



Sami-state collaboration in the governance of cumulative effects assessment: A critical action research approach



Rasmus Kløcker Larsen ^{a,*}, Kaisa Raitio ^b, Marita Stinnerbom ^c, Jenny Wik-Karlsson ^d

^a Stockholm Environment Institute, Postbox 24218, 104 51 Stockholm, Sweden

^b Swedish University of Agricultural Sciences, Department of Urban and Rural Development, Unit for Environmental Communication, Box 7012, 75007 Uppsala, Sweden

^c Vilhelmina norra reindeer herding community, Slingan 45, 923 94 Dikanäs, Sweden

^d Swedish Sami Association, Formvägen 16, 906 21 Umeå, Sweden

ARTICLE INFO

Article history:

Received 10 October 2016

Received in revised form 15 February 2017

Accepted 2 March 2017

Available online xxxx

Keywords:

Cumulative effects

Impact assessment

Reindeer herding

Sami

Action research

Collaboration

ABSTRACT

Indigenous-state collaboration in the governance of cumulative effects assessment (CEA) is often hampered not only by legacies of colonialism and inequality but also disagreement on what the 'CEA governance problem' is in the first place. In this paper, we draw on critical theories on dialogue and collaboration to present a novel approach to joint problem analysis between Sami reindeer herders and civil servants in Swedish permitting authorities on mining, wind energy and forestry. We discuss process design choices, insights on CEA governance and ways to tackle these barriers in practice. We argue that indigenous-state collaboration may play a constructive role in improving CEA governance, including the recognition of indigenous peoples' rights. However, this requires a process that carves out new spaces for exploring divergent problem definitions and supports the participants in challenging institutionalized inequalities within their positioned realities.

© 2017 Elsevier Inc. All rights reserved.

1. Introduction

One of the most complex and acute challenges of contemporary land use planning concerns multiple, competing claims over land and natural resources spurred by a pressure to produce 'more of everything' (Westholm et al., 2015). Despite established impact assessment (IA) procedures to address these developments (Morgan, 2012), the use of cumulative effects assessment (CEA), i.e. the effects caused by the combined results of past, current and future activities across the landscape (MacDonald, 2000), remains a substantial challenge when seeking permits for new infrastructure and development. In Sweden, the Environmental Protection Agency (EPA) has concluded that the current policy tools are inadequate, and called for improved mapping of multiple land claims and more comprehensive landscape planning (Swedish EPA, 2013, 2014).

The IA literature is full of observations on how countries with well-established CEA-regimes continue to struggle to enact their ambitions (e.g. Tollefson and Wipond, 1998; MacDonald, 2000; Connelly, 2011; Noble and Hanna, 2015). From a global review, Bidstrup et al.

(2016:157) recently commented that CEA appears to be still 'done badly across the world'. Whereas much has been written on the challenges in the *assessment* of cumulative effects, research gaps have been identified as regards to the *governance* of cumulative effects (e.g. Boutilier and Black, 2013; Noble and Hanna, 2015). That is, the extent to which CEA is embedded in regulation and permitting practices and actually affects decision making. As Heggman and Yarranton (2011:486) noted in a previous special issue on CEA in this journal, 'much has been said and written on how to do a "good CEA". However, not as much has been said and written on how to use the results of CEA to "make a good decision"'.

CEA governance is of particular significance on indigenous territory, when the land rights and traditional land uses of the indigenous communities are affected by competing land uses. Hence, on indigenous territory, addressing indigenous peoples' rights to land is an inevitable part of CEA governance, and vice versa: questions of CEA governance will bring into play – or serve as proxy for – larger and often unsettled questions linked to indigenous relations with the state, notably demands for self-determination. It is along these lines that Tollefson and Wipond (1998:389) comment that 'both the concept of cumulative impacts and the concept of aboriginal rights fundamentally challenge governments' ability to continue to rely on large-scale, corporate resource extraction as a primary economic activity'.

Despite this connection between CEA and the need to address indigenous peoples' rights, IA in general and CEA governance in particular is

* Corresponding author.

E-mail addresses: rasmus.klocker.larsen@sei-international.org (R.K. Larsen), kaisa.rautio@slu.se (K. Raitio), marita.stinnerbom@biegga.com (M. Stinnerbom), jenny@sapmi.se (J. Wik-Karlsson).

most often shaped by inherently disabling institutional conditions that have been shaped by legacies of colonialism and inequality (e.g. Tollefson and Wipond, 1998; Lane, 2003; O'Faircheallaigh, 2011; Lawrence and Larsen, 2017). The focus is on monitoring or governing already existing activities and seeing indigenous participants as 'stakeholders' on a par with industry and not as rights-holders who are, for instance, entitled to nation-to-nation negotiations with the state (Boutilier and Black, 2013; Porter et al., 2013). Typically the purpose is to generate sufficient consensus around co-existence (on premises determined by the developer) rather than allowing for the possibility that the development may be unacceptable in the first place (e.g. Lawrence and Larsen, 2017). In other words, CEA governance tends to limit itself to mitigating the impacts of new development projects while ignoring the structural barriers to securing indigenous peoples' rights.

In this paper we use the term 'CEA governance dilemma' to describe the situation that emerges from the divergence between problem frames held by different actors. In such contexts, the challenge is how to address the multiple, competing understandings of the 'problem' as identified by indigenous communities, the state and the industry. If CEA governance is entrenched in any single perspective then it will be unable to address the conflict between different problem frames (Gray, 2003). Instead, such dilemmas call for reflective and critical approaches between parties to jointly explore their underlying view(s) on the problem and based on that draft legitimate strategies (Ravetz, 1999; Toderi et al., 2007; Saarikoski and Raitio, 2013). In order to be meaningful for the indigenous communities, this must inevitably include attending to the disabling institutional conditions and other structural barriers to the fulfilment of their rights.

In this paper, we present results from an action research project that sought to consider the divergent problem frames between representatives of the Swedish state and the indigenous Sami people. The work comprised a dialogue that aimed to create an understanding of the underlying CEA governance dilemma, and support the participants in improving the situation. Drawing on critical theories on dialogue, collaboration and action research (e.g. Midgley, 2000; Mouffe, 2000; Bacchi, 2009; Larsen, 2013), this paper asks:

How may collaborative problem analysis between state authorities and indigenous peoples, facilitated by researchers, play a constructive role in conflict situations where even the exact nature of the 'CEA governance problem' is under dispute?

In structuring our inquiry below, we distinguish three more detailed sub-questions:

- 1) How may such a critical collaborative approach to CEA governance be designed?
- 2) How is *understanding* of the CEA governance dilemma improved?
- 3) How may the process contribute towards *tackling* the CEA dilemma in practice?

In the next section (Section 2) we present the empirical context of the study, namely the mounting exploitation pressure in the Swedish part of Sápmi – the customary lands of the indigenous Sami now located within the Swedish nation state. We then engage more closely with the critical literature on dialogue and collaboration (Section 3). After presenting the data and methods of the study (Section 4), we answer the first research question regarding the design of the collaborative process (Section 5). We then summarise the results on the CEA governance dilemma in order to answer the second research question, also positioning these insights in relation to the existing international literature (Section 6). We address the third question, concerning the contribution of action research(ers) to eventually tackling the CEA dilemma (Section 6), before we end by discussing the limits of our work and pointing to ways forward (Section 7).

2. Context: current knowledge on CEA governance challenges in Sápmi

The Sami are indigenous people in Sweden, Norway, Finland and Russia. Reindeer herding comprises a fundamental part of traditional Sami culture and livelihood, exercised on close to 55% of Sweden's land area. The exploitation of customary Sami land and reindeer pastures has escalated in recent years. There has been a rapid increase in the number of exploration permits for mining projects (from 11,000 ha in 2000 to 18,700 ha in 2011) and in the number of operational wind farms in the reindeer herding area in northern Sweden (from 48 wind mills in 2003 to 704 in 2014) (Österlin, 2016). Industrial forestry is practiced in the majority of lowland forests areas, resulting in reduction and fragmentation in the lichen-rich forest that reindeer depend on during the long winters (Sandström, 2015). These developments have severe consequences for Sami reindeer herding communities (*sameby* in Swedish, henceforth 'Sami community') that form the geographical and administrative units for practicing reindeer herding and related fishing and hunting (Fig. 1) (on the colonial legacy of these communities see e.g. Lawrence and Åhrén, 2016).

Over the last decade or more, international law on indigenous peoples (e.g. United Nations Declaration on the Rights of Indigenous Peoples, UNDRIP, and the ILO-169 convention) has set out clearer duties for states and rights for indigenous peoples to influence decision making. Notably, this includes norms such as the state duty to consult and the right for affected traditional resource users to give or withhold so-called Free Prior and Informed Consent (FPIC) to new projects on their lands (Åhrén, 2016).¹ These norms are also reflected in general impact assessment standards such as social impact assessment (SIA) and human rights impact assessments (HRIA) (e.g. Vanclay et al., 2015). Yet, Sweden has not yet ratified ILO-169 and, despite the general recognition by the Swedish state of the Sami as an indigenous people, Sami communities have few statutory rights to influence permit and IA processes. For instance, Swedish legislation on EIA, mining, wind energy and forestry lacks an explicit duty for the state to consult the Sami as an indigenous people (Allard, 2016). Instead, the state expects developers to consult Sami communities in what is often merely information exchange with little possibility for real influence. Solving potential conflicts is seen as a matter for the developer and the affected Sami community as private parties (Allard, 2006).

The limited possibilities of the Sami communities to influence permitting and IA processes are further weakened by the fact that the Swedish Environmental Code does not have clear requirement concerning CEA. In fact, the Code does not even mention the concept of cumulative effects, and the Ministry of Environment (2009) has earlier noted that it is unclear if the Environmental Code, as regards CEA, actually conforms to EU directives.² The IA Directives (85/337/EEC and 2001/42/EC) pose a requirement on Member States to ensure that EIAs consider 'the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources' (Annex IV re. Art. 5(1), 85/337/EEC). These minimum directives allow much discretion to member states in their interpretation. The Swedish regulations have remained ambiguous about the demands on developers and permitting authorities concerning CEA. As a result, developers and consultants across different fields of application rarely consider cumulative effects in their

¹ While some conventions, such as UNDRIP, are not legally binding, individual provisions may be indicative of binding international norms. There is ongoing debate regarding the legal status of the international legal sources on indigenous peoples, see further in Åhrén, 2016.

² The formulation in government's recent draft of the updated Environmental Code chapter 6 does however introduce specific reference to cumulative and interactive effects in the near, medium and long-term.



Fig. 1. Schematic of the cumulative effects on Sami reindeer herding (artwork by Simon Kneebone).

analyses, with emphasis being placed on meeting the minimum, regulatory requirements (e.g. Wärnbeck and Hilding-Rydevik, 2009; Kågström and Richardson, 2015; Kågström, 2016).

The inability of the state to protect Sami land rights in permit decisions and impact assessment procedures has provoked a number of protests, conflicts, court cases and criticism from the international community such as the UN Committee on the Elimination of Racial Discrimination and the UN Special rapporteur on indigenous peoples' rights (e.g. UN HRC, 2016). As the Swedish Equality Ombudsman (DO) (2013:37) has observed: 'The work to realize and protect the rights of the Sami is about moving from right to reality... This could include changes in the everyday practices, routines, rules, and guidance [by government authorities]'. In its recent government commission report, the County Board of Norrbotten identified governance failure regarding CEA as a specific obstacle to reducing the conflict level between mining companies and Sami communities (County Board of Norrbotten and Sweco, 2016:31–32).

The absence of consolidated guidance from the state on CEA is, arguably, one of the reasons why affected Sami communities, developers, and branch organizations have produced a number of voluntary protocols and methods on IA, including CEA (e.g. Svonnö, 2010; Gabna, Laevas, and LKAB, 2015). The Swedish Forest Agency has, on its own initiative, developed methods to map competing land uses in relation to reindeer pastures as part of Reindeer Herding Plans (*renbruksplan*) (Sandström, 2015). It has been offered as a voluntary tool to all Sami communities in Sweden but has remained a 'parallel instrument', i.e. does not play a formal role in IA or permit processes (see also Löf, 2014).

In many ways, the situation in Sápmi is reflective of international experiences (e.g. Tollefson and Wipond, 1998; Noble and Hanna, 2015), testifying to how CEA governance challenges are rarely purely technical in nature and cannot be resolved through 'more' or 'better' data or more advanced CEA. Rather, they concern the persistence of unmediated governance dilemmas (as defined above) that provoke an escalation of conflicts between land users and a deepening uncertainty and unpredictability in permit processes. Understanding the barriers to such governance improvements, and the potential of state and Sami representatives to address these collaboratively, has therefore also an international relevance.

3. Critical collaborative approaches to CEA governance

As noted earlier, in pursuing collaborative engagement with state authorities and industry, indigenous communities are often facing unequal power relations, legacies of colonialism and structural causes of inequality. That is, a 'playing field' that will undermine possibilities for constructive collaboration (e.g. Lane, 2003). The work of, among other, O'Faircheallaigh (2011) and Howitt (2003) has shown how indigenous communities may collaborate on IAs to infuse perspectives into state and industry based planning, but that the processes and outcomes often remain controlled by outsiders with the democratic potential severely limited.

Conventional collaborative approaches to planning have more generally been criticised for failing to address power imbalances and focusing too much on achieving consensus (Mouffe, 2000; Poncelet, 2001; Young, 2001). Poncelet (2001) views this to be particularly problematic if the participants in a collaborative process are reluctant to turn a critical eye towards the structural sources of governance dilemmas, such as colonial legacies of land use planning. Asymmetrical distribution of negotiation skills, resources and power put parties in unequal positions, and this leads to the dominance of certain problem framings over others (Bacchi, 2009). A body of work also within the IA literature calls for the application of more critical social theories in understanding under which conditions, or if at all, collaborative approaches could enable improvements (e.g. Morgan, 2012).

In response to these concerns, a critical understanding of planning and governance must allow for collaborative critique of the very institutional conditions that structure these contested social relations. It must recognise conflict and respect the divergence in problem definitions, based on often similarly divergent knowledges, experiences and realities (Bacchi, 2009; Saarikoski and Raitio, 2013). Chantal Mouffe's notion of agonistic pluralism is instructive here, placing emphasis on a relationship in which divergence of views – including problem definitions – is not something to get rid of, but something to explore between adversaries who respect each other's right to defend values and positions (Mouffe, 2000).

Opening up the process of problem-defining to collective scrutiny means recognising (and thus beginning to address) imbalances in the

agenda-setting power of the parties. Such efforts may therefore initially be opposed by the most powerful actors who suddenly see 'their' (previously dominant) problem definitions challenged. But, involving actors in joint problem analysis is expected in the long term to increase the accuracy, legitimacy and acceptance of the results and it is more likely that potential solutions are relevant and feasible to implement (e.g. Ehrmann and Stinson, 1999; Ravetz, 1999; Daniels and Walker, 2001).

Such a critical take on collaboration means that knowledge is understood as situated and context dependent (Gibbons et al., 1994). This has implications also for the role of researchers and our understanding of science, when conducting research on complex and contested issues such as CEA governance and indigenous peoples' rights. For instance, Funtowicz and Ravetz (1991:110) argue that under these conditions, there is 'a need for a new, more pluralistic strategy of inquiry where the power embodied in quality assurance is more equitably shared among those with a legitimate concern for the consequences of scientific and professional work'. Practitioners – such as civil servants and Sami reindeer herders – should then be understood as experts on their own practice (Kågström, 2016). This includes also the regulatory environment in which they operate, i.e. as key actors in improving CEA governance.

However, in order to challenge the structural legacies of colonialism and dispossession, indigenous communities and state actors must be allowed to participate in differentiated ways (e.g. Forester, 1989). In fact, as is enshrined in international indigenous rights law (Åhrén, 2016), in multicultural contexts cultural recognition necessarily evokes the demand for differentiated 'equal' participation. Thus, while acknowledging the role of civil servants as experts, there is also a need to challenge their take on permitting and IA. In our case, this meant framing the collaborative effort in a way that allowed for contrasting the standard sectoral government perspectives with how Sami communities experience cumulative impacts in the landscape as a whole. How this was done and the outcomes it resulted in, is explained in the remaining part of the paper.

4. Research material

The results presented below are based on participatory observation, interviews, and meeting notes from a process to design and carry out a

workshop between researchers, Sami representatives and civil servants from key permitting authorities. The process, including interviews with participants prior to the workshop, workshop design, implementation, and follow-up, spanned about one year (autumn 2014 – autumn 2015). The workshop was held over two days 7–8 May 2015 in Vindeln, Västerbotten County. The 'design group' behind the workshop comprised of the team of researchers from social and natural sciences, the Swedish Sami Association (SSR) and Vilhelmina norra Sami community.

Extractive industries, wind power and forestry were the sectors identified by SSR as the most pertinent causes of impacts on reindeer herding and their respective permitting authorities were thus invited. In total, 24 people participated at the workshop: Sami Parliament (3), Energy Agency (1), Swedish EPA (2), Mineral Inspectorate (2), Forest Agency (1), environment offices of three County Administrative Boards (4), Vilhelmina municipality (1), SSR (2), Vilhelmina norra reindeer herding community (2), and the project researchers (6). All participants had received prior written notification that the data generated at the workshop would be used for the research. The results were shared in a working paper published in Swedish by the Swedish EPA (Larsen et al., 2016).

The process of planning and carrying through the workshop is described in more detail below (Section 5) as part of the answer to the first research question. Our analysis of the problem definitions – i.e. barriers – related to CEA governance was carried out by organizing the different aspects of the governance dilemma thematically based on grounded theory (e.g. Charmaz, 2006). Following our theoretical perspective, there is no pretence of consensus among the participants, who in several regards made diverging analyses. To convey key parts of the arguments we use anonymised quotes that enable us to better synthesise a particular theme. A few cartoons were drawn up after the analysis to serve, in several conferences and seminars, as communication devices for presentations of the method (Figs. 1 and 2) and feedback on the findings (Figs. 3 and 4) to government agencies and other actors.

5. Designing a critical collaborative approach to CEA governance

The process was initiated by conversations between the researchers and the Swedish Sami Association (SSR) in early 2014. SSR then



Fig. 2. Schematic illustration of the positioning of the permitting authorities (artwork by Simon Kneebone). Explanatory note: Naturvårdsverket: Swedish EPA, Länsstyrelsen: County Administrative Board, Bergstaten: Mineral Inspectorate, Energimyndigheten: Energy Agency, Skogsstyrelsen: Forest Agency.



Fig. 3. The identified barriers to CEA governance (artwork by Simon Kneebone).

expressed its frustration over the limitations in CEA governance in the permit processes and requested evidence that could better show the cumulative effects on the reindeer herding communities. Vilhelmina norra reindeer herding community agreed to join the work and helped develop the project idea, building on experience from years of research into the impacts of development projects and climate change (e.g. Löf et al., 2012). As the planning proceeded, informed by the theoretical perspective outlined above, the social scientists (lead and second author of this paper) suggested reframing the work from focusing on provision of expert evidence to rather involving a critical collaborative problem analysis.

A key challenge was to identify those design choices that would be different from the conventional, collaborative processes aimed at consensus seeking. While recognising the importance of including a full range of perspectives (problem formulations) from the participants, the workshop at the same time needed to challenge the prevailing IA practices in Sweden. Perspective taking and critical reflection over different way of defining 'the problem' are key steps in making progress in such contested situations (Schön and Rein, 1994; Gray, 2003). Likewise, we were cognizant of how 'boundary judgements' (Midgley, 2000), i.e. decisions as to the scope of the analysis, would influence the conditions for dialogue. To facilitate perspective taking and reflections on boundary judgements that would enable encounters between divergent problem framings we made the following key design choices.

First, contrary to conventional IA consultations in Sweden – that primarily take place between developers and the affected Sami communities – we chose to focus on the public authorities as the representatives of the state. This meant framing the dialogue as a nation-to-nation relationship in contrast to the 'CSR conversations' that are generally standard in permitting processes (Allard, 2006; Lawrence and Larsen, 2017).

Second, there was a need to challenge the dominant project-based sectoral framing and focus specifically on cumulative impacts on the reindeer herding landscape. IAs for individual projects are, as an artefact of the permitting system, generally conceived within the frames of the developer or government administration. Sami communities are invited to consultations on premises pre-defined by the developer or the permitting authority. For the workshop, this order was reversed so that

the Sami community and SSR invited the public authorities for a range of competing land uses. Thus the study offered, to our knowledge for the first time, an opportunity for civil servants in Swedish permitting authorities to gather for joint reflection on CEA governance of the whole landscape from the perspective of Sami reindeer herders.

Third, to help the public authorities recognising the problem as seen from the perspective of the Sami communities, the workshop was opened with a presentation of the escalation of exploitation pressure on Sami lands (Österlin, 2016), the historical accumulation of competing land uses (Authors, to be inserted after review), and the way these disturbances impact negatively on people and reindeer herding (Skarin and Åhman, 2014). This served to give equal recognition to the actual lands used by the Sami community vis-à-vis the scope of development projects or jurisdictions of the state authority as the relevant geographical unit of analysis. The purpose of this introduction was three-fold: to 'set the scene' from the perspective of the reindeer herding, to inform the authorities of the results of the studies carried out in the project, and to provide the authorities with the possibility of commenting on the results.³

Fourth, we used a facilitation method known as 'SimuReal' – simulation close to reality – to prompt the discussion. In SimuReal, the involved actors maintain their real-life roles while engaging in a role play in a fictive situation inspired by real-life cases. The method was developed within organizational change management (Klein, 1992) to address two underlying challenges in complex organizations, namely that a) people are 'positioned', and b) many events are occurring at the same time (Fig. 3). Thus, no single actor can fully grasp the totality and SimuReal here aims to make the organization more visible and allow people to become more aware of the human interaction that shapes, for instance, CEA governance. Since our project involved civil servants from different authorities we adapted the SimuReal method to an inter-organizational reality.

³ After the workshop, the natural scientists and Vilhelmina norra Sami community carried out a detailed quantitative analysis of the extent of cumulative impacts on the reindeer pastures, with the final result showing that, for instance, 54% of the winter pastures are now occupied or potentially disturbed by exploitation (Authors, insert after review).



Fig. 4. The 'wish list' (artwork by Simon Kneebone).

The SimuReal exercise was designed as a fictive 'government inquiry', set up to examine CEA governance within Vilhelmina norra community. Civil servants from each authority were asked to assess fictive permit applications; one mine and one wind power plant.⁴ The questions posed were: What are the possibilities for you to consider cumulative impacts? Which barriers exist? After each authority had made an individual assessment (at their own table) the civil servants met in the 'government inquiry' (a large, joint table also including the Sami representatives) to share and discuss their results.⁵

The fictive cases had been constructed with inspiration from actual project applications and authority/court rulings. Each case was shown through participatory GIS (so-called *RenGIS*, see Sandström, 2015) with a fictive location within the Sami community in order to relate to actual conditions on site, i.e. background data on land use and the importance for reindeer herding. *RenGIS* was thus used as a sort of socio-technical object (Toderi et al., 2007) to stimulate the conversation and help mediate between different perspectives. This took place much in the spirit of an 'agonistic participatory GIS tradition' (Ramsey, 2008) that acknowledges the politics of spatial knowledge, i.e. that this knowledge is invariably embedded in and shaped by power relations and social practices.

As the final design choice, we wanted to make sure that the discussion was not limited to improving practices within the existing institutional conditions, but would open up for alternative visions for the future. To this end, the participants were – as the final iteration of the workshop – placed in mixed working groups ('commissions') to produce wish lists on the desired changes in regulations or praxis that could allow tackling the identified barriers. They were asked to set their minds free, to think 'outside the box' and, when necessary, propose changes that would go beyond what was feasible within today's regulatory structures. The aim was not to agree on a joint list or to give an impression of consensus, but rather to brainstorm on new ways forward. Some of the proposals were directly connected to a particular barrier identified earlier, while others addressed several barriers at the same time.

⁴ A forestry case had also been prepared but owing to limited participants from the relevant authority this exercise was not conducted.

⁵ The emphasis was on the direct and indirect impacts on land use and – given that so substantial issues surfaced here – only limited attention could be paid to associated social and cultural impacts.

6. Understanding the CEA governance dilemma

During the workshop civil servants testified to substantial barriers holding back successful CEA governance. This included a severely limited capacity to generate a landscape perspective and attend to the aggregate impacts on Sami reindeer herding. Altogether, these findings help nuance and shed further light on the kinds of governance challenges associated with CEA in other contexts (e.g. Heggman and Yarranton, 2011; Boutilier and Black, 2013; Noble and Hanna, 2015). Below, we treat the main themes in turn (Figs. 3 and 4).

6.1. Fragmented permitting

The civil servants acknowledged the need for improved regional landscape planning, also internationally known as necessary in improving CEA governance (Connelly, 2011; Johnsson et al., 2011). Different forms of fragmentation in permitting and land use planning were identified as a key barrier: within a single project; between several, proposed new projects within the same sector; or between sectors. Different parts of a proposed project require different permits and the impacts of the project as a whole are not necessarily assessed in any of them. For instance, in mineral exploitation permits (concessions) and permits for wind parks, the associated impacts caused by transport corridors, dams and other related infrastructure located outside the mineral deposit or wind farm are not considered. Moreover, permit authorities do not have knowledge of on-going permit applications overseen by different authorities within the same land area:

'What happens when there are on-going, parallel permit applications? We sit in our respective silos, and have no idea what is going on with the other projects. Different projects have different regulations and time frames to relate to'.

Civil servants suggested establishing a joint database that would cover all ongoing projects, land-uses and applications currently processed by any one permit authority. Other proposals required legal reforms, such as reducing the fragmentation of permitting for individual projects within wind energy and mining.⁶ Likewise, they expected that it would be beneficial to strengthen the role of the internal land

⁶ A recent decision by the Supreme Administrative Court, case No. 2047-14 (decision 22 Feb 2016) may in fact push the permit process somewhat in this direction.

use plans of the Sami communities (Reindeer Herding Plans, see Sandström, 2015) in relevant pieces of legislation. Finally, the role of regional landscape level planning in the Swedish planning system would need to be strengthened.

6.2. Significance determination

The workshop participants also raised bigger questions regarding 'limits to growth'. Calls were made for defining an upper threshold (*toleransnivå*), clarifying the total exploitation pressure, which any Sami community would be expected to accept. This could involve a planning tool that transparently defines the threshold value and, potentially, no-go zones for the most important pasture areas, identified by the Sami communities. As one civil servants put it:

'It may sound disappointing, but maybe we just have to say "no" [to new permit applications]. Some Sami communities have reached the limit for what they can accept.'

The request for transparent and clearly defined impact thresholds arguably plays into the debate on the judgment component as regards significance determinations in impact assessment practice (Ehrlich and Ross, 2015). While Swedish legislation calls for attention to preventing significant impacts on Sami reindeer herding (e.g. SFS 1998 5 Ch. 5 § and SFS 1979:429 30 §) these have remained 'open standards' that are rather undefined and have little practical relevance in permitting decisions (Torp, 2014). Civil servants acknowledged that it was often difficult for the public authorities to know or show when the negative impacts are in fact 'significant'.

6.3. Diverging interpretations of regulations

Civil servants also disagreed on how to interpret current regulations. Some maintained that it is possible already today to take into account cumulative impacts – and SSR agreed that there was unused potential for improvement even within today's regulatory framework. Yet, the majority of statements during the workshop testified to the contrary. As such, although civil servants emphasized the difference between politics and their role as public authorities, it became evident that the way they themselves interpret the regulations and their own 'space for action' (Kågström and Richardson, 2015) varies between agencies and individuals.

The assessment of impacts is also determined by whether reindeer herding is primarily viewed as an 'industry' on a par with other industries, or as a central element of Sami culture, protected under international law and in the Constitution. To clarify, the industry framing focuses, e.g., on the number of jobs provided by reindeer herding vis-à-vis the proposed development project, while the cultural framing highlights the intrinsic right of the Sami to exercise reindeer herding irrespective of its relative economic performance.

Altogether, it was underscored how Swedish permitting is characterised by an unsettled contestation over what actually constitutes relevant impacts, the legitimate methods for their measurement, and how the generated evidence shall be included in the formal decision making process. The participants also emphasized the presence of 'street-level bureaucracy' (Lipsky, 1980), i.e. the fact that government bureaucracy can never be objective and always implies a degree of interpretation of rules and guidelines.

6.4. Political influence and independence

The arguments above regarding fragmentation in permitting, significance determination and the role of interpretation may largely comprise 'benign' expressions of the inherent uncertainty and complexity in CEA governance. However, the discussions also revealed how these phenomena are equally expressions of underlying politics of planning

and ongoing contestations in indigenous-state relations. Civil servants reported how political influence was exerted within permitting authorities, when emphasis was placed on the socioeconomic arguments concerning job opportunities and tax revenues nationally as well as locally rather than the benefits associated with reindeer herding or the intrinsic value of Sami culture and rights. Several were frustrated about politicians fleeing their responsibility for the cumulative effects on reindeer herding; rather than making political decisions at landscape level individual civil servants are expected to address conflicts from case to case:

'Politicians say that it is possible [for the different land uses] to co-exist. They say to us that we should make sure that happens, but what if it is impossible to co-exist?'

Civil servants also explained how the possibilities of taking into account cumulative effects are dependent on, and limited by, IA quality and other documentation provided by the developers. While the authorities regularly request complementary information, the experience was that developers do not always want to disclose information. This discussion generated suggestions on the need for improving IA quality and transparency, for instance through a more independent EIA body that would be responsible for the management of assessments. Inspiration was found in the way more independent IA review boards or monitoring agencies have been established, such as in Canada's North West Territories as part of a co-management approach between First Nations and the government (e.g. Ehrlich, 2010, Ehrlich also gave a talk on these experiences to the workshop through video-conference). Here, civil servants discussed how funding and hiring of consultants could be decoupled: consultants could still be paid by the developers but contracted and guided by the independent body.

6.5. Unrealistic expectations on Sami communities and the need for civil servants to enact the state's positive duty to protect Sami rights

Finally, a number of thoughts were also shared on how civil servants could enact the state's positive duty to ensure that the Sami are treated with equality in practice and not only in principle. In the context of international indigenous rights law this is a central norm of indigenous self-determination (Åhrén, 2016). First and foremost, the discussions demonstrated how dependent permit authorities, developers and consultants are on information and collaboration from the Sami communities. Civil servants acknowledged that each Sami community has a unique situation in terms of land uses and herding practices that cannot be described accurately without the Sami community's contribution. However, this leads to high and often unrealistic expectations on communities to participate in meetings and provide documentation.⁷ If a Sami community does not have the resources to participate this may affect the permit decision to the community's disadvantage. Clearly, this is particularly problematic when a community opposes a proposed project and its permit process altogether, that is, in cases where it would be even more important for the permit authorities to have access to relevant and full information on the impacts of the proposed project on reindeer herding.

The Sami representatives noted that even when they provide the requested information to public authorities these may show distrust of the herders' knowledge. This description is an example of what Howitt (2003) has discussed as the exclusion of 'non-specialist' IA knowledge, when it does not serve the interest of the developer or permit authority:

⁷ Vilhelmina norra Sami community (consisting of 61 individual members and 20 registered reindeer herding corporations) estimated that they, during 2014 only, spent the equivalent of ca 70 working days in meetings related to competing land uses. They also wrote 20–30 statements and appealed a number of permits, including lengthy court proceedings.

'Why do they not trust us? Our knowledge is questioned by saying that that there is no research supporting it. Sometimes research and herders say opposite things, and then they [authorities] believe in researchers.'

There were several proposals for increasing the financial and expert resources available for Sami actors: a national, state-funded expert group (governed e.g. by SSR and Sami communities); long-term state funding to each community to build capacity and work systematically on land use concerns; and the introduction of a legal requirement for developers to place finances in a compensation fund for infringement of reindeer herding rights.⁸

7. Tackling the CEA governance dilemma

Reflecting on the aggregate picture presented above, we contend that one common thread underlying most if not all of the governance barriers identified in the workshop is an absence of the state in upholding the rights of indigenous peoples. As noted, even when they at face value appear to reflect 'benign' complexities of the sectoral permitting regimes, the governance barriers are directly or indirectly serving the political interests of developers and the part of the state administration supporting such developments. The observed CEA governance failures are hence expressions of a situation in which the Swedish state is delegating too much to the negotiations between developers and Sami communities, relationships fraught with imbalances in power, information and influence (Porter et al., 2013; Tarras-Wahlberg, 2014; Franks et al., 2010). The question is of course how much of a 'failure' this really is. As Bravante and Holden (2009:542) have noted, from work in the Philippines, such shortcomings are rarely 'a demonstration of policy failure [but] a demonstration of political success in managing natural resources for the benefit of those who control the state'.

When presenting draft results of our work abroad we have been asked: how come the civil servants agreed to join this workshop in the first place, where they could probably expect to be confronted with critical Sami representatives and asked to scrutinize gaps in their own performance? As shown, most of the civil servants were rather well aware of these shortfalls in (their own) CEA governance and it is thus not surprising that they welcomed an opportunity to discuss how to improve their practice in the face of a structurally biased permit system. Moreover, escalating Sami protests, many appeals and drawn-out court proceedings may also have helped raise awareness and motivate participation. This observation supports previous arguments that moving towards constructive conditions for dialogue is contingent on longer processes of resistance by indigenous peoples and NGOs (e.g. Raitio, 2016). Moreover, decisions as to how to navigate competing claims on the landscape are, at present, 'pushed down' to these civil servants. They are in the front line when blame is distributed – expected to play adjudicators in deadlocks between adversarial parties and face unresolved land rights questions that the central government has avoided legislating on.

Irrespective of whether the current CEA governance dilemma is a result of a conscious strategy or unintended failure, public authorities will be likely to find it outside their mandate or capacity to initiate processes that could significantly change the situation. The lack of capacity to initiate such processes is even more acute for the Sami communities, who struggle just to mobilize the everyday emergency response to proposed development projects. Independent research may here be uniquely placed to offer novel modes of critical collaboration, i.e. forums for reflection that would go beyond the 'normal' scope of work of any of the involved parties. The analysis of different land uses, and their impacts, in Vilhelmina norra community combined natural science with local knowledge of the Sami community. The role of the social scientists

was, besides designing the process, to act as facilitators during the workshop. In the role as the 'third party' this helped to keep focus and direction during the process, as well as maintaining a constructive tone in a discussion that critically assessed a relatively contested topic.

We do not wish to claim specific learning outcomes but believe that the work did support, in the words of Lane (2003:370), the building of 'political capability' that helped both Sami participants and civil servants become more aware of, and challenge, entrenched inequalities within their positioned realities. It provided an opportunity for a cross-section of civil servants to reflect on the issues associated with their own praxis – those which are structurally determined and those that depend on their own day-to-day decisions when interpreting the regulations. In both cases, several ways forward were identified that hold at least some promise for breaking with current failures in CEA governance. The themes that emerged relate well, and add contextual nuance, to the challenges and needs previously observed in the international literature.

The workshop produced, towards the end, a much greater degree of convergence on the 'wish list' than we had anticipated, including visions of how civil servants ideally would like to see CEA governance improved. Of course, these ideas were from 'street-level bureaucrats' (Lipsky, 1980) and not agency directors or political executives. The future will show how receptive the general political and governance regime is to such proposals. Still, the process points to the potential for coalition building and leveraging of positioned government staff in taking their ideas for CEA governance improvement forward. As a sign of the interest in this approach, the work was followed by an invitation from the County Administrative Board of Norrbotten to also facilitate the 'stakeholder workshop' between Sami communities and mining companies as part of the County Administrative Board's Government Assignment to improve cooperation between Sami communities and mining companies (County Administrative Board of Norrbotten and Sweco, 2016).

8. Conclusions

This paper has presented a critical collaborative action research approach to addressing CEA governance dilemmas and discussed its efficacy in a dialogue among Swedish state authorities and Sami reindeer herding communities. Returning to our original research question, we contend that – when even the nature of the 'CEA governance problem' is contested – collaboration between indigenous communities and state authorities may play a constructive role in-so-far as the process carves out a new space that allows for collaborative critique of both disabling institutional conditions and divergent problem definitions.

Such a collaborative critique is a necessary but often neglected part of resolving governance dilemmas and environmental conflicts (Rothman, 1997). Rather than blindly accepting social relations inherited through colonialism and other deep rooted inequalities, the purpose of the dialogue must be to, at least temporarily, change the very conditions within which interaction takes place. As expressed by Lane (2003:365) this should 'interrupt the ordinary process of plan and policy making to negotiate outcomes that better reflect the particular concerns of marginalized peoples.'

A key feature was that our exercise offered a dialogue 'in reverse' in that it invited the civil servants to reflect on CEA governance from a Sami reindeer herding perspective. Moreover, the design of the workshop was, in a conflict management perspective, noteworthy also in that it represented an effort to reconfigure the role of research. That is, to move from simply presenting 'scientific evidence', through a dialogue between researchers and Sami actors, to finally inviting SSR and the Sami community as well as civil servants to meet as agonistic parties (Mouffe, 2000) in the workshop to explore each other's perspectives and 'positioned' realities (Klein, 1992). The co-ownership of the process and contribution to the design from Vilhelmina norra Sami community and SSR was essential for this reversing of the perspective.

⁸ Today the communities have a right to compensation for the direct damage caused by the projects, but not for the infringement of their rights.

At the same time, we acknowledge that while SSR and the Sami community helped construct the agenda and frame for the workshop they were still, to some extent, talking a language amenable to government authorities ('myndighetska'), and to us as researchers. This reflects a persistent dilemma: While the aim may be to infuse Sami views and respect for indigenous practices into the state led planning and permitting regimes, there is always a risk of unwillingly contributing to silencing indigenous conceptions of the world. If nothing else this is an unavoidable risk merely by working in the majority language (Swedish) and through the presence of non-indigenous researchers as facilitators (Lawrence and Larsen, 2017).

Yet, we suggest that a critical collaborative action research approach as discussed here may have potential for fostering new coalitions and visions for improved CEA governance praxis, and also in other contexts than Sápmi. The present process was both led and facilitated by researchers, in collaboration with Sami actors, and as such stands out as an 'extraordinary event' with more experimental freedom compared to the standard CEA governance regime. However, we believe that there is no reason why this approach could not in the future also be promoted by CEA professionals within government or civil society, with proper facilitation support.

Acknowledgements

This work was funded through the research program Vindval, by the Swedish Environmental Protection Agency (SEPA) and Swedish Energy Agency (31940-2), with co-funding from the Swedish Sami Parliament's program *Eallinbiras*. Analysis and writing of this paper was funded by SEPA through the project 'Contested landscapes: navigating competing claims on cumulative impacts (CO-LAND)' (NV-03501-15). Larsen acknowledges co-funding from the Swedish research council Formas (2012-1453) and Raitio from Formas (2112012-135) and the Swedish University of Agricultural Sciences (SLU). The authors are grateful to fellow project team members whose work is cited in this text: Anna Skarin, Per Sandström, Stefan Sandström, Carl Österlin, and Yann Bohout. We also thank Eugenio Molini for his generous advice on the use of the SimuReal methodology.

References

- Ahrén, M., 2016. *Indigenous Peoples' Status in the International Legal System*. University Press, Oxford.
- Allard, C., 2006. *Two Sides of the Coin - Rights and Duties: The Interface between Environmental Law and Sami Law Based on a Comparison with Aotearoa/New Zealand and Canada*. (Doctoral thesis). Luleå University of Technology.
- Allard, C., 2016. Nordic legislation on protected areas: how does it affect sami customary rights? In: Elenius, L., Allard, C., Sandström, C. (Eds.), *Indigenous Rights in Modern Landscapes - Nordic Conservation Regimes in Global Context*. Routledge, London, pp. 9–24 forthcoming.
- Bacchi, C., 2009. *Analysing Policy: What Is the Problem Represented to Be?* Pearson Australia, Frenchs Forest.
- Bidstrup, M., Kørnøv, L., Partidário, M.R., 2016. Cumulative effects in strategic environmental assessment: the influence of plan boundaries. *Environ. Impact Assess. Rev.* 57, 151–158.
- Boutilier, R.G., Black, L., 2013. Legitimizing industry and multi-sectoral regulation of cumulative impacts: a comparison of mining and energy development in Athabasca, Canada and the Hunter Valley, Australia. *Res. Policy* 38, 696–703.
- Bravante, M.A., Holden, W.N., 2009. Going through the motions: the environmental impact assessment of nonferrous metals mining projects in the Philippines. *Pac. Rev.* 22 (4), 523–547.
- Charmaz, K., 2006. *Constructing Grounded Theory. A Practical Guide through Qualitative Analysis*. Sage, London.
- Connelly, R., 2011. Canadian and international EIA frameworks as they apply to cumulative effects. *Environ. Impact Assess. Rev.* 31 (5), 453–456.
- County Administrative Board of Norbotten and Sweco, 2016. *Ökad samverkan mellan renärning och gruvnäring. Rapport till Näringsdepartementet. Report to the Ministry of Enterprise and Innovation*.
- Daniels, S.E., Walker, G.B., 2001. *Working Through Environmental Conflict. The Collaborative Learning Approach*. Westport, Praeger.
- DO, 2013. *Förstudie i projektet Diskriminering av samer som urfolk. Pilot report, LED 2013/156 (Author: Björn Brodin)*.
- Ehrlich, A., 2010. Cumulative cultural effects and reasonably foreseeable future developments in the Upper Thelon Basin, Canada. *Impact Assess. Proj. Appraisal* 28 (4), 279–286.
- Ehrlich, A., Ross, W., 2015. The significance spectrum and EIA significance determinations. *Impact Assess. Proj. Appraisal* 3 (2), 87–97.
- Ehrmann, J.R., Stinson, B.L., 1999. Joint fact-finding and the use of technical experts. In: Susskind, Lawrence, McKearnan, Sarah, Thomas-Larmer, Jennifer (Eds.), *The Consensus-building Handbook: A comprehensive guide to reaching agreement*. 375–400. Sage, Thousand Oaks, CA.
- Forester, J., 1989. *Planning in the Face of Power*. University Press, Berkeley, CA.
- Franks, D.M., Brereton, D., Moran, C.J., 2010. Managing the cumulative impacts of coal mining on regional communities and environments in Australia. *Impact Assess. Proj. Apprais.* 28 (4), 299–312.
- Funtowicz, S., Ravetz, J., 1991. A New Scientific Methodology for Global Environmental Issues. In: Costanza, R. (Ed.), *Ecological Economics: The Science and Management of Sustainability*. Columbia University Press, New York, pp. 137–152.
- Gabna, Laevas, LKAB, 2015. *Kumulativa konsekvenser för renskötsel - en beskrivning av hur kumulativa konsekvenser för renskötsel kan presenteras med exempel från Gabna och Laevas samebyar*.
- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., Trow, M., 1994. *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. Sage, London.
- Gray, B., 2003. Framing of environmental disputes. In: Lewicki, Roy J., Gray, Barbara, Elliot, Michael (Eds.), *Making Sense of Intractable Environmental Conflicts. Concepts and Cases*. Island Press, Washington, pp. 11–34.
- Heggman, G., Yarranton, G.A., 2011. Alchemy to reason: effective use of cumulative effects assessment in resource management. *Environ. Impact Assess. Rev.* 31, 484–490.
- Howitt, R., 2003. Local and non-specialist participation in impact assessment. In: Liu, C.-Q., Zhao, Z., Xiao, T., Guha, J. (Eds.), *Strategic Management of Environmental and Socio-economic Issues: A Handbook*. Guizhou Science and Technology Publishing House, Guiyang, China, pp. 27–36.
- Johnsson, D., Lalonde, K., McEachern, M., Kenney, J., Mendoza, G., Buffin, A., Rich, K., 2011. Improving cumulative effects assessment in Alberta: regional strategic assessment. *Environ. Impact Assess. Rev.* 31 (5), 481–483.
- Kägström, M., 2016. *Strengthening the Practitioner Focus in Environmental Assessment*. (Doctoral thesis no. 2016:1). Swedish University of Agricultural Sciences.
- Kägström, M., Richardson, T., 2015. Space for action: how practitioners influence environmental assessment. *Environ. Impact Assess. Rev.* 54, 110–118.
- Klein, D.C., 1992. Simu-real: a simulation approach to organizational change. *J. Appl. Behav. Sci.* 28 (4), 556–578.
- Lane, M., 2003. Participation, decentralization, and civil society: indigenous rights and democracy in environmental planning. *J. Plan. Educ. Res.* 22, 360–373.
- Larsen, R.K., 2013. Dialogue and revolution: proposal for critical-pragmatic recursive praxis to support operationalisation of methodological virtues. *Syst. Pract. Action Res.* 26 (2), 173–193.
- Larsen, R.K., Raitio, K., Sandström, P., Skarin, A., Stinnerbom, M., Wik-Karlsson, J., Sandström, S., Österlin, C., Buhot, Y., 2016. *Kumulativa effekter av exploateringar på renskötsel - vad behöver göras inom tillståndprocesser? Vindval report 6722. 0282-7298 Swedish EPA. ISBN: 978-91-620-6722-9, http://www.naturvardsverket.se/978-91-620-6722-9*
- Lawrence, R., Ahrén, M., 2016. Mining as colonisation: the need for restorative justice and restitution of traditional sami lands. In: Head, L., Saltzman, S., Setten, G., Stenseke, M. (Eds.), *Nature, Temporality and Environmental Management: Scandinavian and Australian Perspectives on Landscapes and Peoples*. Taylor and Francis, UK.
- Lawrence, R., Larsen, R.K., 2017. The politics of planning: assessing the impacts of mining on Sami lands. *Third World Q.* 38 (5).
- Lipsky, M., 1980. *Street-level Bureaucracy: Dilemmas of the Individual in Public Services*. Russell Sage Foundation, New York, NY.
- Löf, A., 2014. *Challenging Adaptability. Analysing the Governance of Reindeer Herding in Sweden*. (Doctoral dissertation). Department of Political Science, Umeå University.
- Löf, A., Sandström, P., Baer, K., Stinnerbom, M., Sandström, C., 2012. *Renskötsel och anpassningsmöjligheter i Vilhemina norra sameby. Research Report 2012:4. Department of Social Science, Umeå University*.
- MacDonald, L.H., 2000. Evaluating and managing cumulative impacts: process and constraints. *Environ. Manag.* 26 (3), 299–315.
- Midgley, G., 2000. *Systemic Intervention: Philosophy, Methodology, and Practice*. Kluwer Academic/Plenum Publishers, New York.
- Ministry of Environment, 2009. *Enklare Lagtext om Miljökonsekvensbeskrivningar. Ds. 2009 p. 65*.
- Morgan, R.K., 2012. Environmental impact assessment: the state of the art. *Impact Assess. Proj. Appraisal* 30 (1), 5–14.
- Mouffe, C., 2000. *The Democratic Paradox*. Verso, London.
- Noble, B., Hanna, K., 2015. Environmental assessment in the Arctic: a gap analysis and research agenda. *Arctic* 68 (3), 341–355.
- O'Faircheallaigh, C., 2011. Social impact assessment and Indigenous social development. In: Vanclay, F., Esteves, A.M. (Eds.), *New Directions in Social Impact Assessment. Conceptual and Methodological Advances*. Edward Elgar, Cheltenham.
- Österlin, C., 2016. *Determining Exploitation Pressures in the Swedish Arctic - The Potential Geography of Future Mining Exploitation*. Department of Physical Geography, Stockholm University manuscript, unpublished.
- Poncelet, E., 2001. A kiss here and a kiss there: conflict and collaboration in environmental partnerships. *Environ. Manag.* 27 (1), 13–25.
- Porter, M., Franks, D.M., Everingham, J.-A., 2013. Cultivating collaboration: Lessons from initiatives to understand and manage cumulative impacts in Australian resource regions. *Resour. Policy* 38, 657–669.
- Raitio, K., 2016. Seized and missed opportunities in responding to community conflicts: constructivity and destructivity in Forest conflict management in Finland and British Columbia. In: Peterson, T.R., Ljunggren Bergea, H., Feldpausch-Parker, A.M., Raitio, K. (Eds.), *Environmental Communication and Community*:

- Constructive and Destructive Dynamics of Social Transformation. Routledge, London, pp. 229–248.
- Ramsey, K., 2008. A call for agonism: GIS and the politics of collaboration. *Environ. Plan. A* 40, 2346–2363.
- Ravetz, J., 1999. What is post-normal science? *Futures* 31 (7), 647–653.
- Rothman, J., 1997. *Resolving Identity-Based Conflict in Nations, Organizations, and Communities*. Jossey-Bass, San Francisco.
- Saarikoski, H., Raitio, K., 2013. Science and politics in old-growth forest conflict in upper Lapland. *Nat. Cult.* 8 (1), 53–73.
- Sandström, P., 2015. *A Toolbox for Co-production of Knowledge and Improved Land Use Dialogues*. (Doctoral thesis 2015:20). Swedish University of Agricultural Sciences.
- Schön, D., Rein, M., 1994. *Frame Reflection: Towards the Resolution of Intractable Policy Controversies*. Basic Books, New York.
- Skarin, A., Åhman, B., 2014. Do human activity and infrastructure disturb domesticated reindeer? The need for the reindeer's perspective. *Polar Biol.* 1–14, <http://dx.doi.org/10.1007/s00300-014-1499-5>.
- Swedish EPA, 2013. *Förslag till hur en handlingsplan för grön infrastruktur kan tas fram på regional nivå*. NV-03367-13.
- Swedish EPA, 2014. *Miljömålen. Årlig uppföljning av Sveriges miljökvalitetsmål och etappmål 2014*. Report no. 6608.
- Svonni, R., 2010. *Samisk markanvändning och MKB*. Sametinget Available at: <http://www.sametinget.se/26843>.
- Tarras-Wahlberg, H., 2014. Social license to mine in Sweden: do companies go the extra mile to gain community acceptance? *Miner. Econ.* 27, 143–147.
- Toderi, M., Powell, N., Seddaiu, G., Roggero, P.P., Gibbon, D., 2007. Combining social learning with agro-ecological research practice for more effective management of nitrate pollution. *Environ. Sci. Pol.* 10, 551–563.
- Tollefson, C., Wipond, K., 1998. Cumulative environmental impacts and aboriginal rights. *Environ. Impact Assess. Rev.* 18, 371–390.
- Torp, E., 2014. Det rättsliga skyddet av samisk renskötsel. *Svensk Juristtidning* 99 (2), 122–148.
- UN HRC, 2016. Report of the Special Rapporteur on the Rights of Indigenous Peoples on the Human Rights Situation of the Sami People in the Sápmi Region of Norway, Sweden and Finland (A/HRC/33/42/Add.3).
- Vanclay, F., Esteves, A.M., Aucamp, I., Franks, D.M., 2015. *Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Projects*, International Association of Impact Assessment.
- Wärnbeck, Hilding-Rydevik, 2009. Cumulative impacts in Swedish EIA practice – difficulties and obstacles. *Environ. Impact Assess. Rev.* 29, 107–115.
- Westholm, E., Lindahl, K.B., Kraxner, F. (Eds.), 2015. *The Future Use of Nordic Forests: A Global Perspective*. Springer, London.
- Young, I.M., 2001. Activist challenges to deliberative democracy. *Polit. Theo.* 29 (5), 670–690.
- Rasmus Kløcker Larsen** is a research fellow at Stockholm Environment Institute, focusing on action research interventions, including on cumulative impacts of competing land uses on Sami reindeer herding.
- Kaisa Raitio** is an associate professor with the Swedish University of Agricultural Science in Uppsala, focusing on conflict management, including conflicts between Sami communities and mining.
- Marita Stinnerbom** is a board member in Vilhelmina norra reindeer herding community and member of the Land Use Group of the Swedish Sami Association.
- Jenny Wik-Karlsson** is chief legal advisor and head of operations at the Swedish Sami Association, supporting reindeer herding communities, e.g. through legal advice and capacity building.