



The Commons Digest

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Welcome to the winter edition of *The Commons Digest*! In this issue we report on the Third IASC European Meeting held in Umeå, Sweden, providing a small taste of what was enjoyed by those in attendance. The issue begins with a letter and a reflection on forest management commons in Sweden from the conference chair **Camilla Widmark**. **Anna Zachrisson** and **Annette Löf** present a summary of the pre-conference workshop. This is followed with the presidential address by **Leticia Merino**. Two keynote addresses by **Ole Henrik Magga** -on the commons in Saamiland- and **Annika Nilsson** speaking of resilience and change, follow this. Next, Elinor Ostrom Award winner **Kate Ashbrook** presents a summary of her own address. In addition, especially for those who missed the conference we present a summary of two panels: one on heritage and governance by **Monica Hammer** and the other on ecosystem services as commons by a group by **Tatiana Kluvankova, Stanislava Brnkalakova, Eva Streberova, Michal Maco, and Veronika Gezik**. **Brian Danly** closes the Commons Forum with his detailed description of the fabulous fieldtrip on Sweden's water and forest commons.

This issue also includes announcements and, of course, Emily Castle's list of Recent Publications. **Enjoy!**

CONTENTS

COMMONS FORUM: Report on the Third IASC European Meeting, September 2014

Letter from the chair of the third European IASC meeting in Umeå

Camilla Widmark.....2

Forest commons in Sweden

Camilla Widmark.....5

Summary of the pre-conference workshop

Anna Zachrisson and Annette Löf.....8

Reflections on the governance of global commons

Leticia Merino.....10

The Commons in Saamiland

Ole Henrik Magga.....13

Rapid change and resilience: Expanding dimensions of commons governance

Annika E. Nilsson.....19

Reflections on the European conference

Kate Ashbrook.....23

Ecosystem services as commons?

Tatiana Kluvankova, Stanislava Brnkalakova, Eva Streberova, Michal Maco, Veronika

Gezik.....26

Balancing heritage and transformation - implications for sustainable governance

Monica Hammer.....28

Commons, lessons learned from the excursion on water and forestry in Sweden

Brian Danley.....30

Recent Publications

Emily Castle.....35

Announcements.....41



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Commons Forum

Reflections

Letter from the chair of the third European IASC meeting in Umeå, Sweden

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"Do not be afraid to go out on a limb, that is where the fruit is." This quote has followed me during almost my entire career as a researcher and certainly during the planning of this conference. The quality of a researcher depends on curiosity, courage and the ability to find solutions to problems. During a conference, these abilities are also in focus when we share research. It is also a very good way to express the feeling when arranging a conference: I did not fully understand what I was getting myself into when I took on the task of being the chair of this meeting. Regardless of the workload, I am very happy that I took on the task. I was given the opportunity to share my small part of the research world with old and new friends as well as old and new colleagues.

For me the plans for the third European IASC meeting started on a hot afternoon in Plovdiv, Bulgaria, in 2011. The discussion was on whom could host the next IASC European Meeting. Several of the participants expressed a wish to visit



northern Europe. I started to think that in 2014, Umeå is the European Capital of Culture and that it would be a wonderful time to show my hometown at its best and at the same time spread the commons theory within my own university. When I arrived home, I called a meeting sharing my idea for the conference. We started to plan for the conference and the excursion from that point. The Swedish University of Agricultural Sciences was glad to host the event with support of Umeå University.

Now, four months after the conference, we can summarize the event. We had four intensive conference days with three keynotes, parallel sessions, a pre-conference workshop and a post-conference excursion. It was a good turn-out for the conference; about 70 persons registered and additionally somewhat 20 people listened in on the conference speeches.

We started the conference with a pre-conference workshop, "Challenging the commons: Increasing resource pressure and multiple-use commons." We invited people to give a short introduction to a commons problem, specifically in the northern part of Europe, and the participants discussed the short presentations (see further report in this issue).

Introducing the conference, I gave a short speech welcoming everyone to Umeå and Sweden and after that Lena Maria Nilsson from the Umeå Saami Association welcomed the conference participants to Sapmi, the home of the Sami people with a joik (traditional Saami song). After this, the sponsoring organisations: Swedish University of Agricultural Sciences, CERE

and Arcum expressed their best wishes for our conference. Last, but not least, the Ostrom Award winner Kate Ashbrook from Open Spaces Society gave a speech on the challenges of working with commons in the UK. All of this was recorded and is found on the conference website (<http://www.slu.se/iasc-europe2014>).

Prof. Leticia Merino introduced the scientific part of the conference by giving the first keynote on "Policentricity and Nestedness . Challenges to Build Governance and Resilience of Commons and Processes at Different Scales" giving an interesting international perspective on governance and commons. The next keynote for the conference was more locally connected as Prof. Ole Henrik Magga, gave a talk about "The Commons in Saamiland – to Whom do They Belong?" The final keynote was offered by Senior lecturer Annika E. Nilsson, on "Rapid Change and Resilience: Expanding Dimensions of Commons Governance." Each of the keynote speakers have written essays summarizing their keynote addresses for this issue . Additionally, these keynotes, as well as the opening ceremony, were recorded and are available on the conference webpage.

Following the keynotes, the participants shared knowledge and had lively discussions during the twelve parallel sessions and three suggested panel sessions. Topics varied from Governance Networks, Indigenous Self-Determination, Commons in History, Institutions and Policy, Collaboration and Management, Rights of Commons, Designing Institutions, Indigenous Peoples and Commons, Common Resource Use, Challenges of Local Commons, Community-based Management, and Economic Aspects of Commons. The three panel session where: Balancing Heritage and Transformation, Recognising and Bridging,



and Ecosystem Services as Commons ? For more information on the separate sessions, see the book of abstracts that is found on the conference webpage.

In the end of the conference, about 30 of the participants took the bus to the nearby town Skellefteå (about 135 km away) to start the post-conference excursion on the final day of the conference. The excursion was directed at discussing the importance of natural resource use in Sweden, specifically water and forest, two of northern Sweden's most important natural resources. These resources can be considered a common (minerals are also an important resource, but they are privately owned). As we were to spend the day outside, we depended a lot on the weather. The first stop by the Skellefteå River was rather cold and foggy, but we all enjoyed the two guides that showed us the power plant, discussing the use of water for electricity and the problems that may follow with water being a common good. After a coffee break we journeyed south to Vindeln (about 60 km from Umeå), to have lunch and study forest sites in the afternoon. As we drove south, the fog disappeared and the clouds were driven away and it became a warm autumn day with clear blue sky and no wind: perfect weather to visit the forest. First we stopped for lunch by the beautiful Vindel River. The afternoon we spent in the forest discussing forest management. During the conference we covered a short exposé of northern Sweden's history with focus on land use, the use of water and power supply both in history and in present, and forest management with focus on environmental consideration and commons. For further details on the excursion, see Brian Danley's essay in this issue.

As Umeå in 2014 is the European Culture Capital, we included some cultural events in

conjunction with the conference dinner. We visited the unique, world famous guitar museum where we meet the two twins that started the collection of guitars. During the dinner we also listened to a band led by Prof. Krister Stoor (professor in joik), who gave us an understanding of Saami music. Among the various musical pieces, one illustrated the Umeå River.

Now, about six months after the conference, I am both happy and sorry that it is over. The work of arranging a conference is hard and sometimes troublesome, but also very rewarding. I am very glad that I took on the task of chairing the conference. It gave me a chance to learn more on different aspects of commons together with the good fortune to meet a lot of interesting people. I have also learnt a great deal on practical aspects of organising this event. I am very grateful to the small, but efficient organizing committee that have put in a lot of work into the organization of this conference. A special thanks go to Anna Zackrisson. I am also very grateful to the scientific committee that have worked hard on selecting the conference presentations. Also, a special thanks to IASC staff who have both encouraged me and guided me on arranging this event, especially thanks to Insa Thesefeld, Simone Burrati, Victor Ortiz, and Leticia Merino.

And thank you to all of you visiting the conference, contributing with your knowledge and following me out on the limb – to collect the fruit.

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Forest commons in Sweden – an example of a complex multiple use commons

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Disagreements and conflicts related to the use and management of natural resources are common problems in most countries around the world. Key issues to address in such cases are those associated with 'collective action', e.g. the need to establish effective rules to control the use of the natural resources in order to avoid the 'tragedy of the commons' and to mitigate externalities. In analyses of natural resource management, common pool resources (CPR) are of particular interest. In some cases the use of commons may be relatively straightforward, for instance in cases where all stakeholders have identical rights to use the resources and have the same objective: to acquire benefits from the resource. However, many CPR-situations are more complex, for instance multiple kinds of stakeholders may use the resource for widely differing objectives, the property rights may be complex and the stakeholder groups may be culturally, economically or otherwise heterogenic. In such cases there is an extensive need for negotiations and trade-offs among users to maximize welfare and avoid conflicts.

Approximately 56% of Sweden is covered by forest, or about 2.5 hectares of forest per capita. Non-industrial private forest owners own about half, while large-scale forest industry companies own about 40 %. The land is regulated by property rights, however with the exemption of the "Right to public access", which simplified means that all land is free to use for everyone within given boundaries. For instance, everyone has the right to pick berries or mushrooms

in the forest, without asking the owner for permission. Swedish forests thus provide an example of a complex common where a wide variety of users utilize the forest, for multiple purposes.

Historically, the forest has always been important to Swedes, as provision for food (hunting, berry- and mushroom picking etc.), timber for fuel wood and building houses, and a place to graze animals. Also the industrial use of forestland has been extensive going back several hundred years. Mining has been and still is extensive in northern parts of Sweden. The forest industry developed in the 19th century and with the technical development, the industrial use of forestland became widespread in the whole country. Several sets of stakeholders with differing goals use the land in parallel to each other, with different objectives. These objectives include protection of biodiversity, recreational use of forestland (e.g. recreation, hunting, berry- and mushroom picking), and use of forestland for industrial purposes [e.g. forestry, mining and reindeer (*Rangifer t. tarandus*) husbandry].

In most of these multiple use situations, the property rights regulate use and offer no hindrance for the owner to pursue forestry activities, and conflicts are rare. However, in one case parallel land use is filled with conflicting situations. In about half of Sweden's area, in northern Sweden, the indigenous people – the Sami, have land use rights to graze reindeer. Reindeer are semi-domesticated following a migration cycle of grazing pastures typically between



Camilla Widmark, Chair of the Conference

the mountains in the summer and the coastal areas during winter. The reindeer are dependent on mature forests for grazing and winter grazing of lichen are essential as snow conditions are vital, typically affected by forest management as lichens depend on the right moist and light conditions.

This parallel land use often leads to conflicts, and the situation has become more difficult as the demand for timber has increased. As early as 1979, an institutional arrangement in the form of consultations were instigated, and later further extended by the certification scheme Forest Stewardship Council (FSC), which is a certification system for forest companies. These consultations were intended to provide an arena for the stakeholders to meet and discuss land use issues, in order to reduce land use conflicts as well as externalities. However, conflicts over land use are still occurring despite the consultations.

Two main contributors to the conflicts over land use between forestry and reindeer husbandry have been identified. First, property rights over the forestland are divided between the two groups of

stakeholders: forestry interests (mainly forestry companies, non-industrial private owners and the State) own the resource while reindeer herders have usufructuary rights, originating from time immemorial. This imbalance in property rights provides insufficient protection of the reindeer herders' grazing rights. The property rights imbalance has also led to an uneven power distribution between the stakeholders in the institutional arrangement. Second, forestry imposes externalities on reindeer husbandry since the timber harvests reduce the value of the land for grazing, which is a key parameter for the viability of reindeer husbandry. A further complication is that natural grazing has not been valued economically.

Over a ten-year period, the institutional arrangement – consultations – have been discussed and evaluated by researchers in collaboration with stakeholders in order to mitigate conflicts and reduce externalities. Some problems, in addition to the ones discussed above, were identified. For instance, the stakeholders identified a lack of consensus over the purpose of consultations among reindeer herders and foresters. Further, there is a lack of understanding of economic consequences of consultations (e.g. transaction costs of negotiation), and a lack of low-cost conflict-resolving mechanisms. Also, the foresters have little information on reindeer grazing components (traditionally information on reindeer grazing has been passed on by word-by-mouth) and thus low understanding of needs for reindeer husbandry, and short planning horizons make reindeer grazing difficult to plan.

As a result of these discussions, and research concerning above-mentioned shortcomings, major changes have occurred affecting both forestry and reindeer herders. The FSC standard has for instance created a conflict resolution mechanism (the system is



to new to evaluate yet, so the costs are unclear). The new FSC standard has also created a common definition of consultations. The information gap on reindeer grazing has also been developed and incorporated into reindeer herder's grazing plans through a GIS (geographical information system) system over important and sensitive areas for reindeer. This tool (RenGIS) is used by reindeer herders in land use management not only directed to forestry, but also in consultations with mining and wind-power plants. The use of RenGIS has also lead to possibilities for forestry to, with the assistance of reindeer herders, plan land use management on longer planning horizons.

The economic consequences of consultations have also been evaluated in research, with the intention to create a better understanding of how much time and effort is put into consultations by both stakeholders. By estimating time consumption in all stages of the consultation process, from information gathering to planning before consultations, to consultations and field visits, to conflict resolution, costs of the whole consultation process was estimated. Results showed that, not only are the stakeholders unequal in power during consultations, they also spend very different amount of time before, during and after consultations.

Although changes of consultation process have been made to improve the institutional arrangement, conflicts still occur over the forest resource between forestry and reindeer husbandry. Some think that if nothing more is done, the future of reindeer husbandry in Sweden is threatened. Reindeer husbandry, conducted in the traditional manner with utilizing natural grazing is considered a national interest in Sweden and is an important part of the cultural heritage to the Sami people. The question is how can a viable, stable co-



Photo credit: Camilla Widmark

Reindeer grazing beside the road, an usual view in northern Sweden

management regime be created? There are three possible ways: stronger regulation, economic redistribution, or even further strengthen the institutional arrangement. The first solution means detailed regulation of the legal framework, which is something none of the stakeholders would prefer. Foresters do not wish to loose control over property while reindeer herders believe it would reduce the flexibility of land use management. It is difficult to regulate for every eventuality. The second possible solution would be for forestry to compensate reindeer herders for lost grazing possibilities, enabling supplementary fodder. However, as there are no market value for lichen, it would be difficult to find proper compensation levels. Additionally, only feeding reindeer by supplementary fodder may seriously compromise the value of reindeer husbandry to Sami culture. A possibility would also be that reindeer herders compensate forestry for lost harvest possibilities due to grazing. However, the costs would probably be too high for reindeer husbandry to carry, as reindeer husbandry generally is small-scale family business. The third and final solution would be to strengthen the institutional arrangement even further. To some extent this has already been carried out especially through FSC, and the standard is continuously revised. The RenGIS has also made the two stakeholders more equal when it comes to information. The process



of developing RenGIS has also made the reindeer herders more aware of their rights and at the same time, forestry has become educated on key factors for good reindeer grazing when it comes to harvest planning, soil scarification, and tree species selections.

Forest commons in Sweden is still complex, but with working institutional arrangements and personal relationships, the complexity does not necessary have to lead to conflicts. Foresters and reindeer herders have come a long way, but there is still a long way to go.

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Summary of pre-conference workshop Challenging the Commons: Increasing resource pressure and multiple-use situations

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The workshop departed from the overall conference theme, focussing on the rapid changes occurring globally but not least across the North. The changes are primarily driven by climate change, rapid economic development and a new geopolitical situation. Climate change causes sea ice melting, snow cover decrease and the disappearance of permafrost which changes

the natural resource base. At the same time economic forces drives an increasing g exploitation pressure on natural resources, which requires changed governance structures. Also calls for indigenous self-determination impact on the need for institutional change. The presentations and discussions thus broadly dealt with how this development challenges commons theory.



The workshop began by a presentation by Camilla Sandström on the topic “Multiple use commons and climate change: on the conditions to govern risk and uncertainty”, where she outlined the current situation in the Arctic and evoked the question of whether adaptive law would be a way to enhance resilience in the region.

John Powell continued with “Beyond legislative action – a role for federations of commoners” where he emphasized that the interest to create commons councils is not great, while super associations with federations of commoners now cover 60% of the county land in Britain. Rule enforcement is a problem, as it is only regulated on an informal basis.

Then Mahesh Poudyal presented “Challenges to forest commons: demographic shifts and increased demand for non-extractive multiple uses”, with insights from a case study in Sweden. Demographic changes when young people move away from the countryside affect Swedish forest commons, as shareholding in these is linked to private property and a shareholder can reside anywhere. For non-resident shareholders recreation, tourism and nature conservation is more important than for the locally-based, older people who sit on the board. Two important questions arise: how do non-resident shareholders participate and for whom is the commons managed?

“Reindeer herding and the governance challenge: on multiple pressures and how the governance system restricts rather than facilitates adaptation” was the title of Annette Löf’s contribution. The presentation addressed commons challenges from a governance view, focusing on the current situation for reindeer herding in Sweden. Reindeer herding is currently challenged by a number of interacting drivers; among them climate change, land-use change and

increasing carnivore populations. Studies conducted in collaboration with a herding community and on the governing system at large shows that the current configuration inhibits rather than enhances adaptive action and therefore that more profound transformation is required. A key question that remains is how to address political inaction and how the state can accommodate changing demands and its new role in governing interactions.

Malin Brännström presented on the topic “Sami rights to land in Sweden: unclear property right”. She discussed how the indigenous Sami rights in Sweden relate to international law, and concluded that the Swedish requirements for consultation are weak in an international perspective. The current development is that court rulings change the conditions for reindeer husbandry, when it used to be political decisions.

The last contribution was on “Minerals – not common-pool resources but commons?” by Anna Zachrisson. Minerals are not commons in the traditional meaning of the word since they are subtractable. But they would fit with the extended definition proposed by Michael Cox; that a commons is anything that creates a collective-action problem - when private and public interests diverge. Such a definition includes many more multiple-use situations where many administrative levels and actors are involved, that commons scholars increasingly seek to understand.

After the presentations the floor was opened for discussion, and since it spanned over a broad range of issues only a few accounts can be made here. In Norway, commons research increasingly gains influence in policy and management according to Jan-Åge Riseth who asked for more focus on how authorities handle these issues. Mattias Åhrén elaborated on whether reindeer



husbandry is a commons or not, as the lands are divided between different Sami communities and internationally it is increasingly recognized that indigenous peoples hold property rights. According to Camilla Sandström we now know how to design institutions to manage commons, but she wondered how we can make them play

a role.

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Reflections on the governance of global commons

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"Connectivity makes it possible for disturbing forces, such as diseases and financial crises, to spread throughout a system at a rapid pace. Yet, it also can accelerate learning processes, as those responsible for dealing with problems in particular areas find it easier to compare notes and learn from each other's experiences".

Brondizio, Ostrom and Young

Ostrom and the governance of commons

During the late 80's of the past Century, Elinor Ostrom and colleagues challenged Hardin's thesis that the Tragedy of the Commons and the "Rational Choice" theory were unavoidable outcomes of collective ventures. Ostrom and colleagues at the Workshop for Political Theory and Policy Analysis of Indiana University engaged in an ambitious research program analyzing the literature on cases studies of user groups (both successes and failures) of collective natural resources in diverse eco-systems and various regions of the world. They found out that, under favorable

circumstances, members of communities were able to govern the commons they jointly used and/or owned when: (i) they could effectively communicate, discuss and reach agreements on the use and governance of the commons they shared; (ii) they rightfully were able to make their own operational rules; (iii) they valued the commons, had common interests and visions on them and on the ways they should be used, protected and governed; (iv) social practices of reciprocity were in place, sustaining trust; and (iv) appropriators engaged in accountable monitoring of agreements' accomplishment and of the conditions of the resource.

Ostrom discovered that successful governance experiences did not depend



Photo credit: Camilla Widmark

Leticia Merino during her Keynote

solely on the “quality” of governance rules, but rather on the conditions of the rules that enabled some groups to coordinate, cooperate and manage their commons on a sustained basis. Her focus on the study of those conditions had two important outcomes: the construction of the IAD (Institutional and Development) analytical framework, and the definition of the eight (well known) “design principles” for long enduring governance institutions:

1. The existence of defined boundaries of the resource system and of those actors holding use and control rights (Schlager and Ostrom, 1998);
2. Operational rules (related to the appropriation and provision activities) were adapted to local socio-environmental conditions, meaning among other things that their implementation is viable for resource users and other stake holders on cost/benefit bases;
3. Collective-choice arrangements in place that allow resource users to take part in the decision-making process; favoring both the adequacy of operational rules and their legitimacy among resource users.

4. Effective monitoring of the compliance of the rules and of the state of the resource by monitors who are themselves part of the appropriators and/or accountable to them; fostering in this way trust and further engagement with the governance system.

5. Graduated sanctions for commoners (or others) who violate the rules: this condition together with monitoring is critical to avoid impunity, lethal to governance systems.

6. Accessible mechanisms of conflict resolution among commoners and/or resource users, around the different interpretations of the rules and the weight given to infraction that will often arise.

7. Communities' self-determination rights acknowledged by higher levels authorities

8. In the cases of larger CPR, nested enterprises, with small local CPRs at the base.

These eight principles have inspired a large body of research on the governance of common resources. Nevertheless, in today's world, environmental, economic and global systems are increasingly interconnected, acting and interacting at different scales, while the current international and national governance and economic systems seem unable to respond to the challenges created by global environmental change. (Dauvergne, 2010; Ostrom, 2009)

Threats and Dilemmas from current environmental changes

Current ecological processes are complex by definition, as they respond to multiple inter-related variables and there is no linear relation between causes and effects. Uncertainty is now the rule rather than the exception, and there are few examples of



successful governance of global commons. Ostrom and colleagues have thus wondered whether the conventional theory of collective action is the best option for analyzing how to reduce the threats of massive climate and environmental change, and what can we use from past local focused research on governance and collective action. New research questions have arisen from these new challenges, about whether large-scale governments are usually better equipped to cope with collective-action problems that have outcomes that are large-scale themselves, whether multiple governments and organizations (instead of a unitary authority) would work to respond to the mentioned challenges, or whether actions and decisions taken at less than global scale can work to reduce greenhouse gas emissions, or at least offer some levels of adaptation.

The continuing relevance of "commons" theory for the understanding of global commons depends on its ability to take into account and articulate multi-scale and eco-systemic perspectives in the analysis of appropriation and provision problems of global commons. Perspectives that should prove insightful for the design of policies able to address emerging complex challenges. The theory and the methodology of research of the commons/collective action "school" should be reformulated in terms of the adequacy of the design principles, the role and types of trust, and the role of information and knowledge between actors to be adapted to the analysis of processes taking place in multi-scale and global arenas.

So far, current advances in research about global processes show us the need for institutional innovation: institutions at multiple levels and linking multiple levels need to be oriented to foster trust,

cooperation and conflict resolution for the long-term protection of ecosystems. These institutions should be based on the understanding of the coupled nature of socio-ecological systems, and acknowledge that individuals use different "rationalities" in different contexts, identifying under which conditions under which they can cooperate and overcome social dilemmas. Another of the lessons learned from past research is the risk to "overcrowd" local/regional governance systems by external over-regulation (Cárdenas, J.C. 2009).

Trust and social capital (the value of trust generated by social networks to facilitate group cooperation on shared interests and the organization of social institutions at different scales) are of great importance in this context. The complex nature of cross-level resource systems requires institutional arrangements that facilitate the co-production, mediation, merge, translation, and negotiation of information and knowledge within and across levels. In this sense, inequity (related to power gaps and elite capture) constitutes a "public bad", a source of obstacles to the development of good management institutions. We now face the need to create and promote closer, knowledgeable visions of local and global perspectives and interests on: (i) the use and value of landscapes and territories; (ii) the prescriptions of ideal management and monitoring schemes, attentive to global and local needs and to the uses and values different actors give to different ecosystems; (iii) communities (from being considered as "anthropic" pressures on ecosystems to be regarded as "assets" for the conservation of nature); and (iv) fair and effective distribution of rights over ecosystems and governance schemes.

The future capacities to address socio-environmental challenges at multiple scales



are critical for future societies. The perspective of governance of socio-ecological systems as nested institutions capable to address social dilemmas at diverse scales has much to contribute to future analysis and future policies on the earth governance system.

Future and exciting research has to be made in the near future, which will very likely change our current analytical frameworks to adapt them to the global phenomena that is now capturing our interest. In the end, I'm sure that the school of commons and collective action will prove its value and resilience to understand the challenging global social dilemmas we are now facing.

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The Commons of Saamiland

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Introduction

Indigenous lands have, as a rule, been considered as ownerless from the outside. The main reason to this is that the land has been used collectively and there has been no strong need to identify an owner. This openness has made it easy for intruders to take over the land and to open it up as a "common for everybody." This has also been the situation in Saamiland. The land of

the Saami people has been colonized and divided by Norway, Sweden, Finland and Russia. Since the 1960s, we have been working to reestablish the "rights to land and waters" in Sápmi (Saamiland). For a long time this has been a political struggle, but in 2008 we were able to initiate an identification process of land rights in the northernmost part of Norway as a legal process, in line with ILOs Indigenous and Tribal Peoples Convention (convention 169, 1989) which imposes an obligation on the states that have ratified the convention, to



Photo credit: Saami Parliament in Norway, Karasjok

Ole Henrik Magga

recognize the rights of ownership and possession of indigenous peoples over the lands which they traditionally occupy and to take necessary steps to identify the lands which these peoples traditionally occupy. Norway has ratified this important convention, while Sweden, Finland and Russia have not. Most of the questions about Saami land rights remain unanswered not only in the other three countries where Saami live, but also in Norway.

The identification process is carried out by the Finnmark Commission. I will give a brief presentation of the work of the commission, and describe some of the challenges this commission has faced so far. As background for the work of the commission, I will draw a rough picture of the historical development in Scandinavia that has created the situation we find ourselves in today.

The Saami siida organization

The Saami area was from long time back organized in siida units. Within a siida-area, land could be used by families according to their needs and according to time of the year. The siida organization was a judicial system with well-developed rules for issues

of inheritance within the clan society, the use of the land among siida members, and in relation to neighbors.

The weakness of the siida organization was that it did not exclude others from using its territory, at least not with force. Many other indigenous peoples (Dani-people, the Ainu, the Shoshone and others) have defended their lands with weapon in hand, while the Saami people are known as a non-violent people.

The nation states

From long time back, from at least the 9th century, local chieftains, merchants, gangs of vagabonds and sometimes also kings' soldiers have made trade expeditions and robbing expeditions into Saamiland. Little by little, some of them developed a kind of tax collecting system, which was later taken over by the kings. They, as of yet, had no interest in the land.

Sweden was the first of the Nordic states to impose itself upon the north with the intention of taking control over the land. The famous king Gustav Vasa took over the tax collecting rights from the tax collectors ("birkarls"). Although he declared in 1542 that unsettled land belongs to God and the King, he respected the rights of the Saami siidas. The Saami paid tax for their lands with valuable furs, which was very important at that time, and the king emphasized that the hunting rights of the Saami were to be respected unconditionally. A protection letter issued by his son King Johan III stated that the land belonged to the Saami locally. Their right to "taxed Lapp lands" was confirmed by the district courts, where Saami were in majority for a long time in the north. The siida acted as the owner of the rights to the land and its outcome and the siida-system was used as



a foundation for setting the land taxes. A "tax paying Lapp" had the same right to his land as a "tax paying farmer" in the south.

In the 18th century an intensified colonization took place in the north of Sweden. Now the land was in focus, not the tax income. The pressure on the Sami "taxed Lapp lands" increased. Reindeer herds increased in this period, both in Sweden and Norway. And the use of land changed from local use to extended use by migrations. People from neighbouring Sami siidas began to use each other's land. The number of animals owned by individuals became the most important factor for allocation of the tax that individual members of the Sami villages had to pay. And a kind of "parallel theory" was developed saying that colonizers from outside could settle down in Saami areas because their use of land was very different from the Saami use. That started the physical take-over of land. Nevertheless, in 1751 when the border was finally settled between Denmark-Norway and Sweden-Finland, the "Lapp codicil", an appendix to the border treaty, confirmed Saami rights to land. In the late 18th century, the responsibility for issuing permits for the use of Saami land was step-by-step transferred from the assize courts (on local level) to the county administration. This was a very serious attack on Saami rights as these decisions could not be appealed by the Saami.

The second half of the 19th century was characterized by a vulgar-darwinistic ideology. The local courts lost all power in handling the Sami "taxed lands." It was now wholly in the hands of the county administration, an instrument for the central government. Little by little the Saami taxed lands were considered to be owned by the state. A land partitioning ("avvitring")

followed. In this process, the old Saami rights and Saami interests were completely neglected. When a Reindeer Grazing Act was passed in 1886, only the reindeer herding Saami were recognized as having Saami rights, but the rights were limited mainly to grazing rights for their animals. And even these rights were gradually limited.

The northernmost Sami villages (Sameby) in Northern Jämtland started a court case in 1966 against the state claiming the ownership to the land that they had paid tax for. The case, known as The Tax Mountain Case, was finally decided in the Supreme Court of Sweden in 1981. The Saami party lost the case. In 1993, the state confiscated the Saami's old right to small game hunting. Conflicts between reindeer herding and forest owners have since been frequent, especially in the south of Sweden, where Samis lost an important court case in 2004. But in 2011, three Sami villages won a court case in the Supreme court about grazing rights in central Sweden (Nordmaling). But the foundation for even what remains of Saami land rights in Sweden, is still unsecure.

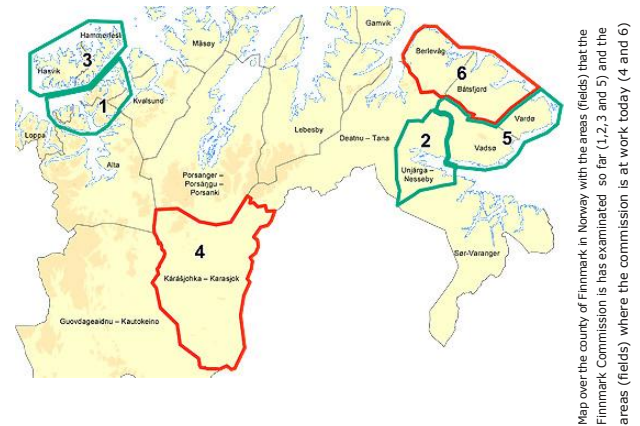
Most of Finland was originally inhabited by a Saami population. In course of centuries, this population was assimilated and pushed northwards and the land was colonized by Finns. Finland was a part of Sweden until 1917, and their land ownership system was based on the Swedish tradition. But Saami rights have been even more reduced than in Sweden. Scarcely any Saami land rights exist in Finland today. Even the right to reindeer herding, which in Norway and Sweden is an exclusive Saami right, has been abolished.

In Norway, no legal basis for the administration of land in the north existed before the borders were settled in 1751 and 1826. The land in the north had been open

to everyone, while in the south of Norway land ownership, including administration of common lands ("allmenning"), had recognised traditions. Like in Sweden, the Codicil from 1751 referred to "old customs" (gammel sedvane) thereby accepting the Saami land use. A royal proclamation from 1775 laid the foundation for transfer of land to private owners in the north. But it was explicitly stated in the proclamation that there should be no changes in the traditional use of common lands and resources.

Nationalism based on vulgar-darwinistic ideology became even more dominant in Norway in 19th century than in Sweden. Saami culture was considered as uncivilized, foreign, primitive and backwards. In 1848 the Government declared that the land in Finnmark was the property of the King because it was used only by nomads. Legislation on land use in 1863, 1902 and 1965 was based on the same view. The law on land sales from 1902 stated that the land should only be sold to Norwegian citizens who can speak, read and write the Norwegian language. The legislation on reindeer herding from 1933 and 1978 was for a long time the only legislation in Norway where Sami rights were legally recognized.

Nothing changed before a major conflict occurred between Saami interests and the government about the damming of the Alta-Kautokeino river in the years 1979-1982. A new climate for Saami rights developed in Norway in the course of 1980s and 1990s. An important court case on land rights was won in 1999 by a Saami community in the north of Norway. The Supreme Court recognized the community to be the rightful owner of the land within the valley where they live.



The Finnmark Act was adopted in 2005 as an outcome of the process that started in 1979. The Act involves the transfer of approximately 95 % (about 46 000 km²) of the land in Finnmark, the northernmost county of Norway, to Finnmark's inhabitants through a new agency called the Finnmark Estate. It is based on the principle that the Saami people, through traditional use of land and water from long time back, have acquired individual and/or collective ownership and right to use lands and waters Finnmark. The Act was a compromise based on old Saami rights and the interests of the non-Saami population in Finnmark. It established a co-management regime. All residents of Finnmark have the right, like before, to exploit natural resources on Finnmark Estate land, except mineral resources which are still owned by the state. The extent of such rights is dependent on how closely one is associated with the resources. The Saami Parliament appoints 3 of members to the board of 6 members. This is unprecedented in Saami history and has been celebrated as a major step in the battle for Saami rights.

The Finnmark Commission

When the land in Finnmark was transferred to the Finnmark Estate en bloc, without examining the rights of individuals and groups in detail, many questions were left unanswered. Therefore, on the initiative



from the Saami Parliament, a chapter was incorporated in the Finnmark Act stating that a commission shall be established with the mandate to review possible rights in the whole of Finnmark and identify possible owners of such rights. The commission was appointed by the government in 2008. So far, it has submitted 4 reports. A special court, the Uncultivated Land Tribunal, has been set up to decide possible disputes based on the decisions from the commission. From this court, appeals may go directly to the Supreme Court.

The Finnmark County has been divided into suitable "fields" (felt) by the commission. The commission has concluded its work in the fields 1,2,3 and 5 and it is working with the fields 4 and 6 (see map in the end).

The main outcome of the commission's work so far is that the Finnmark Estate is recognized as the owner of the land in all the areas (fields) examined so far. In field 1, the commission has upheld a claim from an individual to a small piece of land. In three fields (1, 2 and 5) the reindeer herders had claimed that they are the rightful owners of all uncultivated land. The Commission did not uphold these claims.

In field 3 and 5, local organizations had claimed the right to ownership to limited parts of the field in question. The Commission did not agree with them, either. Some of the conclusions about ownership will be appealed to the Uncultivated Land Tribunal. All in all, very few claims of ownership to land have been upheld by the Commission.

Seven local organizations claimed legal rights to land use. These claims have been accepted by the Commission. All the local inhabitants in all the areas have a collective

right of using the land and its resources including big game hunting, but the use is regulated by the Finnmark Act, although the rights existed prior to the Finnmark Act. Local use of land has a preferential right, which the Finnmark Estate must respect. The rights to use uncultivated land is very similar to the rights the local population has in the south of Norway to the common lands ("allmenning") there, which has been accepted and regulated by law for almost 1000 years.

Reindeer herders have the right to use all uncultivated land in all the fields. The right was established prior to the present legislation. In one of the fields, two families have preferential reindeer herding rights to certain parts of the island in question according to the conclusions from the Commission.

The right to salmon fishing in the sea is usually a right of the land owner. The state administration has regulated and managed this fishing until the Finnmark Estate was established, but it has not acted as the owner of this right. The Commission has confirmed that these fishing rights belong to the local population on the basis that they are considered an original right for the local population with roots prior to the legislation.

The conclusions from the Commission are not very surprising in the light of earlier research. But it is important to note that so far the Commission's investigations have been limited to the coastal areas. When the Commission moves to the inland, conclusions may differ from the ones reached so far. In the inland areas, the Commission will also have to decide on grazing rights for reindeer herding groups and individuals.



According to its mandate, the commission must base its decisions on "national legislation," which also includes Saami customs and practices and Sami sense of justice. Old usage is of course a basis (right from times immemorial), but in practical terms and legal terms, the Commission must base its considerations on facts from relatively recent times. There is scarce documentation of early land use in this area. And to go back to the original siida system is, of course, not possible. Many Saami groups have been divided and split up by state policies and they may appear as opponents to each other before the commission. So the Commission also has to decide on questions that are based on internal disagreements within the Saami population. In one case it has been pointed out that if the Saami parts had cooperated with each other, they might have obtained more rights than they did by opposing each other. And finally, the commission has often seen that claiming ownership to land is something new in Saamiland even today.

Concluding remarks

Even if Norway has not taken the Saami land rights seriously before quite recently, the Finnmark Estate and the Finnmark Commission are examples of how questions about use and management of indigenous common lands may be solved. And people realize that legal disputes from the past need to be solved before we are confronted with much more serious challenges than we have experienced so far. The furred animals were once the focus of interest from the outside world. Later the land came in focus, then the forests and after that the iron and copper in Samiland. Then the waterfalls were exploited. All this has contributed to the development of the modern Nordic states, but this development

has at the same time had very negative impact on Saami culture and way life. And now the mining industry has once more turned its eyes on Saamiland. Some of their representatives have declared Saamiland as "The top mining region of the world." We have made some progress with legislation on land rights. But when it comes to mining, the only legal obligation the mining industry has is to inform the general public about its intentions. Against this background, it is no wonder that people are worried about how the future will look. After all, the land is the foundation of a whole culture with all the people's dreams and hopes through many generations.

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Rapid change and resilience: Expanding dimensions of commons governance

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The notion of sustainability includes an explicit focus on maintaining resources, so that they can be of benefit also for future generations. However, a world where we are already committed to substantial climate change based on past emissions fundamentally alters the foundations for sustainability. Maintaining the status quo is no longer an option. Moreover, the social processes connected with globalization and the on-going industrialization of developing countries have strong path dependencies. All curves are indicating that the world is in a state of change to a point where we may even be approaching some global earth system tipping points, putting us on new, unknown trajectories. Regardless of decisions we may make today, even if they include radical environmental policies, we are heading for a future where change is the only given.

Arctic surprises

Some of the implications of global change have already gone beyond what we have been able to anticipate. Nowhere is this more apparent than in the Arctic. In 2007 the ice cover of the Arctic Ocean was dramatically reduced to an extent that had not been predicted by state-of-the-art science. These are the kind of unknown unknowns that are likely to crop up in the wake of climate change. We seem to get similarly caught by surprise by some social events. Examples include the recurring crashes on financial markets and new geopolitical developments. Surprises tend to trigger responses with ripple effects far

beyond the initial event. The sea ice minimum of 2007 contributed to a new way of seeing the Arctic. Various social actors began to draw lines on maps showing new shipping lanes as one of the many activities in the construction of a new Arctic. Over just a few years, the media picture of climate change as a threat and challenge has become one of economic opportunities and of global geopolitics. New discourses have gained momentum, including increasing attention to security. Over the course of only a few years, the Arctic environment has become high politics. It is also becoming securitized. These types of domino events challenge our notion of change being gradual. Moreover, they are often difficult or expensive to plan for the way that we usually plan for and managed known and anticipated risks in society.

Securitization – as shorthand for the social process by which an issue becomes framed as essential for the survival of a state – has implications for our perceptions of issues as common interests and for our view of what is considered a common. In the Arctic the decline in sea ice quickly turned into a quite heated discussion about governance of the region. Based on the critical role that the Arctic plays in the global climate system, and because of its unique contribution to biodiversity, (including iconic species such as polar bears), some observers have argued that the Arctic is the common heritage of mankind, and should really be governed by an Arctic Treaty, similar to the Antarctic Treaty. States with territories in the Arctic reacted very strongly against these ideas, given that it would question



Photo credit: Camilla Widmark

Annika Nilsson during her Keynote

their territorial sovereignty and also go against the existing international legal framework for ocean governance, the Law of the Sea and article 76 in the UN Convention on the Law of the Sea that regulates rights to resources on the extended continental shelf. It is a fairly small part of the Arctic Ocean that would be a commons in any legal sense. How potential fisheries and other future activities in this area should be regulated is still an open question, but most of the marine Arctic falls under the legal stewardship of specific states. Whether this is good or bad for the environment or the potential for sustainable resource management is likely to depend on the priorities, legal frameworks and implementation capacity of those countries, and the outcomes are likely to vary. The point is that the call for viewing the Arctic or Arctic Ocean as a commons in practice has led to powerful actors asserting their self-interest. In this case those powerful actors are states and the discussion has also become entangled in a securitization of Arctic issues in general. This entanglement is in turn part of a complex web of developments, in which the unexpectedness of the sea ice minimum of 2007 played a substantial role. It became

an eye opener about global change that could not be politically ignored. And by becoming part of a high-politics agenda, it also became entangled in other hot issues such as resource and energy security, military security and sovereignty. Just as the sea ice minimum itself was unexpected so were its ripple effects. The discursive development regarding the Arctic that we have seen since 2007 were not on the horizon a few years before the event.

Preparing for the unknown unknowns

How do we prepare for the unknown unknowns? What implications do they have for governance? For governance in general it entails a need to prepare for change, including developments that we have trouble even imagining. Some argue that sustainability, and sustainable development as a notion, is no longer useful. This is not because of disagreement with the normative dimension of ensuring intergenerational equity and human well-being, also in the future. Rather, the critique is focused on the assumption that it is possible to maintain some kind of equilibrium, when in fact the whole global system is in a state of rapid change. What then are the alternatives if we agree with the normative goal of ensuring a basis for the well-being of future generations? One approach is to focus on resilience: What are the features of a society – or rather of a social-ecological system – that provide capacity to handle rapid change and surprises? The word 'handle' is about the capacity to adapt to a new reality but also the capacity to navigate more transformative social changes without diverting attention away from essential values such as human well-being.

In the Arctic Resilience Interim Report 2013, one chapter discusses several types of social and ecosystem resources that support the capacity to adapt or transform in response to rapid change. They include such things as



social networks, knowledge, financial resources, and well-functioning ecosystems, organized around several resource clusters:

The first cluster is **natural capital**: structures and processes in ecosystems that support a range of functions that we depend on as human societies, such as provision of food, clean water, fiber and fuel; regulation of water flows, climate and diseases; and the role of nature for cultural, spiritual and aesthetic benefits. The question in relation to resilience is how to go about protecting ecosystem processes in such a way that they continue to provide services even if the climate changes radically and even if we need to meet as yet unforeseen environmental challenges. It includes much more onus on buffering capacity than what has been necessary in relatively stable world. The second cluster of resources that contribute to adaptive and transformative capacity fit under the heading **social capital**, which is essential for societies to be able to work collectively in solving problems. These are not only the local and regional social networks, but also the formal governance mechanisms. In contrast to the past, when global connectivity was limited, social capital today and in the future has to be adequate for collective decision making across scales from the local to the global. Social capital is not only the networks or organizational settings as such, but also the trust among various actors and the ability to communicate and learn from each other. A third cluster is **human capital**, such as a skills, competences and education of individual, which is in turn also linked to a fourth cluster – **knowledge assets**, which play a key role in our collective ability to perceive and understand change and translate this understanding into action. Fifth is **cultural capital**, which is a broad category that partially overlaps with both social capital and knowledge assets, and in many cases also with natural capital. A sixth is **financial capital** – having the money to



Photo credit: Victor Ortiz

A wall in SLU, the venue of the Conference

make necessary investments. However, financial capital alone would not make up for the other sources of adaptive capacity. Seventh is this list of resources that contribute to adaptive capacity is **infrastructure**.

These issues are of course also linked to security, not least in the broad sense of human security but also in relation to securitization in an international context. I think we need to analyze how the securitization of a region such as the Arctic affects the political capacity to enhance adaptive and transformative capacity. When does it start affecting international collaboration in areas such as knowledge generation, the financial system, and in the capacity to solve problems collectively?

Transformation and the politics of change

So far, most responses to the impact of climate change have related to reactive short-term coping in connection to meeting the challenges related to specific events. More recently, however, increasing attention has been paid to anticipatory adaptation. . However, we also need to start thinking about preparing for transformation of social-ecological systems. This is partly because changes to ecosystems will happen, regardless of our wishes, and partly because current fossil-fuel dependent development



pathways are not sustainable in that they will continue to feed and further accelerate global climate change. Deliberate transformation raises a range of tricky questions about what future we aspire to and who will have a say in making decisions. There may be winners and losers.

Global change and the potential for transformation also have implications for the notion of commons. In theory, one can conceive of the global system as such as a commons problem. The atmosphere is a paradigmatic example but with long-range transport of pollutants and with global markets and global flows of people it becomes very difficult to draw geographical boundaries for the impacts of human behavior in general. Maintaining the Earth system sometimes becomes framed as a commons issue. The notion of planetary boundaries is an example of such a view. This might work if we limit ourselves to biogeophysical aspects, but politically it is not a very useful notion. Even if the world system as we know it today is historically contingent, it is the political reality to which we need to relate. And in most environmental international negotiations it has proven difficult to move beyond state self-interests. In addition to political challenges associated with managing the drivers of change, we now have to add the dimension of preparing for change by focusing on the social and ecological resources that make up adaptive and transformative capacity.

Some of the responsibility for safeguarding adaptive and transformative capacity clearly lies with the nation states and local governments, but we cannot ignore the fact that any local activities can also have implications for other localities and for the global system. It would therefore be relevant to think about the social and ecological resources that support adaptive

and transformative capacity as a commons, or a bundle of common resources. This would entail joint responsibility for managing these resources as well as a need for ensuring that we have formal or informal institutions for supporting their management. For some of these resources, relevant institutions are already in place, even though their purpose may not be explicitly linked to the notion of adaptive and transformative capacity as a joint responsibility. Governance of international financial markets is one example, different environmental agreements another, and the broad agenda of the United Nations a third. However, I argue that it would be useful to more explicitly think of adaptive and transformative capacity as a common resource that we need to safeguard and strengthen to meet the challenges ahead.

This idea is not without political complications. How does one strike the balance between ensuring social and ecological capacity in order to prepare for change in one locality when the actions require commitments of resources in other localities? China has argued that it is a near-Arctic state because it will be heavily affected by climate changes in the Arctic region. Should this give China the right to take part in decisions about the Arctic? And vice versa: Some Arctic indigenous populations are greatly affected by pollution originating in Asia, including China, where pollution is eroding some of their adaptive capacity by making some traditional food less healthy due to high contaminant levels. Should Arctic indigenous people have a say about politics in China? What realistic alternatives exist which can create platforms for social learning across national borders without it being perceived threats to national sovereignty?



A call for even broader interdisciplinarity

These are just some examples of the issues we have to grapple with in a rapidly changing world. So far the discussion about resilience as capacity for adaption and for navigating transformations has mainly focused on the local scale. However, this needs to be put into the context of political dynamics at other scales, including the realities of today's international political situation. The tradition of joining disciplines in commons research may offer such an opportunity, but it would entail engaging with an even broader disciplinary range than what has been the case so far. An example would be dialogue with researchers interested in geopolitics and security. If we are going to prepare for the unknown unknowns, we cannot afford to be naïve. Not only do we need to analyze how different actors frame the commons and the powers they use to do so, but we also need

to think about social and ecosystem resources on a different scale than the management of local social-ecological systems.

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Reflections on the European conference

Kate Ashbrook

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2013 Elinor Ostrom Award winner**

"Do not be afraid to go out on a limb. That's where the fruit is." Thus Camilla Widmark, chair of the IASC European conference, opened the meeting in Umeå, Sweden in September 2014. Her words gave the perfect introduction to my talk, 'Campaigning for Commons, the collective approach,' which followed shortly after. As campaigners, we must never be afraid to go

out on a limb in defence of our beliefs.

This was my first European conference and my attendance was generously funded by the Elinor Ostrom Award. The Open Spaces Society (England and Wales), of which I am the general secretary, was one of three 2013 winners of the practitioners' award. I was able to reiterate Lin's message of the importance of collective action in protecting



Photo credit: Chris Hall

Kate Ashbrook at Kissing Gate during the excursion

the commons and enabling communities to defend and maintain them. Academics and practitioners have a symbiotic relationship: academics can provide the facts and evidence which practitioners need to bring about change.

I identified this desire to work together many times during the conference. First I went to the pre-conference workshop, a fascinating discussion about the Sami people (of northern Sweden, Norway, Finland and Russia), whose indigenous rights to graze reindeer clash with other land uses such as forest management, mining, energy generation and hunting. It seems that the current governance and management systems are inadequate to resolve these conflicts. The Sami parliament is not yet sufficiently recognised and respected: could greater collective action be an answer?

I talked to scholars working on water and pasture management in Uzbekistan and Kyrgyzstan; the privatisation of the Euphorbia food-plant in Madagascar; and the marketing and protection by registration of the Colombian coffee bean. I listened to talks on the struggle by communities in Mozambique and Thailand to be heard when their resources are under attack.

It is vital that communities achieve the best management structures and governance processes to enable them to gain political weight with the decision makers. The conference highlighted the difficulties faced by all parts of the globe in establishing equality between those who defend their commons and the powerful institutions which imperil them.

Delight

It was a delight to stay in the town of Umeå, known as Björkanas Stad, the City of Birches. In June 1888 the eastern part of the city was devastated by fire and, in its restoration, silver birch trees were planted along the avenues, to prevent future fires from spreading. Umeå is the 2014 European Capital of Culture and is rightly proud of its art and sculpture, although unfortunately I did not have time to visit the galleries and sculpture park. Parts of the town are being rebuilt and when I visited the main square, with my colleague John Powell from the Countryside and Communities Research Institute in Gloucester, England, we met students wanting to know what three things we would like to see in the square (itself a common). They did not mind that we came from England and were unlikely to see the results! I volunteered no traffic, a wild area for birds and butterflies and a safe, natural space for children's play. I should like to know what happens there.

I liked the university campus too, with its calm and elegant architecture and ample vegetation and green space. The conference was hosted by the Swedish University of Agricultural Sciences (SLU) and the centre had attractive murals of Umeå and its culture. On the second night we visited Guitars, a recently-opened museum of electric guitars collected by the brothers Mikael and Samuel Åhdén. We had dinner downstairs, and were entertained by Krister



Stoor, a Sami and professor at SLU, who demonstrated the traditional joiking. This is not singing but rather an atmospheric musical interpretation of elements, such as a river or a forest.

Excursion

After the conference many of us set off in glorious evening sunlight on the excursion. We headed north to Stensfors Gård, a traditional farmhouse, for dinner en route to Skellefteå.

We spent the next morning at the Finnfors hydro-power plant. The original plant was built in 1906, and there are 15 on the 400-km-long river Skellefteålvén. It is run by Skellefteå Kraft which takes its corporate responsibility seriously. It is a public company and the public benefits from a share of the profits and discounted energy. The company is concerned about biodiversity and has installed a new type of turbine, Streamdiver, with no oil or grease which enables free movement of fish downstream.

After lunch by the rushing river at Vindeln we went into the nearby forest. Here SLU runs a research programme with SCA (Svenska Cellulosa Aktiebolaget), the largest private owner of forest land in Europe, which manufactures wood and paper products. We sat in a clearing and learnt about how the wood is harvested to regulate the amount of light, and how the forest is managed for biodiversity, recreation and reindeer. I suggested that, from my English perspective, wide rides for walkers, riders and cyclists were desirable, with removal of trees to open up views.

Sweden has the tradition of allemansrätten, which gives everyone the right to roam freely and to gather mushrooms and berries, provided they do not interfere with

private rights. Historian Anna Stéms spoke of increasing conflict between public access and the right to pick mushrooms and berries, with this operation becoming commercial and leading to an influx of city people who do not respect allemansrätten. In England and Wales we look longingly at Swedish access which is so much better than ours; Scotland has already achieved something similar to Sweden with its Land Reform (Scotland) Act 2003.

Camilla and her team did a wonderful job in organising so efficiently such an interesting and varied conference. I am grateful to the Elinor Ostrom Award for enabling me to participate and to learn so much more about the commons which Lin championed.

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Ecosystem services as commons?

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Approaches to the management of natural resources and the landscape often overlook the functioning of ecosystems and the resilience of complex biophysical systems. There are major gaps in addressing the importance of ecosystem services and their effects on well-being in rural and regional policies. Understanding the potential benefits of ecosystem services is a pre-condition for the development of effective integrative policies to address the well-being of local communities. The quality of these services largely results from individual and group decisions, and from how such decisions are regulated by norms and formal governance schemes, i.e.: legislation, policies and various forms of economic incentives across decision-making levels. The scale at which decisions are made often differs from the scale where such decisions finally benefit different actors.

Regulatory and market-based instruments are traditional approaches in pursuing the goals of environmental conservation. However, their capacity to operate across scale and with imperfect information is limited, which often results in costly regulations, ineffective or unfair market allocation, as well as eroding intrinsic motivations for conservation. The vulnerability of ecosystem services is thus aggravated by multilevel factors and the public (commons) character of those goods. The panel session *Ecosystem Services as*

Commons addressed these issues at the 3rd European IASC Meeting in Umea, Sweden in September of 2014.

Ecosystem services as public or common goods face the traditional social dilemma of individual and collective interests. Examples of ecosystem services being public and/or common goods are soil and vegetation capacity for flood protection, carbon storage, pollination and urban health. Distant users operate across governance scales and with diverse interpersonal and social interests, often ignoring the sustainability and carrying capacity of local ecosystems. Producers as users of ecosystem services rely on different information sources, which may in some cases contribute to the overuse and depletion of some ecosystem services on the one hand, but support the protection of ecosystems (and related services) on the other. We argue that cooperative approaches are required to support the decision-making and navigating behavioural change of ecosystems' users and managers to deal with asymmetric and imperfect information and complexity for the sustainable governance of ecosystem services.

The key questions that we addressed in the four presentations in this session were the following:

- *In which ways can self-organisation and common pool resource regimes (CPRs) complement market and regulatory*



approaches, which in turn contribute to sustainable and effective EU integrative policies?

- *What role can a CPR regime play in the management of global commons, especially in terms of governance innovations, which can foster the existing public or semi-public resource regimes to sustainable collective actions over the scale?*

The introductory paper determined a self-organised common pool resource regime as (i) an institution for ecosystem service governance under conditions of asymmetric and imperfect information; and (ii) reasoning for behavioural change from sectoral to ecosystem service governance.

Three papers in the session presented different case studies, each focusing on one category of ecosystem services: a) Regulation services (capacity of self-organisation and collective actions in promoting the sustainability of mountain regions); and b) cultural services (as examples of services being maintained as voluntary collective actions in public or semi-public regimes at the local level but that are part of global commons).

With regard to regulation services, we presented cases of CPR regimes relevant for carbon sequestration in forestry, agriculture and other rural activities, which have the potential to contribute to global CO₂ mitigation objectives and the well-being of EU marginal regions. The second paper demonstrated the potential of CPR regimes in beekeeping, and how the provision of pollination can support the adaptation capacity of rural landscapes, local sustainable development, and local and global biodiversity conservation.

Finally, we presented applications of CPR

principles to the management of urban communities, and safety as a parameter of public space quality and an important cultural ecosystem service. This quality addresses the physical as well as psychological importance of safety for humans in the urban environment. The paper argues that it can significantly increase the quality and sustainability of our cities in the EU, as well as expand green infrastructure, which is another important objective of EU policies for urban environments.

The session was organised by the SPECTRA Centre of Excellence of the Slovak University of Technology and Institute of Forest Ecology, Slovak Academy of Sciences and CETIP Network (www.cetip.sk) as a contribution to the projects *EcoFINDERS: Ecological Function and Biodiversity Indicators in European Soils (7th FM)* and *Adaptation strategies for natural and social disturbance* (Vega 2/0038/14).

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Report from a special session at the IASC European Meeting in Umeå, September 2014: Balancing heritage and transformation - implications for sustainable governance

Session Organizer: Monica Hammer

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Panel Participants:

Tiina Peil: *Urban Edgelands, the new commons?*

Tallinn University, Estonia

Charlotte Bydler: *De-colonial or Creolized Commons?*

Södertörn University, Sweden & Max Liljefors, Lund University, Sweden

Monica Hammer: *Governance of ecosystem services in changing peri-urban areas - a case study from Sweden*

Södertörn University, Sweden

In view of environmental changes, shifting views of commons in rural and (peri-) urban areas are an urgent matter for analysis. In this session, the nature-culture nexus was explored through the lens of transforming human use in relation to the ecosystem services and the heritage concepts. The three presentations in the session provided different examples from the Baltic Sea Region including Sami craft, changing peri-urban areas and life-styles in Stockholm, Sweden and transforming urban edgelands along the Tallin coast in Estonia.

Heritage may refer to customary use, life-styles past and present, production methods and skills or geographical sites. It is also an operative term in many legal-administrative documents and involves claims to certain privileges, such as access to land and

resources, as well as the right to use them at present and in the future. In the early 2000s the related legal concept "Creative Commons" was formed to promote – often non-commercial open-access – sharing of otherwise copyright-protected material. Such resources are renewable, like water, air, or skills, for example; they may be a finite and contested object of conflicting interests like iron ore in a mountain. Also, cultural ecosystem services, such as recreation and aesthetics, are included in all major typologies of ecosystem services and present some of the most compelling reasons for conserving ecosystems. As such they constitute a set of fundamentally shared common resources.

How are borders drawn with respect to communities with stakes in immaterial commons? Charlotte Bydler and Max



Liljefors analyzed this issue in the case of Sami craft. For example, the Sami, Lisa Vipola exhibits crafts in synthetic materials in Stockholm. If the pieces are understood as *duodji*, Sámi craft, is it a legitimate use of a cultural common resource or a misuse of indigenous heritage? The question of authenticity is an influential part of *duodji* discourses, seen as a cultural common resource. However, the legitimacy of inheritance through (paternal) bloodlines could be questioned. The concept *créolisation* developed by e.g. the Caribbean author and philosopher Édouard Glissant (1928 – 2011) is useful here. In the Caribbean, from where he wrote, colonial violence had eradicated "original" indigenous language and arts. But there is also a constantly evolving creative process of intermingling and rhizomatic cultural connections in all directions. The "poetics of relation" that Glissant proposes as an alternative to authenticity never claims legitimate heritage lines. Glissant's notion of "mondiality" refers to space potentially shared by everybody in the world, "tout-monde", and resounds with the interrelated coexistence of species in biodiverse habitats. Also, Glissant's narratives echo with the interconnected evolution of organisms and populations through evolutionary history. At the basis of those correspondences lies the relationality of the categories of humanness and nature, where attachments to landscape and sea can overshadow family ties.

In the presentation by Hammer, implications for common resources of transforming life styles and land use patterns in the expanding urban region of Stockholm, Sweden was discussed. How are different ecosystem services perceived and how are local stakeholders involved in governance? The peri-urban landscape is characterized by a diversified and fragmented land-use with strong relations



Photo credit: Ninna Mörner

From left to right Tiina Peil, Monica Hammer and Charlotte Bydler

to functions belonging to an urbanized society with urban, mobile life-styles. One example is the rapidly increasing number of sport horses affecting land use and ecological status in different ways. Horse farms and their associated functions occupy large land surfaces in peri-urban areas where the competition for land is already high. Horses has become a life style contributing to cultural ecosystem services and human health. However, the growing importance of equestrianism has promoted a development of "horsiculture" with many horses grazing outdoors on land formerly used as agricultural land and for grazing of life-stock. This contributes to keeping the landscape open. However, the large amount of horses also causes significant nutrient leakage resulting in eutrophication and degraded water quality in adjacent catchments and the Baltic Sea. Also, there is an increased demand for riding on public and private land allowed according to the traditional legal "Every Man's Rights" in Sweden. Horse riding is also causing severe pressure on the right to public access and is leading to problems with land degradation. Hence, horse farms replacing traditional agriculture implies a change in priorities regarding ecosystem services and also local ecological knowledge. New institutional arrangements are needed to better include



horse keeping in local governance of land and water.

Another example of transforming areas is edgelands that are those familiar yet ignored spaces which are neither city nor countryside. Often they are the unacknowledged spaces on the doorsteps which people see, but do not to any degree know, and which are often simply interpreted as wastelands waiting to become something useful, or they could be undergoing some kind of transition, being in a state of becoming. Tiina Peil examined urban edgelands along the Tallin coast in Estonia as a legacy from the Soviet occupancy, in a historical and social, as well as physical and ecological development perspective. A key question is the accessibility of these edgelands and who has the right to decide their future. The idea of edgelands can be useful as a vital, synergistic concept which opens up new ways of thinking about environmental challenges in the contemporary world. The

potential for spatial disorder can lead to new spatial qualities with a diverse public space where the formal property rights (so far) have only secondary significance in the urban edgelands of Tallin. The edgelands have ecological functions such as micro-climate regulation, water retention and purification providing ecosystem services. They can also be significant for urban populations in providing humans with recreational opportunities, possibilities for adventure and for observing wildlife.

The three presentations in the session showed examples of transforming use patterns affecting commons and the mix of ecosystem services, including cultural services in various ways. In particular, dynamics between traditional and evolving resource uses points to the importance of understanding the links between cultural services and other ecosystem services in governing commons.

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Commons, lessons learned from the excursion on water and forestry in Sweden

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Hydropower is one of the most promising forms of non-fossil fuel energy in both the sense that it is renewable as long as the water source is available and because of its relatively low carbon emissions. Of course, the extent to which water's power can be exploited is dependent on having suitable rivers and is limited by just how many power stations can be built in a finite space. So why have only one or two hydrological

power stations on a river if you can have fourteen? Having its headwaters from a small chain of lakes in Swedish Lapland, the Skellefte River is one of the most modified rivers in Sweden and represents a large source of the nation's hydropower. The first stop on our post-conference excursion took us to the Finnfors power station, one of the fourteen hydropower stations along the river. Since there are only four rivers in Sweden that have no hydropower facilities



on them, the calm lake created behind this power station is typical of many of Sweden's rivers. Once used to transport timber to the coastline, these previously wild rivers now host calm bodies of water. Our guide explains the remaining four wild rivers are likely to be preserved as it is now almost politically impossible to propose building on them. Environmental groups are critical of the effects of this heavy environmental modification, and the general public, while it disapproves of how the power stations have significantly altered the natural landscape, seems to accept their presence as the best of a bad set of options for power generation. Many desire a more "natural" state for Sweden's rivers, but acknowledge how difficult, or perhaps impossible, it would be to remove the power stations and restore the rivers to their previous conditions. Despite the lamentable situation in which the environmentally conscious Swedes find themselves in, the alterations made to Sweden's rivers have also produced some desirable effects. One engineer tells us of an elderly gentleman from the area who said that while people in his generation typically have a longing for "the way things used to be," much larger fish are available for the catch now that the river's fish have larger and more stable habitats in which to feed and mature. While looking at the gates of the dam we are informed that every year the company releases a part of the reservoir's water downriver to create a spectacle for Skellefteå's citizens who may otherwise be prone to think poorly of the dam's environmental impacts. Skellefteå Kraft is owned by the local municipality, and the spring spectacle is intended to draw in members of the community to educate them about both how the company delivers reliable power to much of Sweden, as well as how they take serious measures to mitigate negative environmental impacts generated from their operations. With the large revenues that the municipality-owned

company generates, it funds many services to the local area, not the least of which being a champion hockey team that enjoys widespread support. It is an innovative method of reminding the local citizenry of the positive, as well as technical, aspects of a well-managed common pool resource that makes many of their amenities possible.

The presentation from the large energy producer who owns the power station, Skellefteå Kraft, explained how the company takes an earnest interest in the environmental aspects of their operations. The company is, however, currently expanding into what has the potential to become more noticed by the public: wind power. Maps and diagrams of reservoir usage show how the artificially created lakes give the power company a high level of choice in when to utilize the potential energy of the reservoir. Since the power generated by a power station is immediately pushed into the power grid, the high degree of choice in when power is generated makes hydropower an attractive source of renewable energy. Wind power, by contrast, is as unpredictable as the weather forecast. Its energy is fed into power grids whenever the wind blows, regardless of peaks or lulls in demand. These two sources of power are thus complementary since water flow over the hydropower plant's turbines can be increased when wind energy is at low productivity and decreased when steady winds keep the wind turbines in constant motion. The marriage between wind power and hydropower is not without its difficulties, as our guides explain. Wind power is popular, but the effects wind turbines have on the environment can decrease its appeal. Many wind power stations are in rural areas of the country, including the more mountainous northern regions of Sweden, away from the nation's population centers. Environmental groups are, understandably, concerned with the mortality of bird populations who can



inadvertently fly into dangerous, spinning propellers. Additionally, these wind power farms have a disruptive effect on reindeer herds since reindeer typically prefer to avoid them. Since all reindeer in Sweden are partially domesticated and herded by indigenous Sami peoples, wind power may be providing the majority of the country with environmentally friendly energy while shifting the negative externalities disproportionately to a smaller part of the population. Some have remarked that the pace of expansion in wind farms is so fast that wind power stations may become like hydrological power in that it will eventually come to a point when public sentiment against it makes any further expansion politically impossible. With the geospatial concentration of wind power generating facilities and the more widespread benefits of wind power accruing to a geographically diverse set of consumers, issues of equity may become important for those dependent on various local commons who will likely bear more of the cost relative to others.

What the power station, operational since the 1960s, also showed us was on a long enough timescale, it may be superfluous to ask if a common is natural or manmade. Instead, environmental questions may be better phrased in terms of which states of the common are more desirable than others, regardless of what its state was or otherwise would be without a human presence. Nature has its own way of managing human changes to the environment, some of which are more desirable to existing species, humans included, than others. Global warming, for example, has caused the power station to experience what used to be spring floods in the early autumn. Changes imposed by the various dams to the aquatic ecosystem along the Skellefte River have advantaged certain species and disadvantaged others. Nature's changes in response to gradual warming of the environment could, likewise,



Photo credit: Kate Ashbrook

Conference Participants during a discussion on forest management

bring further changes to the water flows that have so far provided a reliable source of renewable energy to Sweden's population.

Upon completion of lunch, and conversations of how to translate the name of the fish that was served (sik) into English, attention turned to Swedish forestry. Representatives from both the Swedish University of Agricultural Science as well as two large forestry companies presented information about the academic research and practical industrial aspects of managing Sweden's forest-dominated landscape. Sweden is home to one of the world's first set of laws concerning replanting of trees after felling, and has been doing practical research on forestry management techniques since the 1920s. With this history of researching and working in the forest, it is understandable why the Swedes have a strong grasp of the long-term nature of forestry in a climate with an average rotation period (length of time it takes a seedling to be large enough for felling) of 70-90 years. Many non-timber benefits of all forests in Sweden, such as hiking and skiing or berry and mushroom picking, have been accessible to the public since time immemorial. Directly translated as "everyman's rights," the institution of forests, even privately owned forests, being



Photo credit: Camilla Widmark

Excursion to the Power Station

open for recreation survives as a central aspect of Swedish culture. From an overview of the topics included in Swedish forestry, it became clear that forests in Sweden are an important source of both economic and social livelihood.

A short drive away from the Vindeln hotel took us to one of these experimental forestry sites. This particular forest stand was the location for an experimental forest management technique using a method somewhere between a clear-cut system and a continuous cover forestry system. Attempting to better accommodate the multipurpose functions of the forest common, the forest stand was cut in interlinking diamond shapes to allow for better movement of animals and harvesting machinery, while leaving the forest more intact and still allowing for regeneration to occur. To my untrained eyes, as well as those of my fellow excursion participants, the pattern of the management technique and its technical advantages were only apparent upon elucidation from our guide.

Sitting in the forest, it was difficult for me, at least, to even know that the forest was testing an experimental management method. Interestingly, our visit to the site was taken as an opportunity for the presenter to ask us as participants what our thoughts were about the management method. With the questions now flowing toward our group instead of from it, we were also asked to give our opinion on the aesthetic appeal of the forest under this management regime. It can be easy to forget that, while a management technique needs to be economically profitable and environmentally friendly, in Sweden public access to the land necessitates input from a general public who may see the forest landscape quite differently from the trained forester.

The next presenters were two representatives from large forestry companies. One representative presented a significant amount of information about the general environmental considerations involved in final felling in the Swedish Model for forestry cultivation. The large amount of forest owned by Sweden's large forestry companies places a responsibility upon them to educate the public concerning how they approach their responsibility to manage their forests in addition to the considerations they make for the environment. We were presented with a booklet entitled "Final Felling and Conservation" which detailed what the company does to ensure its operations are environmentally responsible. This particular company was interesting because the explicit goal of their forestry division is to not make profit, but instead ensure a steady flow of raw materials from the forest for both present as well as future use. Instead of focusing on forestry products as the main source of income, the company wants to develop its main profit center outside of a forest-product market. The notion of a private company using such a large amount



of forest land explicitly as a stable source for production inputs across time and not as a source of profit seems to be the ideal framework for sustainable management, albeit still in a private profit framework. The next representative, from a company owning even more forest, gave the group an idea of how his firm thinks of environmental considerations on an even larger scale, or a landscape scale. A forest common is often governed at scales smaller than the entirety of the ecosystem for administrative reasons and in Sweden, the large amount of freedom given to individuals and private companies to make environmental considerations seems to make the possibilities for coordinated management of the forest common even more difficult. This company (Sveaskog) owns such a large amount of forest (14% of the country's forest land) that it is able to think about environmental considerations at a scale that most other owners in Sweden simply are unable to achieve. Being wholly owned by the Swedish state, this company has an even heavier burden upon it to be conscious of the affects it has on the environment through its heavy forest operations. Couple the added environmental obligations with the fact that its primary market is forest assets and products, and the company must be very careful with the decisions it makes concerning each tree it decides to cut or leave. Furthermore, the company has a large responsibility to set aside a percentage of otherwise productive forest for conservation. As was explained to us, exactly what land qualifies as productive forest is an issue of some controversy among those in the forest industry and those in the public who are primarily concerned with environmental impacts of industrial forestry. Certain forestland, being near to the mountainous border with Norway, may technically meet the definition of productive forest but would otherwise be left uncut because of their lower profitability. How to consider this land is not



Photo credit: Camilla Widmark

Visit to a water test center during the fieldtrip

a simple, objective task: as set-aside forest for conservation or as forest which should not be considered in the fulfillment of the company's obligations since its low profitability would make it unlikely to be harvested.

At the end of a full day, our patience was low and I had doubts about my ability to continue paying attention to the last presenter. Pulling into the final excursion site, we were greeted by a jolly, tall Swede. His excitement for the water testing he and his colleagues do on site pulled us into a surprisingly complicated story of the dynamics of small-scale nutrient flows. Our presenter explained how difficult it can be to quantify and say with certainty the impact of actions taken on upstream forest stands on stream nutrient flows. To keep track of water quality, two small sauna-sized huts were constructed over part of a stream in order to run longitudinal studies of changes in chemicals over time along with how and when fertilizers were used in the surrounding area. One finding was that over numerous years of observation, the team



documented much higher levels of nitrogen fertilizer in the streams when surrounding stands used fertilizers in low-growth seasons compared with when nitrogen fertilizer was applied during high-growth seasons. Establishing evidence for causality of whose actions affect which part of the forest common can be a notoriously difficult task. Having quality, long-term data allowed our guide to piece together at least some information of how geography, seasonal changes, and external influences create change throughout the forest common. Although this area's extreme climate made it one of the last settled areas of Europe around the mid 1800s, there is still clear evidence of irrigation and drainage ditches predating any records of who owned or made modifications to the land. It was yet another sign that humans are indeed another part of the ecosystem whose impacts on the land eventually become part of the "natural" landscape.

Our experience gave us a glimpse of several large and interconnected commons in northern Sweden. The sparsely populated land, at first glance, appears to be dominated by an unending and non-discrete pine forest with occasional circuitous roads. The excursion sites revealed a much more dynamic picture of just some of the service flows provided by common pool resources in this sub-arctic landscape. Both the forests

and the once wild rivers that fed timber from remote inland locations down to the coastline enabled settlement of northern Sweden, and they continue to be important sources of livelihood today. Hydropower from the rivers and biomass from the forest serve as vital sources of heat and light in the long, cold, dark winters. Forests must provide not only financial revenues from timber, but also serve as sources of recreation and cultural identity of a people who have a special relationship with their natural surroundings. Smaller-scale water flows in the forms of streams and creeks connect various private forest properties, creating mutual dependency and patterns of change over time. These common resources make life in the remote and extreme regions of Scandinavia possible, but changes in climate and increasing demands on the service flows from these assets mean that management must become more efficient and more environmentally friendly. One other cultural experience we had both during the conference and the excursion leads one to understand that while the Swedes are hard at work on solutions for efficiency and environmental quality, there seems to be no scarcity of another important common resource: coffee for occasional work breaks.

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Announcements

Send Letters and Announcements to Alyne Delaney, Editor, Commons Digest, Innovative Fisheries Management, Aalborg University, Skibbrogade 5, Aalborg 9000, Denmark. ad@ifm.aau.dk Tel: +45 99 40 36 94

Be part of the IASC!

IASC is itself a commons, and depends on its membership dues for many of the critical activities it undertakes. Become a member! <https://membership.iasc-commons.org/>

Suscribe to the newsletter! Tell a friend! The newsletter is the easiest way to receive all the news about the association Click here to sign up, or contact us at iasc@iasc-commons.org to post announcements - conferences, job positions, etc. - and reach the +3K members of our community: <https://membership.iasc-commons.org/civicrm/profile/create?gid=12&reset=1>

ANNOUNCEMENTS

Call for Proposals to Host IASC Regional Conferences

The International Association for the Study of the Commons (IASC) is now accepting preliminary proposals from individuals/organizations interested in HOSTING IASC REGIONAL OR THEMATIC CONFERENCES for 2016-2017.

IASC Conferences bring together scholars and practitioners from around the world on specific regional commons themes or on specific regions.

The benefits of hosting these conferences for your organization include an expanded network of both global and regional commons scholars, substantial organizational capacity building, and a major opportunity to place a spotlight on specific regional or thematic issues on commons.

Proposals must be sent electronically in PDF-format no later than 15 March 2015 to the IASC Secretariat, iasc@iasc-commons.org.

More information may be found on IASC website: <http://www.iasc-commons.org/blog/call-proposals-host-iasc-regional-conferences>

Managing our Common Resources - Course series

Over the past 18 months a small group of IASC members have been working on the development of a series of new and low-cost, distance learning short courses aimed at raising awareness and understanding of commons issues around the world. The first course in the series, 'Managing our common resources', will explore different aspects of commons, their management, governance, and sustainability, and will be delivered for the first time this Spring (23rd March – 30th April 2015).

For more information and details on how to register for the course click on the following link: <http://www.ccri.ac.uk/managing-our-common-resources/>

Two Postdoctoral Fellowship Opportunities - School of Natural Resources and Environment The University of Michigan, Ann Arbor

The University of Michigan announces two post-doctoral research opportunities, beginning August or September 2015 and focusing on land-



cover, social, and livelihood impacts of (1) large-scale land transactions and (2) forest sector investments in sub-Saharan Africa and Latin America through statistical analysis of remote sensing and social survey data. Our goal is to undertake systematic, quantitative analyses of the impacts of large-scale changes in land tenure and of forest sector investments on land-cover change and livelihoods, to investigate both the patterns of interactions among these outcomes and the causal effects of land tenure change and forest sector investments through a statistical matching-based approach. The positions are part of multi-year projects funded by NASA and DFID that focus on Ethiopia, Tanzania, Liberia, Ghana, and Brazil. These are full-time positions available with an initial appointment of one-year, renewable up to one additional year on the basis of satisfactory performance.

For more information please visit IASC website:
<http://www.iasc-commons.org/blog/two-postdoctoral-fellowship-opportunities-school-natural-resources-and-environment-university-m>

Senior Research Fellow/ Reader at Countryside & Community Research Institute

The CCRI is seeking to appoint a senior researcher to develop its capacity and reputation in the area of sustainable agriculture and food and nutrition security, with a strong preference to recruit someone with excellent quantitative and statistical analytical skills. Initially, about 60% of the post-holder's time will be dedicated to a new Horizon 2020 research project entitled 'Sustainable finance for sustainable agriculture and fisheries' (SUFISA), which will run from 1st May 2015 to April 2019. A key role for the post holder will be to lead the design and analysis of a large farm survey across European agricultural regions, including econometric and multivariate

analysis.

More info at the University of Gloucestershire website:

<http://resources.glos.ac.uk/jobs/index.cfm?jobRef=A843>

Job Announcement: Assistant Professor - Marine Ecosystems and Society

The Department of Marine Ecosystems and Society at the Rosenstiel School seeks individuals with a PhD in a discipline relevant to marine and/or coastal resource management. We seek a quantitative social scientist who can integrate physical and natural science data with theories and methods from the social sciences. We seek applicants from diverse social science fields, including but not limited to, economics, decision sciences, and the broadly defined policy sciences.

The successful candidate will have an excellent research record related to the study of human-environment relations, an ability to secure extramural funds, and strong teaching and communication skills. They will be expected to develop an active interdisciplinary research program, in collaboration with researchers from the University's Abess Center for Ecosystem Science and Policy and elsewhere across the University; to teach both undergraduate and graduate courses; and to advise masters and PhD students. We are seeking a hire at the rank of Assistant Professor. Exceptional applicants at other ranks may also be considered. Our strategic plan includes 16 faculty hires in the next few years, across all departments. Please submit your CV, the names and contact information for three references, a sample of scholarly writing, and a concise statement of research interests via email to: MESSearch@rsmas.miami.edu. This position will remain open until filled. We anticipate conducting interviews for the positions in



February

2015.

The University of Miami is an Equal Opportunity Employer/Affirmative Action Employer. Females/Minorities/Protected Veterans/Individuals with Disabilities are encouraged to apply.

More information on:
<http://www.rsmas.miami.edu/research/departments/marine-ecosystems-and-society/faculty-employment-opportunities>

PhD Position in Agri-environmental Policy and Resource Governance

The Department of Agricultural, Environmental and Food Policy at the Martin Luther University Halle-Wittenberg offers a vacancy for a Research Associate (50%) in Agri-environmental Policy and Resource Governance, starting April 1, 2015 for 3 years.

We are looking for a candidate with a Master of Science in agricultural economy, resource management or institutional economy or related fields. She or he will participate in research in a field of current agri-environmental policy interest. The land-water nexus, common goods or institutional and behavioral economics are possible perspectives to approach a research topic.

The position involves teaching (2 SWS). This is a qualification position which aims at a PhD.

For further information, please see the attachment and refer to

<http://www.landw.uni-halle.de/prof/agrarpolitik/>
<http://personal.verwaltung.uni-halle.de/jobs/wissmi/>

Faculty position at UNH - Carsey School of Public Policy

The Carsey School of Public Policy and the Earth Systems Research Center in the Institute for the Study of Earth, Oceans and Space at the University of New Hampshire seek outstanding applicants for an open-rank research professor position to enhance ongoing and new interdisciplinary investigations into sustainably managed systems. UNH actively creates and nurtures a dynamic learning environment that fosters diversity, inclusion, and quality engagement for all.

More information may be found on IASC website:
<http://www.iasc-commons.org/blog/faculty-position-unh-carsey-school-public-policy>