



## Myths on local use of natural resources and social equity of land use governance: Reindeer herding in Finland



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### ABSTRACT

Previous literature on social equity has focused on procedure, distribution and recognition related to land use governance. We propose novel approach to examine social equity by following ideational turn with an aim to explore globally used and locally persistent myths that (mis)inform governance in practice and effect on the three dimensions of social equity for reindeer herding in northern Finland. We take synthesizing approach and elaborate and employ a comparative cognitive mapping method to classify the reviewed literature according to its linkage to the three dimensions of social equity, and type of relationship (utilizing, questioning, contextualizing) to the examined four myths. The myths of “tragedy of the commons”, “non-human wilderness ideal”, “noble savages”, and “majority will constituting democracy” are persistently used in land use governance mainly because they provide justifications for furthering particular interest. Yet, these myths are also widely questioned due to the problems that their employment produces for reindeer herders. Furthermore, the background assumptions of the myths are often somewhat problematic. We discuss reinterpretation of these myths revolving around 1) a holistic approach, 2) considering non-indigenous local people as noble savages, 3) problems of melding herders as a stakeholder group similar to other groups, 4) steps from majority democracy towards self-governance, 5) whether social equity can be bought, and 6) biocultural diversity. These reinterpretations can inform land use policy and governance also beyond the case study. Therefore, critical view on the explanatory and constitutive powers of myths should be part of the portfolios to achieve social equity.

### 1. Introduction

Perhaps the most urgent challenge for international environmental policy and governance related to social equity are the impacts of climate change on global south produced by global north (Rantala et al., 2015) or impacts of climate change on small island states in the Pacific and on the Arctic. In addition to global scale processes with high-level policy discussions, social equity issues and uneven relations are deeply present also at local level land use governance. For example, the opportunities to practice local livelihoods may erode by increasing extractive industries, which may not provide much benefits, but on the contrary pose harms for the local livelihood practitioners. Unlike concepts of environmental justice, fairness and equality, the notion of social equity is relative and context specific, and proposes that the groups who do not produce the impacts, but are most affected should be favored with affirmative governance actions, also more than those less

affected (McDermott et al., 2013; McKendry, 2016; Sarkki et al., 2017).

It is commonly considered that social equity has distributional and procedural dimensions (see Leventhal, 1980; Rantala et al., 2015). We put forward a definition according to which social equity has four dimensions. 1) Procedure (affected stakeholders should be more closely involved in decision-making than more distant stakeholders). 2) Distribution (the stakeholders bearing the costs of development should also be most compensated). 3) Recognition (accounting also for local stakeholders' knowledge, culture and values). 4) Context (acknowledging how social conditions, such as power dynamics, education and gender, influence groups' ability to gain recognition, participate in decision-making, and lobby for fair distribution) (Pascual et al., 2014). The procedure (Ribot, 2002; Batterbury and Fernando, 2006; Bebbington, 2006; Wilson and Stammner, 2016), distribution (Perreault, 2006; Heynen et al., 2007; Walker, 2007), and recognition (Coulthard, 2007; Von der Porten et al., 2015) have been widely researched, whereas the

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significance of social context for social equity in environmental governance has received less attention (see DeCaro and Stokes, 2013; Sarkki et al., 2015).

Social contexts can be understood as economic, social and political structures and realities, but also as ideas shaping and interacting with material reality (see Burke et al., 2009). The so-called ideational turn puts emphasis on causal impacts of ideas on political economy and governance (Blyth, 1997; Gofas and Hay, 2010). Ideational research has been conducted since the 1990's, but with still a need to identify ideational variables, ways by which they shape contexts and motivations of actors in policy and governance, and to develop methods to analyze the links between ideas and governance (Finlayson, 2006; Berman, 2012; Van Esch et al., 2016). Methods that have been used in ideational studies include critical discourse analysis, rhetorical political analysis, narrative analysis, metaphor analysis, and quantitative textual analyses. In this study, we apply comparative cognitive mapping, which focuses on developing cognitive maps displaying relationships between concepts (Axelrod, 1976; Van Esch, 2015).

Myths are particular kind of ideas and crucial to social equity, because they serve to explain and justify specific forms of behaviour with its origins, and they tend to reproduce ideologies, reinforce power structures and rationalize social roles (Malinowski, 1926; Barthes, 1972). Myths also structure and provide readymade problem definitions, which ground motivations for solutions in natural resource governance in ways that conceal alternative conceptualisations and views (de Neufville and Barton, 1987). Furthermore, myths and reality may become mutually reinforcing: “*Society is structured to conform to the apparent truths that the myth reveals, and what is taken as real increasingly takes on the colour of the myth.*” (Cavanaugh, 2009, 6). It is just this taken-for-granted knowledge, which shapes stakeholders pre-determined positions towards governance solutions making the myths problematic. Therefore, when thinking how to improve social equity of governance, it is often so that changing patterns of power and taken-for-granted explanations requires that also the underlying myths are transformed (Barclay, 2016), or reinterpreted. Reinterpretation is needed because the use of myths, regardless their contradictory or even false character, function as legitimizing strategy (Slotte and Halme-Tuomisaari, 2015) that inform and guide policy making at various levels (Bliesemann de Quevara, 2016), and have material effects via changing the use of the natural resources (Berdej et al., 2015).

The links between myths, social equity and environmental governance has, however, remained little examined. Myths inform preferable governance solutions to arrange relationships between policy makers, market actors, civil society, local communities, and science (Lemos and Agrawal, 2006; Rauschmayer et al., 2009; Ménard, 2012; OECD, 2017). We use the concept of myths (rather than narratives, norms, belief systems, stories, paradigms or theories), because of its colloquial use, as something not necessarily or likely true and therefore in need of further scrutiny. We use the reindeer herding in Finland as a case study to analyze the explanatory and constitutive powers of ideas by looking particularly into the role of myths as persistent narratives and as key assumptions. As such, myths lead to specific understandings and misunderstandings on sustainable natural resource governance solutions affecting social equity (cf. Cronon, 1992; Hutton et al., 2005; West et al., 2006; Barclay, 2016; Berdej et al., 2015; Bliesemann de Quevara, 2016).

The reindeer herding district covers around one third of the land in Finland and is divided into 54 Reindeer Herding Cooperatives (RHC). The southern parts of the reindeer herding district are used by ethnically Finnish herders and the northernmost RHCs by the Sámi, the indigenous minority group living in northern parts of Fennoscandia and Kola Peninsula (Russia). In Finland, unlike in Sweden and Norway, also non-Sami people have traditionally engaged in reindeer herding at least from 18th century when northern Finnish peasants learned the trade from southern Sámi (Kortessalmi, 2007). Due to joint historical developments and cultural amalgamations many herding families and

communities have been and are mixed ones and many northern Finns have learnt to consider reindeer herding as essential part of their cultural heritage and are truly proud of it. Thus, we consider both Sámi and Finn herders as culturally unique groups with centuries old heritage and that they should be targeted by affirmative governance actions to sustain the continuity of reindeer herding culture. In Finland, Norway and Sweden state-based governance has largely failed to fully decolonize historical land use practices and property rights, to secure the development and continuance of reindeer herding by regulating industrialization of multiuse landscapes, and to justly govern interactions between herders and other stakeholders (Saarinen, 2005; Löf, 2014; Sarkki et al., 2016a, 2016b). Indeed, disputes over land use in northern Finland are often more or less directly entangled with the legacies of Nordic colonialist policies and practices having relevance even today (see Naum and Nordin, 2013; Ojala and Nordin, 2015). Concrete problems regarding social equity of land use governance for reindeer herders include fragmentation and deterioration of pastures due to various land uses (e.g. forestry, reservoirs, nature conservation, mining, tourism), (alleged) over-grazing, prolonged conflicts between herders and other land users, lack of possibilities for herders influence decision making, lack of formal recognition of indigenous land rights, and prioritizing nature conservation (e.g. large carnivore protection, protected areas) over herders' development objectives.

The objective of this synthesis paper is to analyze the implications of myths on social equity of land use governance for reindeer herders in northern Finland. We put forward a definition, which considers myths as a specific type of social context that have implications on the three other dimensions of social equity: procedure, distribution and recognition. The four examined myths are “tragedy of the commons”, “non-human wilderness ideal”, “the noble savage”, and “majority will constituting democracy”. The four myths were selected based on their global relevance and their strong link to social equity in respect to reindeer herders. Furthermore, these myths are recurrent in academic texts, policy discussion and news reporting and even though there are also other myths as well as broader societal discourses at play, these myths capture some core arguments that reindeer herders need to navigate. In line with the comparative cognitive mapping, which seeks to establish links between abstract ideas (Axelrod, 1976; Van Esch, 2015), we map reviewed papers in terms of their relationships to the concept of social equity and their type of relationship (utilizing, questioning, contextualizing) to the studied ideas: the myths. After having explored the myths critically, we suggest five ways to reinterpret the myths towards improving social equity in land use governance for reindeer herders.

While the reindeer herding case is specific, the examination of the myths enables tackling the broader issues of the politics of nature, human-environment relations, indigeneity, and environmental governance that are all relevant today also for other pastoral practices, nature-based livelihoods, and rural development in general. The study is relevant for scientists, and for those involved in the designing, analyzing and implementing policies and practical decisions associated with rural small-scale nature-based livelihoods like reindeer herding. In particular, decision-makers benefit from the study by recognizing often neglected underlying dimension guiding the decisions: the myths. We do not only criticize the thinking along the myths, but provide methodology to critically examine the implications of ideas to land use governance and policy, and offer examples on how to reinterpret the myths to enhance social equity of land use governance.

## 2. The four examined myths and reindeer herding

First examined myth is the tragedy of the commons. The tragedy of the commons is widely used to inform environmental governance for example by conceptualizing biodiversity and ecosystem services and climate as global commons (e.g. Duraipappah et al., 2014; Pollitt, 2014), and to justify privatization with questionable grounds and severe consequences (Heynen et al., 2007; Angus, 2008). Hardin's, 1968 “tragedy

of the commons” presents a situation where each herder individually benefits from unsustainable use of common grazing lands, leading to degradation of pastures. In this scenario, collaboration between herders is not useful from the viewpoint of short-term economic rationality, as individual free riding and a heavy use of common pastures is more beneficial for than long-term sustainable use. Hardin argued herding needs to be regulated by state or pastures need to be privatized to change the underlying motivation structures. The key myth that Hardin’s paper proposes is that, without local informal ways to govern the use of pastures, individual herders would act to maximize their own short-term economic profits by over-grazing the common pastures. Contrary to Hardin’s assumptions, state interventions to Sámi reindeer herding have been seen as potential solutions, but also as source of problems (Reinert et al., 2008). Another key critique towards Hardin’s game theoretical formulation is that if the “game” is repeated, then collaboration actually becomes a more beneficial strategy for individuals than free riding (Axelrod, 1987). Indeed, in Finland both Sámi and Finn reindeer herders are frequently accused of overgrazing, with explicit or implicit references to the tragedy of the commons thinking leading to stigmatizing herders (e.g. Kyllönen et al., 2006; Sarkki et al., 2013a; Jokinen et al., 2016). However, it has been well documented that local communities may have their own governance arrangements to avoid unsustainable use of natural resources, and that often local environmental degradation has been caused by external pressures and developments (Ostrom, 1990; Dietz et al., 2003).

As reindeer herding takes place over vast natural areas, it also comes to confrontations with nature conservation (Heikkinen et al., 2010, 2011; Sarkki et al., 2013b). Therefore, the myths reflected in the conservation vs. development debate become relevant (Wilshusen et al., 2002; Roe, 2008; Minter and Miller, 2011). The ideal of non-human wilderness in global conservation discourses and governance has often resulted to exclusion or even eviction of local people from the protected wilderness areas (Nash, 1973; Mels, 2002; West et al., 2006). The idea is that people should conserve and preserve non-human wilderness areas where “man himself is a visitor who doesn’t remain”, as stated in the United States wilderness law (Public Law, 1964, p. 1). The US wilderness law represents the global hegemonic conservation thinking based on the so-called fortress model fencing people out from the ‘wild’. The problem is that non-human wilderness is actually an ideal that has never existed during the human history. Indeed, wilderness is constitutively a cultural idea and people have always used and affected putative wilderness areas in various ways. There have been discussions also in Finland to limit, or even exclude, reindeer herding from protected areas (Heikkinen et al., 2010; Sarkki et al., 2013b), although reindeer herding has been an integral part of land use in those areas for centuries, self-governed by the families and communities living in those areas (Kortessalmi, 2007). The wilderness debate has also been connected to market-based conservation governance instruments, which propose to “sell nature to save it” (McAfee, 1999). Following this logic, the wilderness has become a subject to commercialization and can function as a tourist attraction which boosts a certain kind of local economy and development (Igoe and Brockington, 2007; Büscher et al., 2012), but at the same time it may marginalize local uses of natural resources (McDermott Hughes, 2005; Saarinen, 2007; Büscher and Dressler, 2012).

The noble savage myth is another myth found frequently from conservation vs. development discussions and it proposes that indigenous people have lived in pre-modern and stable harmony with nature always and external conservation governance instruments and economic development just disturb their traditional and sustainable ways to engage with the environment (Hames, 2007; Sarkar and Montoya, 2011; Stevens, 2014). In international literature, two problems have been highlighted. Firstly, this may lead to denial of the indigenous rights for modern development or denial of indigenous status, if accepting modernisation (Holt, 2005; Hames, 2007). Secondly, the noble savage myth is sometimes used in strategic and essentialising

ways to promote bonding between protection of nature and indigenous rights by ENGOs, indigenous people and scholars (e.g. Brosius, 1999), also in Finland (Sarkki, 2012). Yet the idea of noble savages is a myth, which originally did develop for European internal political debates during 17<sup>th</sup> and 18<sup>th</sup> centuries (Ellingson, 2001), but we all, including indigenous peoples, such as Sámi, are subject to forces of modernization, as reflected by the adoption of motorized vehicles and satellite positioning technologies to help in herding tasks (Pelto, 1973; Heikkinen, 2002). Furthermore, we hold that the cultural meanings and continuity are important and integral to reindeer herders despite the ethnicity (Heikkinen, 2002; Ruotsala, 2002), although the policy discussions have been often concentrated on the Sámi reindeer herding (United Nations, 2016; Ministry of Justice, Finland, 2016).

Fourth myth considered here is the myth according to which the majority will constitutes democracy, which is ultimately for the best to minorities as well (McGann, 2002; Robert 2011; Karsten and Beckman, 2012). Environmental governance is often structured after participatory democracy (Ribot, 2002), where selected stakeholder groups participate in negotiations at decision-making forums, for example at sub-national level. Such systems usually work by majority rule within the stakeholder groups who are eligible to take part. According to John Stuart Mill (1859), majority democracy leads to oppression of minority groups, and minorities (e.g. indigenous people) have criticized democracy for being unfair because majorities overruns minorities’ development objectives (Kymlicka, 1995). Majority rule can easily undermine minority development and is fragile to public misperceptions created by for example mass media (Karsten and Beckman, 2012), but at the same time the majority democracy has long roots in western thought and is thus widely regarded as a legitimate form of governance, including resolving contradictions between diverse societal actors. In Finland, the often prevailing idea on democracy as being constituted by majority will, is frequently problematic from the perspective of Sámi land rights (Nyyssönen, 2008; United Nations, 2016). Furthermore, there have been various biases in land use decisions made by majority rule leaving both Sámi and Finnish reindeer herders in an inferior position in relation to other stakeholders (e.g. Raitio, 2008, 2013).

### 3. Materials and methods

Our analysis, based on synthesis of existing literature on reindeer herding (see Table 2), proceeded in the following stages. 1) We made empirically and theoretically grounded assumption on the relevance of myths on social equity of land use governance for reindeer herders (Section 3.1). 2) We chose the four myths to be examined (Section 2). 3) We screened the literature and used criteria (Table 1) to select the papers to be included (Table 2). 4) We classified the selected papers regarding their relationship to social equity and regarding their relationship to the examined myths (see Fig. 1). 5) Based on the classification of the selected papers complemented by analysis of recent public discussions, we wrote detailed description on how the myths are manifested in land use governance in Finland, and what are the implications of the myths on social equity for reindeer herders (Section 4). 6) Based on the found problems we attempted to reinterpret the myths, and linked them to existing and emerging governance realities (Section 5). These analysis stages proved to be rather straightforward, with the exception of the stages 3 & 4 where we needed to verify relationships between the reviewed papers, myths and social equity in a situation where most of the reviewed papers do not explicitly mention the myths we are examining. To do that, we applied comparative cognitive mapping method, which is focuses on establishing linkages between abstract concepts (Axelrod, 1976; Van Esch, 2015; Van Esch et al., 2016). We further developed the method to classify papers regarding their links to myths and social equity (Sections 3.2 & 3.3).

**Table 1**  
Criteria for choosing the papers to be included.

	Issue saliency	Ideological distance to the arguments	Narrative congruence
Tragedy of the commons	Interrelations between reindeer, pastures and other land uses	Pasture degradation can be halted only by state regulation or privatization.	Arguments for and against herders' short-term individual profit maximization at the expense of long term and common sustainability.
Non-human Wilderness	The multiple uses and conservation of wilderness areas	Wilderness areas should be conserved or appropriately commodified to ensure ecological sustainability.	Claims for and against whether reindeer are an integral part or a threat to wilderness areas.
Noble savage	Unique relationship between indigenous Sámi herders and nature.	Sámi have inhabited the natural areas of their homeland for centuries and continue to live unchanged in ecologically sustainable way.	Arguments for supporting Sámi land rights and considering the Sámi reindeer herding as essentially more sustainable than the herding of ethnically Finns.
Majority will constituting democracy	Governance structures and processes involving reindeer herders and other land users	Majority will is the best way to decide on land use issues.	Use of arguments on minority rights vs. affirmative practices towards herders as minority.

**Table 2**  
The four myths and materials to examine them. The numbered references correspond to the numbers displayed in Fig. 1.

Tragedy of the commons	Non-human wilderness	Noble savage	Majority will as democracy
1.1 Sarkki et al., 2013a;	2.1 Saarinen, 2007;	3.1 Dana and Riseth, 2011	4.1 Raitio, 2008;
1.2 Kyllönen et al., 2006;	2.2 Heikkinen et al., 2012;	3.2 Dana and Light, 2011;	4.2 Sarkki and Heikkinen, 2010;
1.3 Reinert et al., 2008;	2.3 Pape and Löffler, 2012;	3.3 Aikio and Åhrén, 2014;	4.3 Nyssönen, 2008;
1.4 Jokinen et al., 2016;	2.4 Heikkinen et al., 2011;	3.4 Valkonen and Valkonen, 2014;	4.4 Sarkki et al., 2016a;
1.5 Akujärvi et al., 2014;	2.5 Heikkinen et al., 2010;	3.5 Valkonen et al., 2016;	4.5 Tuulentie, 2017;
1.6 Kumpula et al., 2014;	2.6 Puhakka et al., 2009;	3.6 Heinämäki et al., 2016;	4.6 Heikkinen et al., 2016;
1.7 Helle and Kojola, 2006;	2.7 Sarkki et al., 2013b;	3.7 Sarkki and Rönkä, 2012;	4.7 Sarkki, 2008;
	2.8 Iivari, 2017;		

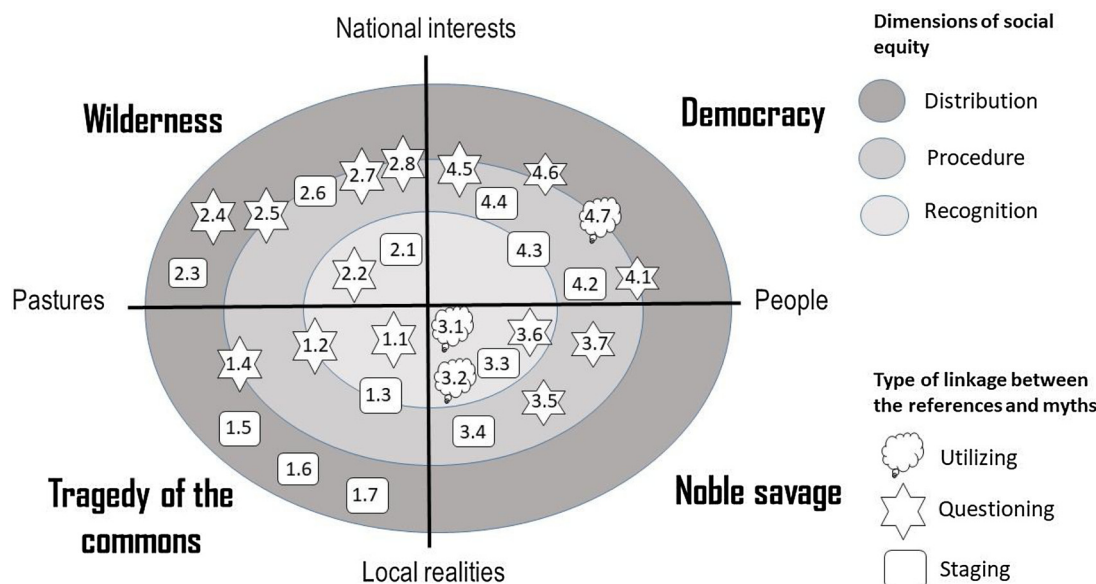
3.1. Basic assumptions

We came up with the idea to examine the role of myths in shaping social equity of land use governance for reindeer herders, by the recognition that tragedy of the commons is misleading when thinking

about sustainability of reindeer herding (Kyllönen et al., 2006; Sarkki et al., 2013a; Jokinen et al., 2016). This assumption on effects of myths on governance practices is supported by the ideational turn, which posits that ideas matter and that link between abstract ideas and concrete governance decisions can be drawn (Blyth, 1997; Gofas and Hay, 2010; Berman, 2012; Van Esch et al., 2016). Based on our previous research and knowledge we decided to examine the four myths, which may undermine social equity of land use governance for reindeer herders. We chose a synthesizing approach, because a single case study would not have provided sufficient material to examine the four myths simultaneously. The reviewed articles come from the fields of natural science, social sciences, anthropology, tourism research, law study, and political science. It is noteworthy that we sympathize the reindeer herders with whom we conduct research. Therefore, the underlying assumption, backed up by two decades of research, is that land use governance could be improved to enhance social equity for herders'. This assumption fits to our ethical agenda and research portfolio.

3.2. Criteria to choose included literature

In accordance with ideational turn van Esch et al. (2016) have proposed that ideas can be linked to practice via three levels of congruence: i) Issue saliency (i.e. the myth and the screened literature are interested on the same issue); ii) Ideological distance (i.e. the ideology



**Fig. 1.** Target graph on analyzed literature categorized according to their relationship to the four myths representing particular social context effecting on the three other dimensions of social equity (ovals with different colors). The two axes separating the myths are whether the myths are focusing on national interests vs. local realities; and on pastures vs. people. Each number represent a reference, which are listed in Table 2.

**Table 3**  
The four myths and examples of arguments made along the logic of the myths.

Myth	Examples of argument utilizing the myths
Tragedy of the commons	<p>Researcher: Why Metsähallitus (state organization) and ministry of environment have not put efforts to stop illegal grazing to save the Malla nature reserve and why reindeer Sámi treat the nature of their home area so ruthlessly (Kaihlainen, 2017).</p> <p>Researcher: Herders have caused the deterioration of pastures by overgrazing and profit maximization, and indeed even lost their traditional livelihood culture based on free grazing reindeer herding (see Aamulehti, 18 September 2016).</p> <p>Land owners in southern reindeer herding district: reindeer eat and trample fields and plants: stricter regulation is needed to secure private property (YLE, 2016).</p> <p>Citizen initiative: Need to change law on reindeer herding to stop free grazing right and to keep the reindeer within fences throughout the year, exception to be allowed in Sámi home area (Järvinen, 5 May 2017).</p>
Wilderness	<p>Plan to build a fence around the Malla reserve to exclude reindeer from the area, where local herders have occasionally let their reindeer to graze (Jokinen, 2005; Heikkinen et al., 2010; Jokinen et al., 2016).</p> <p>IUCN evaluation in 2005 and Oulanka by PAN Parks protected area – sustainable tourism certification in 2007: strong need to restrict reindeer impacts on national parks (Puhakka et al., 2009; Heikkinen et al., 2010; Sarkki et al., 2013b).</p> <p>Statement by Finnish EU MEP for EC: Let's move the boundary of the reindeer herding district northwards to create ecological corridors for wolves in Fennoscandia (Tuominen, 2018).</p> <p>Finnish Nature League ENGO: the wilderness areas of Finnish reindeer herding district should increasingly be fashioned as a habitat also for wolves (Kaleva 5 January 2017).</p>
Noble savage	<p>Researcher: Sámi reindeer herding is characterized by communal and ecological values as opposed to Finnish profit maximizing herders (Dana and Riseth, 2011, 2011).</p> <p>Greenpeace (2009): Coalition of reindeer herders and Greenpeace was able to save the Inari forests.</p>
Democracy	<p>Metsähallitus' reply on herders' concerns on impacts of logging: Every stakeholder group, also reindeer herders, have approved the plan made in (democratic) Natural Resource Planning processes (Kansa, 2017).</p> <p>Researcher: Place-specific democratic decision structures are needed to move towards more fair land use governance (Sarkki, 2008).</p> <p>Herders: Mining companies aim to gain social license to mine in early phase of planning, but interactions with herders after legal approval for mining have been often insufficient (Heikkinen et al., 2016).</p> <p>Researcher: in Kilpisjärvi land use planning engages diverse local stakeholders, but while the planners seem to be happy that local stakeholders are represented in the meetings the actual possibilities to influence by herders remain unclear (Tuulentie, 2017).</p>

and values held by the myth are reflected in the screened literature); and iii) Narrative congruence (i.e. the arguments embodied in the myths are used or contradicted in the screened literature). In order to choose the included literature we developed operational definitions for these three levels of congruence in relation to the four myths (Table 1). All papers sufficed the issue saliency and at minimum either of the ideological distance or narrative congruence criterion.

As the included literature was chosen after we identified the four myths to be explored and we do not claim that our literature review is comprehensive on every myth influencing land use governance in Finland. However, the strategy to identify the explored myths first, and then make targeted choices on the reviewed literature enables us to provide a detailed assessment of the four myths. The Table 1 criteria were used to select the included papers out of the wider body of literature published between 2005 and 2017, and written in English. The search of papers was guided by the authors' previous knowledge on the issues, and complemented by google searches. Regarding the tragedy of the commons myth, we searched papers on reindeer pastures, their governance, and effects of other land uses on pastures. Regarding the wilderness myth, we searched for papers considering interrelationships between protected areas, predators, ecotourism, and reindeer herding. Regarding noble savage myth, we searched papers considering Sámi relationships to land, Sámi land rights, and land governance. Regarding the myth of majority will constituting democracy, we searched for papers on participatory land use planning processes, and Sámi minority rights. The scientific literature was complemented by follow-up of public discussions on reindeer herding.

### 3.3. How the literature is connected to myths?

In our method, there are three types of linkages between the literature and the myths:

1) Utilizing: the arguments presented follow the logic of the myths thereby reproducing the myths. This provides first hand evidence that the myths are actually used in literature and public discussion on land use governance and its links to reindeer herding. Even though all the literature was generally supportive for reindeer herding it occasionally utilized myths of noble savage and democracy aiming to develop

arguments for enhanced social equity of land use governance for herders. This was in contrast to analyzed public discussions, which were often characterized by utilization of the myths to develop arguments that have negative implications for reindeer herding.

2) Questioning: this literature does not follow the logic of the myths, but criticizes arguments or land use governance structures and processes deriving from the myths for not being socially equitable for herders. Thus, this literature provides second hand evidence that the myths are actually used to inform and shape land use governance and related arguments and discussions.

3) Staging: we included also some literature that did not utilize or question the myths explicitly, but discussed key issues underpinning the logics of the myths proven by congruence analysis (see Table 1). This literature provides stages the scene where the dynamics depicted by the myths are taking place thereby providing evidence on to what extent the myths are justifiable.

This threefold typology on the linkages between assessed literature and the myths allows more comprehensive analysis of the myths than would have been possible by selecting only the literature and arguments that utilize and follow the logic of the myths. We list references included in our analysis in Table 2. These references are categorized in Fig. 1 according the myth they address, according their type of linkage to the myth (utilizing, questioning, staging) and according to their relevance for the three dimensions of social equity (procedure, distribution, recognition) effected by myths as particular kind of social context.

There are some limitations in the presented approach. We cannot claim to reveal deterministic causal links between myths and social equity, but we propose that myths, among other things, are part of, and driving, supporting and motivating certain kind of land use governance. As such, implications of myths to social equity of land use governance is an important topic for research, and has been so far unacknowledged.

## 4. Results: myths and social equity in land use governance

### 4.1. Utilizing the myths

This section highlights key findings on utilization of the myths. The rather frequent utilization of the myths is explained by that they

**Table 4**

The four myths, their links to social equity for herders and examples of governance contexts where the myths are used and by whom.

Myth	Link to dimensions of social equity	Governance contexts
Tragedy of the commons	<b>Distribution:</b> Accuses herders from profit maximization at the costs of common benefit (e.g. environmental degradation; damages to fields and domestic plants). <b>Recognition:</b> Leads to low recognition of herders' ability to maintain sustainable livelihood on their own.	In public discussions arguing that reindeer should be farmed rather than grazing free; Natural scientists and ENGOs use the myth to justify arguments for reducing number of reindeer;
Non-human wilderness	<b>Distribution:</b> Wilderness areas should provide locations for nature to flourish, including large carnivores, and function also as tourism attractions. Especially lost reindeer due to predation by large carnivores cause problems for distributional equity. <b>Recognition:</b> Tendency to view herders' as external and threat to nature.	In protected area management planning processes; ENGOs in public discussions related to policy objectives to secure viable populations of large carnivores.
Noble savage	<b>Procedure:</b> Relationships of Sámi herders to nature may be essentialized and idealized to gain power in land use governance. <b>Recognition:</b> Noble savage images may be unrealistic and lead to lack of recognition of the rights of ethnically Finn herders. Essentialized noble savage images also create two views on Sámi herders relations to land: one for public relations and other for every-day life.	Used sometimes in ENGOs campaigns to strengthen arguments of ENGO-herder coalitions; by Sámi herders and scholars in public discussions and scientific papers to promote rights of reindeer herders
Majority will constituting democracy	<b>Procedure:</b> Reindeer herders have same possibilities to participate in decision-making than other stakeholders leading to dominance of bigger and more powerful land users in land use governance processes challenging equity of participation. <b>Distribution:</b> Majority democracy does not take into account cumulative impacts of other land uses on reindeer herding leading to decrease of peaceful pastures and thereby challenging equity of distribution.	In sector specific land use planning processes, especially by organizers of the processes and by the dominating stakeholder groups.

provide support for specific interests, and therefore are used to justify agendas in land use and therefore utilized as a tool in political argumentation (Table 3).

#### 4.2. Questioning the myths

Insights from the literature on questioning the myths is below synthesized by outlining the negative impacts of utilizing the myth on social equity of land use governance for reindeer herders. Table 4 summarizes on how the four myths as particular kind of social context shape the three other dimensions of social equity: procedure, distribution and recognition.

#### 4.3. Staging the myths

Much of the contextualizing literature on the tragedy of the commons links to ecological pasture research, which has after critiques started to change the bioeconomic focus on reindeer – pasture relationships to more holistic view. In particular, the holistic approach assesses the role of forestry and other land uses in the pasture change, including fragmentation and degradation (e.g. Akujärvi et al., 2014; Kumpula et al., 2014). This is important, because it shows that herders are not the only actors in pastures implying that herding is just one of the many land uses impacting on the condition of pastures. Thereby, this challenges the whole rationale of the tragedy of the commons myth.

The myth of non-human wilderness is staged for example by Saarinen (2007), who links it to Euro-American discourses on nature conservation arguing that it is a cultural construct, and that such thing that non-human wilderness has actually never existed during human history. On the other hand, Puhakka et al. (2009) have four divergent local views on development pertaining to tourism in the national park: (1) integrating nature-based tourism and conservation, (2) defending the rights of local people, (3) stressing the economic utilization of nature and (4) accepting tourism development and the national park. Interestingly none of these discourses used by local people advocates non-human wilderness in the national park. Instead, the commercialized wilderness view is more common. Pape and Löffler (2012) stress that reindeer pastures in Fennoscandia are intruded by predators and other land uses. Heikkinen et al. (2012) goes as far as to ask whether increasing predators are actually creating a situation in wilderness

areas, where reindeer are wanted only as feed for the predators. These points highlight changing and diverse agendas targeted on wilderness, therefore also reindeer pastures, and seem to imply that these agendas are contingent and change through times.

The myth of noble savages is staged by stressing the debates on Sámi relations to nature linking to political debates who actually is legally considered as a Sámi (Aikio and Åhrén, 2014). Contested situation on the Sámi land rights in colonized Sápmi (Sámi home area) by the nation states has led to search strong arguments in governance discussions that would justify Sámi land rights. Perhaps as a result of this, the Sámi relationships to nature in practice and in discursive terms have evolved as distinct from each other (see Valkonen and Valkonen, 2014). The diversity of Sámi relations to nature and land has been stressed also by taking into account heterogeneity of Sámi communities creating messy context for and against utilization of noble savage myth type of argumentation in governance discussions. However, the use of the myth of noble savages in relation to Sámi herders can be understood often times as an effort to empower indigenous people under still prevailing colonial legacies (see Valkonen and Valkonen, 2014; Lehtola, 2015).

The myth on democracy as majority will has been contextualized by accounts on Sámi identity politics within nation state (Nyyssönen, 2008). It has been noted that the land use governance processes, even though decentralized and democratic, have not been able to secure herders' interests. Therefore, reindeer herders have sought alternative ways to include on land use decisions. Thus, the pressure campaigns by herders and coalitions with ENGOs can be actually seen as symptoms of problems in democratic land use governance processes, but also perhaps as part of alternative kind of democracy with various routes to influence on land use (Sarkki and Heikkinen, 2010).

## 5. Discussion: reinterpreting the myths for social equity

### 5.1. Holistic view on land use

The tragedy of the commons myth in its original form proposes that land users need to be regulated in order to avoid tragedy (e.g. cumulative impacts on grazing lands), but it could usefully be reinterpreted by defining all land in the reindeer herding district as common resource and by putting all the stakeholder groups "on the same line". In practice, improving social equity of land use in relation to reindeer herding requires a holistic cross-sectoral regional approach to land use

governance. This could replace sector-based administrative organization producing various cumulative impacts on herders (Sarkki et al., 2016b). At an international level, EU has already initiated the development of more cross-sectoral, integrative and participatory policies (e.g. Water Framework Directive; Common Fisheries Policy; Common Agricultural Policy) (see also OECD, 2017).

A characteristic of current reindeer herding, intense linkages not only to natural pastures, but on markets via diverse products and tourism services, also challenges the basis of classical tragedy of the commons thinking. For example, developing the branding of reindeer-related products and services (Hukkinen et al., 2006), and further processing of the meat to get a better price for it (Heikkinen et al., 2007), increases the profitability and economic sustainability of the herding. This reality breaks the direct link between that the tragedy of the commons assumes between the availability of pastures, number of animals, and the economic rationality of reindeer herding. A holistic approach is also needed to understand the various connections of reindeer herding to the existing market economy, and to promote novel ways of engaging with it.

### 5.2. Non-indigenous noble savages?

The literature on noble savages has been centred around indigenous people (Brosius, 1999; Hames, 2007; Sarkar and Montoya, 2011; Stevens, 2014). However, the logic of noble savage myth has been underlying also some literature on Finnish reindeer herding (e.g. Sarkki, 2011; Sarkki et al., 2016a). This not only stresses that also Finnish herders should be targeted by affirmative procedures, but also points to the need of self-reflexivity of researchers to acknowledge that they may treat also non-indigenous local actors, such as herders, in ways that are characterised by romantization and consider local uses of natural resources sustainable by default. Reinterpreting the noble savage myth by recognizing also non-indigenous local people as “noble savages” can provide grounds for increasing influence of non-indigenous local people in environmental governance and recognizing the value of non-indigenous local knowledge (e.g. Díaz et al., 2018). On the other hand, such acknowledgement also places indigenous people at the same level with other local people, and avoids offensive arguments that only indigenous people, NGOs and likeminded scholars utilise unrealistic myths in their argumentation for social equity of land use governance. However, cautiousness is required and the colonial histories of indigenous-state relationships need to be remembered and fully acknowledged when considering social equity of land use governance (Lehtola, 2015).

### 5.3. Herders are more than savages or stakeholders

Overt reliance on the simple principle of stakeholder participation may serve to mask the defects of majority will as democracy, particularly the unequal power-relations, on which the participatory processes are founded. Therefore, a reinterpretation of the noble savage myth by regarding herders as a culturally unique group – however tightly connected and effected by surrounding land uses and society – could justify affirmative procedures targeting herders in otherwise democratic governance processes. This justifies promoting “positive exceptionalism” of a group that is by default (for historical and other reasons) in an inferior position within the extant administrative governance system. It is illustrative that when the participatory processes were first orchestrated towards a more democratic decision-making on land use in the Finnish reindeer herding area, the votes of the representatives of the Finnish state forestry enterprise Metsähallitus Ltd. had a double weight in comparison to other stakeholders (Raitio, 2008). Increasing social equity requires turning this setup the other way around, with more emphasis on affirmative processes that emphasizes the view of local stakeholders and minorities in democratic land use governance. This could help to harness the benefits of democracy while at the same time

applying the subsidiary principle that promotes participation and social equity for the local culturally unique livelihoods (Ribot, 2002; Marshall, 2008).

### 5.4. From majority will towards self-governance

As noted above, social equity may not be achieved through democratic stakeholder participation in land use governance processes. At the national level, the Sámi Parliament in Finland took a step in 1996 towards an organizational structure for better acknowledging land rights of the Sámi herders in national democratic system. However, there has been criticism on the actual power of the Sámi Parliament to influence decision making in the situation where the Sámi rights to lands and waters in their homeland are not formally recognized by the Finnish government who has not ratified ILO 169 Article (United Nations, 2016). At the Nordic level, the recent enforcement of the Nordic Sami Convention will lead to new developments regarding Sámi participation in land use planning and management, as municipality-specific advisory councils will be established under Metsähallitus in Enontekiö, Inari and Utsjoki (Ministry of Justice, Finland, 12 December 2016). While this is a promising development, the Sámi are placed into advisory councils functioning under Metsähallitus. Nonetheless, these advisory councils can be seen as governance experiments that may enhance social equity. A next step would be to design experiments with a higher level of self-governance for herders over the design and underlying rationales of the new decision-making structures.

The myth on the superiority of the majority rule in decision-making is also being challenged through Corporate Social Responsibility (CSR) practices and social licensing in mining (Heikkinen et al., 2016; Wilson and Stammer, 2016) and tourism (see Coles et al., 2013). While they have various problems and shortcomings, they represent voluntary solutions by companies to gain competitive advantage by means of enhancing local participation effecting to planning and operation of industrial land uses. However, replacing democratic governance by pure market logic is dangerous because local participation is facilitated by neoliberal market logic instead of agreed-on political regulations or civil society concerns (Heynen et al., 2007). The above developments towards social equity (participatory structures; neoliberal land use governance) are still externally designed and controlled mechanisms, and therefore novel governance experiments promoting local bottom-up initiatives are needed to advance social equity.

### 5.5. Social equity cannot be bought

The traditional version of the tragedy of the commons thinking assumes that privatized pastures secure sustainability better than commons by changing the underlying incentive logic for the use of the pastures (Hardin, 1968). However, some of the current payment schemes recognize that herders need to be compensated for their losses of peaceful pastures, and for the reindeer killed by predators and traffic. This reinterpreted tragedy of the commons logic recognizes the right of the herders not only to common lands, but also to compensations for losses caused by other actors. Furthermore, payments have been considered as a means of enhancing social equity and rural development by the Finnish state (e.g. the in the form of predator compensations) and by EU (e.g. Common Agriculture Policy EC, 2012). However, these payments may mask the need to mitigate the impacts that endanger the cultural continuity of reindeer herding as a livelihood and way of life (Heikkinen et al., 2012). Thus, there is the risk of “paying herders out of the pastures”, leading to a question whether cultural losses can be compensated in a way that supports social equity.

### 5.6. Biocultural diversity

Given that non-human wilderness is nothing but a myth to begin with, it is particularly important to reinterpret the associated

governance myth so as to include local nature-based livelihoods as integral components of the environment, rather than as threats to it. This idea is at the heart of, for example, the concept of biocultural diversity (Stevens, 2014). Biocultural diversity does not only recognize the potential value of traditional indigenous knowledge and practices in nature conservation, but also focuses on the reciprocal relationship of culture and nature: how they interact, co-evolve and are necessarily and inextricably entangled (see e.g. Ingold, 2000; Cocks and Wiersum, 2014). Biocultural diversity could also provide a conceptual basis for co-managed amalgamations of nature conservation, ecotourism and local livelihoods (see Plummer and Fennell, 2009). Such partnerships could combine positive aspects of the myths discussed in this paper: wilderness (respecting nature), democracy (local people should be able to participate), and noble savages (local people as part of nature) in order to develop novel and socially equitable governance practices.

Some developments are already in motion that promise to shift the object of governance practices from the non-human wilderness to biocultural diversity, such as the Akwé: Kon guidelines based on the Article 8(j) of the Convention on Biological Diversity. These are voluntary guidelines for cultural, environmental and social impact assessment to be applied in regions inhabited or used by indigenous people. In northern Finland, the Akwé: Kon guidelines have been applied in the designated Wilderness Areas and National Parks, and there are indications this has led to a better recognition of the indigenous rights and the cultural value of indigenous livelihoods in management planning. Akwé: Kon guidelines promote accepting especially Sámi herders as part of protected areas thereby representing positive interpretation of noble savage myth that breaks the separation of nature and culture common in protected area governance. According to the Metsähallitus, the Akwé: Kon work has “significantly improved the engagement of the Sámi people in the planning process” (Väisänen, 2013, p. 7). There may still be, however, a discrepancy between the increasingly positive attitudes towards the Sámi, as expressed in the management plans and supported by the new legal frames (see Metsähallitus Act, 2016), and concrete actions towards enhancing social equity in practice (Meriläinen, 2015). Nonetheless, Akwé: Kon guidelines have increased the opportunities of the Sámi to participate in management planning although the value of the Sámi indigenous knowledge remains to be properly appreciated, with the potential of leading to co-production of knowledge between the Sámi people and the state management officials (Sormunen, 2017). The reinterpretation of the wilderness myth in terms of biocultural diversity, then, is not only about recognizing the role of herders in the implementation of land-use plans, but about incorporating their knowledge in the process of designing land-use processes and regulations. This requires a shift from the reliance on (natural) scientific knowledge to the incorporation of local (herder) knowledge in land-use planning and monitoring of the development objectives (c.f. Weber et al., 2012).

## 6. Conclusions

Social equity is important governance goal for rural small-scale nature-based livelihoods, like reindeer herding. In line with the so-called ideational turn (e.g. Gofas and Hay, 2010), we strongly advocate that the explanatory and constitutive powers of ideas as put forward for example by myths as persistent narratives are significant in shaping the social equity of governance for local livelihood practitioners, like reindeer herders. Therefore, the reinterpretation of key myths informing environmental policy and governance in practice should be part of the portfolio of means to achieve social equity.

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