbert, M., Brown, V., 1996. Rural Development Forestry Network.
- Fleischman, F. D., Boenning, K., Garcia-Lopez, G. A., Mincey, S., Schmitt-Harsh, M., Daedlow, K., Lopez, M., Basurto, X., Fischer, B., Ostrom, E., 2010. Disturbance, response, and persistence in self-organized forested communities: analysis of robustness and resilience in five communities in southern Indiana. *Ecology and Society* 15(4), art 9.
- Hess Charlotte, 2008. Mapping of New Commons. Available at SSRN:<http://ssrn.com/abstract=1356835>.
- Kluvankova-Oravska, Tatiana, 2011. Can Long Lasting Forest Institution Survive Market Economy? The Case of Historical Common Property Forest Regime in Slovakia. Digital Library of the Commons. Indiana University.
- Kluvankova – Oravska, T., 2013. Governing Natural Commons: Forest Regime. pp. 19-28. In Kluvankova – Oravska, T., Jilkova, J., Kozova, M., 2013. From Governing to Governance Reconsidered. 2013. Ružomberok: Verbum. 97 pp.
- Kluvankova - Oravska, T., Gezik, V., in review process. Survival of commons? Institutions for robust forest social-ecological systems.
- Lawrence A., 2011. Forest Commons Old and New: an Introduction to Community Woodlands in Great Britain in Forest

Commons – Role Model for Sustainable Local Governance and Forest Management. International Workshop Burbach, Germany.

Ostrom, E., 1990. *Governing the Commons: the Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Ostrom, E., 1998. Scales, Polycentricity and Incentives: Designing Complexity to Govern Complexity. *Workshop in Political Theory and Policy Analyses*, Indiana University, 150-167.

Ostrom, E., 2008 a. Design Principles of Robust Property-Rights Institutions: What Have We Learned? *Property Rights and Land Policies*. K. Gregory Ingram, Yu-Hung Hong, eds., Cambridge, MA: Lincoln Institute of Land Policy, 2009. 29pp. Available at <http://ssrn.com/abstract=1304708> [September, 2014].

Ostrom, E., 2008 b. Polycentric Systems as One Approach for Solving Collective-Action Problems. Available at SSRN: <http://ssrn.com/abstract=1304697>.

Ostrom, E., Nagendra, H., 2006. Insights on linking forests, trees, and people from the air, on the ground, and in the laboratory. *Proceedings of the National Academy of Sciences* 103(51),19224-19231.

Poteete, A., Janssen, M., Ostrom, E., 2010. *Working together: collective action, the commons, and multiple methods in practice*. Princeton University Press, Princeton, NJ.

Schraml U., Selter A., 2011. Lessons Learnt from Commonly Owned Forests for the Establishment of “New Commons” in Private Forestry\* in *Forest Commons – Role Model for Sustainable Local Governance and Forest Management*. International Workshop Burbach, Germany.

In the second week I have participated at a conference “From generation to generation – the use of commons in changing society” organized by SLU. I had an opportunity to find out more about the issue of commons in many countries around the world that has also helped me develop my research plan.

After I had become more familiar with the theory of CPR regimes, I studied more about my first case study - Swedish forest commons in the following literature:

Holmgren, E., 2009. *Swedish Commons in Boreal Sweden*. Doctoral Thesis. In *Acta Universitas Agricultural Sciences*.

Holmgren, E., Lidestav, G., 2004. Benefit Use and Local Well-Being in Three Swedish Forest Commons.

Holmgren, E., Lidestav, G. and Kempe, G., 2004. Forest Conditions and Management in Swedish Forest Commons. *Small-scale Forest Economics Management and Policy*, 3:453-468.

Holmgren, E., Holmgren, L. and Lidestav, G., 2007. Comparison of harvesting and business activities of non-shareholders and shareholders in a forest common in Västerbotten, Sweden. *Scan. J. For. Res* 22:582-592

Holmgren, L., Holmgren, E., Fridman, J. and Lidestav, G., 2010. Biological diversity indicators - A comparison of northern Swedish forest commons and other forest ownership categories. *Scan. J. For. Res.* 2010: (25) 61-68)..

Lidestav, G., Poudyal, M., Holmgren, E. and Keskitalo, E.C.H., 2013. Shareholder perceptions of individual and common benefits in Swedish forest commons. *International Journal of the Commons*, Vol. 7, no 1 February 2013, pp. 164–182.

Stenman, L. 1983. Delimitation in the Lapland region of the county of Västerbotten. *Forskningsrapporter från Kulturgeografiska institutionen, Uppsala universitet*, no 83, Uppsala, Sweden. In Holmgren et al., 2004. *Forest Condition and Management in Swedish Forest Commons*. In *Small-scale Forest Economics, Management and Policy*. 3(3):453-468.

Last week of my STSM I have participated at a course 'Gender and Land Resource Use in Northern Context' where we have been taught about new, more sustainable, and transformed forms of forestry as well as farming with great contribution to my knowledge about adaptation of forestry and farming in changing society.

Completed activities during my STSM are clearly described in Table 1.

Tasks	Week 1 08.09. - 14.09.	Week 2 15.09.-21.09.	Week 3 22.09-28.09.	Week 4 29.09.-4.10.
Preparation of my working plan	X			
Literature review on the theory of CPRs	X	X	X	
Conference		X		
Collecting information about case study		X	X	X
Course				X
Writing report				X

**Table 1:** Activities during STSM at SLU in Umea, Sweden

### **3. Description of the main results obtained**

Natural common pool resources (CPR) used jointly by individuals play an important role in facing current social dilemmas in which short-term interests of individuals are in conflict with long-term interests of society. By CPR regimes, optimal and robust property regimes, it could be possible to ensure balanced use and protection of the natural resources, as well as the provision of public goods (e.g. ecosystem services provided by ecosystems to society). In this way human well-being would be assured not just at local level but also at regional or even state and global scale. Unfortunately, forest CPR regimes, whether traditional or new established ones differently (top down or bottom up) but with some common goals (e.g. management action is in public interest), are currently challenged by global market actors that are not embedded in these local institutional arenas. The complexity of the contemporary world, in particular in terms of the diversity of interests, multiple decision actors, and the dynamics of economic and natural processes, makes these commons that represent complex social-natural systems, more vulnerable to external disturbances. But several empirical studies provide the evidence of local users' capacity to solve social dilemmas of the commons and use the resource efficiently. Ostrom (1990, 1998, 2008 a) provided evidence that individuals and groups are capable of crafting own rules that allow for the sustainable and equitable management of resources, and are thus adaptable to the new challenges posed by a complex world. Moreover, due to their self-organisation and self-management, forest commons were able to solve the resource management problems without external authorities. Forest CPR regimes typical by transfer of knowledge, resources and institutions across the scales may potentially form a set of independent self-governed systems. Due to institutional maturity, local knowledge, communication and trust, willingness of commoners to follow own established rules and monitor others increase more than when an authority simply imposes rules. These forest regimes are pre-conditions for the continuity of local socio-ecological systems and have the ability to resist natural and social disturbances, as well as to avoid short-term individual interests and to provide public goods in long term (Berkes and Folke, 1998; Ostrom, 1998; Fleichman et al., 2010; Poteete *et al.*, 2010; Anderies and Jansen, 2013; Kluvánková – Oravská, 2011, 2013).

Nowadays, not just adaptation of traditional forest CPR regimes is in interest of research but also the establishment of new forest commons. Traditional forest commons were established mostly by authorities (top down) when farmers have become owners of allocated land. Forest commons were developed with the aim to serve as an instrument for improved forest management with the focus on increased and sustained timber production, to provide - as an instrument for sustainable economy - support for farmers and the local economy. They were also shaped with the intention to provide a solid basis for taxation and to secure continuous existence of an independent class of farmers and to shape their self-interest to bring it closer to serving the public goods (Carlsson *et al.*, 1996; Holmgren, 2009; Kluvankova-Oravska, 2011). Today, traditional forest commons are not only facing just mentioned global problems but also internal changes. New shareholders are the result of the inheritance process, whereby common forests are passed on through generations. However, some new shareholders do not recognize the legitimacy of forest commons and want to put land into private ownership. Moreover, due to the rural migration there has been a decline by those members who have forest management skills, participation in a day-to-day management, and connection to resources. Non-resident shareholders absent on annual meetings create interest conflicts between non-resident and residents shareholders, as well as coming global investors create an immediate risk for a community in maintaining the continuity of management and the consequent reduction of

control over the resources (discussions with Lidestav, Standström and Kluvankova-Oravska). New forest commons have been established currently and mostly as the result of bottom up process. The case of new commons in Germany is initiated from private forest owners. For benefits in social, environmental and economical respect, private owners of small pieces of forest land decided for cooperative action with other neighbouring forest owners. This common management helps them to solve practical or policy forest problems and they are oriented not always conditionally on timber production but also on non-monetary targets (Schraml and Selter, 2011). Another example of new commons is community woodlands in Great Britain that might be focused more often on conservation, recreation or education than on wood production. Community group plays a role in management decisions and it may or may not own the woodland (Lawrence, 2011).

Given examples of forest CPR regimes show that the ownership does not always play crucial role in sustainable management or in providing public goods, as well as the meaning of collective action becomes very important and it is not necessarily oriented on timber production. Even in the group of new shareholders in traditional forest commons who are not interested just in own profit in monetary form, there is an inclination to more recreational values of common forest. But the occurrence of new commoners preferring a change from old common-owned forest to private ownership because of a higher profit makes the preservation of traditional forest commons more difficult. But the importance of sustaining them has also been proven by behavioural experiments between forest commoners and private owners (Kluvankova - Oravska and Gezik, in review) where greater resource-sustainable oriented logic, self-organisation under the communication and following formal rules were present. It shows an experience from the real world situation where shareholders have to co-ordinate and adjust their behaviour accordingly, and it is practically impossible to cut a forest without communicating with others.

As it is referred both traditional and new forest commons are important in questions of sustainability of natural resources, provision of public goods but also in question how to boost economy of local communities. The aim of our research is to collect data, analyze performance and reasons for establishment of traditional and new (just appearing nowadays) forest commons in the European countries participated in ECOST FP1201 FACESMAP. All this will be done by following Ostrom's (1990, 2008(1)) eight design principles that play a crucial role in sustainable use of forest resources. We assume that the ownership does not play a crucial role but three rights – access, withdrawal and management are the most important in sustainable use of common forests and for providing public goods.

### **Case study – Swedish traditional forest commons**

Following Ostrom's (1980) eight design principles for better understanding of the institutions, rules and norms that humans use to organize themselves, we have tried to collect as much information as possible about forest commons (FC) in Sweden as the first case study.

FC in Sweden provide mixed evidence of their efficiency regarding management of natural resources, as well as providing public goods due to the fact of changing social, political and global situation over time. They were established in 19<sup>th</sup> – 20<sup>th</sup> century by Crown for above mentioned reasons. In spite of the fact that all Swedish FC have been established in order to fulfil the same aims and have been the subject to the same legal regulations since 1952, the results of recent research have revealed that their performance developed in different ways. Dissimilarities in these commons can be embedded in the history of their establishment. While Älvdalen (Swedish FC in southern Sweden) was established in an old and cultural setting in 1885, Västerbotten (Swedish FC in middle Sweden) was established in 1916 - 1918 under the coercion and there was little (if any) previous experience of

evidence of traditional commons. People in Västerbotten FC, as the last established in Sweden, do not recognize the legitimacy of this FC. They perceive historical practices as unfair when the land privately owned by their ancestors was taken by state and later given to farmers to the common property. Most of shareholders want the land back into their private property. This is reflected on low economic contribution to shareholders in Västerbotten. In comparison with Älvdalen, the first FC in Sweden, yields the largest economic returns to the local shareholders, makes highest contribution to common goods and has the highest proportion of contented local shareholders. Shareholders in Älvdalen even think that FC has contributed to a positive development of the municipality (82%) and their own well-being (70%). The reason of higher performance of Älvdalen can also be that it generates higher profit from hydroelectric power stations but also capital investment or higher activity in forestry. But on the other hand if the profit in Västerbotten is low and has become insignificant with growing number of shareholders, other values may become more important such as recreation, hunting, fishing which are goods that shareholders gain access to regardless of the size of their share (Stenman, 1983; Holmgren and Lidestav, 2004; Holmgren *et al.*, 2004; Lidestav *et al.*, 2013).

All Swedish FC have ideal share and open access. People can freely pick mushrooms, berries or medical plant (just leaves, not with roots). Due to the rural migration and new shareholders who inherited their share in FC but have different values than their ancestors and are not residents, caused a decline in those members who have forest management skills, participation in day-to-day management and on annual meetings. It generates interest conflicts between non-resident and residents shareholders (discussions with Lidestav and Standström).

Rules for selling the share are quite strict and it ensures a limited entry of actors who could negatively change the performance of FC from common and balanced interest to self-interest. In Sweden the sale of share is impossible, just when shareholder sells his/her own property. Then new owner gets automatically the seller's share in common forest (discussions with Lidestav and Standström).

Swedish FC are self-financed and independent on external donors. They do own profit from selling standing or harvested timber, processed timber products, hydroelectric power or earn money from recreational activities (e.g. renting cabins). Some of them hold savings in funds; invest in the stock market or various local industries. Cost benefits are proportionally balanced between shareholders according to the resource size. Benefits take forms such as cash payments, subsidies, and contributions to local public bodies or discounted prices for the purchase of wood. Disadvantage of direct cash payments is that it can contribute to increased focus on private ownership (example of Västerbotten FC in Sweden). In contrary, subsidies in southern Swedish FC are distributed between shareholders on the basis of investments and management actions on their own land and thus the sustainability is promoted (Holmgren and Lidestav, 2004).

Forest commons in Sweden operate on 10-year management plans, collective choice arrangements and conflict resolution, with the decision-making divided between the annual assembly of shareholders and the management board. The rights and responsibilities of individual members are in accordance with property shares as well as the position that members represent. FC are nested within the current forest governance structure (national, as well as European). Swedish forest commons are regulated by Swedish Forestry Act (1903), Forest Commons Law (1952), and own commons by-law (authorized by the County Administration).

Swedish FC use self-monitoring mechanisms to control the harvesting process and the internal sanction system. Those shareholders who break rules of FC are usually punished by no possibility to vote in the elections of a member to management board or they are excluded from group benefits.

Shareholders are willing to invest private costs into informal sanctioning, as also previously reported by Ostrom *et al.* (1990). Conflicts between interests of shareholders are solved in annual meetings. If conflicts cannot be resolved according to the internal rules, the national court onsets (discussions with Lidestav).

The efficiency of Swedish FC meets mixed evidence regarding to the management of natural resources, as well as providing public goods. Research in Sweden does not show clear recognition of better effectiveness in FC regarding more sustainable forest management. Ävdalen FC is a successful example of good nesting in industry, as well as an evidence of forest sustainable use (between-category variations are more homogenous than in Västerbotten). These southern Swedish common forests also show higher proportion of old standing volume in comparison to the other type of forest ownership. In VästerbottenFC, old forests prevail. In economical terms, they are not so efficient or even negative because this valuable old wood can draw attention of nature protection bodies and even prohibit the timber felling. The reason of different efficiency of mentioned Swedish FC can be that the forest land in Västerbotten is held by low proportion of forest companies (in contrast to Ävdalen) but rather by non-industrial private forest. There could be also some other above mentioned reasons regarding their establishment (Holmgren, 2009; Holmgren *et al.*, 2007).

Regarding the promotion of biodiversity, it could appear that common forests could play an important role, even more effectively than in forests of other ownership categories. But the only strong significant differences found in Sweden between the FC and forests of other ownership categories were in the volume of dead wood per hectare, but this variable was intermediate in FC. Overall the estimates of biodiversity-related indicators suggest that forest managed in common do not seem to be either environmentally more or less successful than forests of other ownership categories (Holmgren *et al.*, 2010).

To sum up, previous findings about forest CPRs in Sweden claim that FC had a high adaptive capacity to cope with disturbances but at a different range. We can see a trend of rural migration and losing the connection with homeland, decreasing the number of old skilled foresters, growing number of new shareholders, as well as coming global investors. These facts can cause more intensive production to generate profit. Moreover, this situation can create an immediate risk for the local community in maintaining the continuity of management and the consequent reduction of control over the resource, and thus affect the adaptive capacity of traditional commons to long-term disturbances.

#### ***SUGGESTED RESEARCH PLAN during my doctoral studies within the contribution to the research of ECOST FP1201 FACESMAP Action***

The research will consist of following steps:

1. detailed comparative analysis of Swedish and Slovak forest commons. Our intention is to strengthen this analysis by behavioural experiments in Sweden and Slovakia with commoners,
2. data collection of traditional and new, as well as successful and failed forest CPR regimes in European countries involved in ECOST FP1201 FACESMAP action,
3. analysis of collected data from countries according to Ostrom's (1990,2009) eight principles of robust management proper rules on management.

#### ***4. Foreseen publication resulting from the suggested research plan***

After the suggested research is conducted, we plan to publish paper answering following questions:

- In which European countries are forest CPRs? What were reasons for establishment of traditional and new forest CPR regimes? Why are these regimes somewhere successful but elsewhere failed (institutional analysis according to eight principles)?

### **5. Confirmation by host institution of the successful execution of the STSM, course and conference (Appendix 1, 2)**

Together with this report I submit Confirmation of the successful execution of Short Term Scientific Mission, as well as course and participation at conference signed by Johan Fransson, the head of Department. I also submit Confirmation on presentation 'Can carbon sequestration support sustainable rural landscape?' signed by Camilla Widmark, the chair of the IASC 2014 European meeting From generation to generation – the use of commons in a changing society.

### **6. Acknowledgement**

I would like to express my gratitude to Gun Lidestav, my host supervisor during my STSM, as well as to Stephan Standström, the researcher at the Department of Forest Resource Management, who really help me with better understanding of Swedish forest commons. My thanks also belongs to Tatiana Kluvankova-Oravska, my home supervisor who helped me with better understanding of the whole issue of forest CPR regimes.

## Appendix 1: Confirmation by host institution of the successful execution of the STSM



Department of Forest Resource Management

2014-10-03

TO WHOM IT MAY CONCERN

Dear Management Committee members,

This is to certify that PhD student Stanislava Brnkalakova, (Slovak University of Technology, Institute of Management, Slovak Republic) successfully has completed her Short Term Scientific Mission, at our department. During her stay, September 8 to October 4 2014, she has participated at the IASC 2014 conference ("From generation to generation – the use of commons in a changing society", organized by SLU) where she presented the proposal of her PhD project. Further she has successfully completed a PhD course on Gender and Land use in a Northern Context. Together with Dr. Gun Lidestav and Dr. Stefan Sandström, she has developed research plans for future cooperation with regards to comparative studies on Slovak and Swedish forest commons. It had been a pleasure to have MSc Stanislava Brnkalakova at the department, and we look forward to further cooperation with her on this important subject.

A handwritten signature in blue ink that reads 'Johan Fransson'.

Johan Fransson  
Head of Department

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Appendix 2: Confirmation on presentation  
'Can carbon sequestration support sustainable rural landscape?'

IASC 3rd European Meeting 2014

# From generation to generation - the use of commons in a changing society

September 16-19  
SLU, Umeå

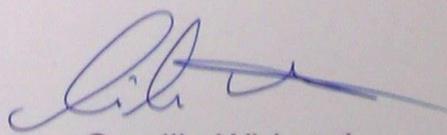
This is to certify that

*Stanislava Brnkalakova*

has been invited to give a speech at the  
IASC 2014 European meeting titled

***Can Carbon Sequestration Support  
Sustainable Rural Landscapes?***

This also certifies that the conference fee 235 €  
is paid.

  
Camilla Widmark  
Chair of the IASC 2014  
European Meeting