



**HAL**  
open science

## Human values as catalysts and consequences of social innovations

Simo Sarkki, Andrej Ficko, David Miller, Carla Barlagne, Mariana Melnykovich, Mikko Jokinen, Ihor Soloviy, Maria Nijnik

► **To cite this version:**

Simo Sarkki, Andrej Ficko, David Miller, Carla Barlagne, Mariana Melnykovich, et al.. Human values as catalysts and consequences of social innovations. *Forest Policy and Economics*, 2019, 104, pp.33-44. 10.1016/j.forpol.2019.03.006 . hal-04054128

**HAL Id: hal-04054128**

**<https://hal.inrae.fr/hal-04054128>**

Submitted on 31 Mar 2023

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



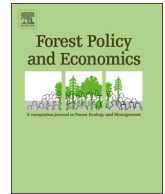
Distributed under a Creative Commons Attribution - NonCommercial - NoDerivatives 4.0 International License



ELSEVIER

Contents lists available at ScienceDirect

## Forest Policy and Economics

journal homepage: [www.elsevier.com/locate/forpol](http://www.elsevier.com/locate/forpol)

## Human values as catalysts and consequences of social innovations

Sarkki Simo<sup>a,\*</sup>, Ficko Andrej<sup>b</sup>, Miller David<sup>f</sup>, Barlagne Carla<sup>d</sup>, Melnykovych Mariana<sup>c,g,h</sup>, Jokinen Mikko<sup>e</sup>, Soloviy Ihor<sup>g</sup>, Nijnik Maria<sup>d</sup><sup>a</sup> Cultural Anthropology, University of Oulu, PO Box 1000, 90014, Finland<sup>b</sup> Department of Forestry and Renewable Forest Resources, Biotechnical Faculty, University of Ljubljana, Vecna pot 83, 1000 Ljubljana, Slovenia<sup>c</sup> Social, Economic and Geographical Sciences Group, The James Hutton Institute, Craigiebuckler, Aberdeen AB15 8QH, UK<sup>d</sup> Social, Economic and Geographical Sciences Group, The James Hutton Institute, Craigiebuckler, Aberdeen AB15 8QH, United Kingdom<sup>e</sup> Natural Resources Institute Finland (LUKE), Eteläranta 55, 96300 Rovaniemi, Finland<sup>f</sup> Information and Computation Sciences Group, The James Hutton Institute, Craigiebuckler, Aberdeen AB15 8QH, United Kingdom<sup>g</sup> Institute of Ecological Economics and Management, Ukrainian National Forestry University, Gen. Chuprynyk St. 103, Lviv 79057, Ukraine<sup>h</sup> European Forest Institute, St. Pau Art Nouveau Site - St. Leopold Pavilion, St. Antoni Maria Claret, 167, 08025 Barcelona, Spain

## ARTICLE INFO

## Keywords:

(max 6): Relational values  
Nature-based livelihoods  
Stakeholders  
Ecosystem services  
Social-ecological systems  
Social innovation

## ABSTRACT

We studied the role of human values in social innovations (SIs) in four forest-dependent communities (FDCs) in Europe. We draw on 71 semi-structured interviews with FDC members in Finland, Slovenia, the UK and Ukraine, and a survey of householders ( $n = 150$ ) and focus group interviews with related stakeholders in Ukraine. The material collected was analyzed with mixed methods with respect to relational values as catalysts and consequences of SI. Relational values, which are derivative of the relationships between human and non-human world, and responsibilities towards these relationships, were divided into three categories: *Doing*, *Belonging* and *Respecting*. *Doing* encompasses the individual's perspective of the opportunities offered by nature to individuals. *Belonging* encompasses a communal dimension of values manifested as the experience of "being at home" in social collectives and landscapes. *Respecting* addresses environmental and social justice. Common cause for SI was the need of FDCs to sustain or enhance relational values linked to forests while, once emerged, SIs also have potential to become global game-changers. SI encompasses the reconfiguration of: i) forest management and use, ii) decision-making structures and processes, and iii) stakeholder's perceptions of sustainability. Examples include the co-management arrangement between a State forestry enterprise and the local community, buying woodland from the State by the FDCs to enable community forestry, reinvention of traditional forest management, and the active involvement of FDC members in halting illegal logging. As a conclusion, we developed a general value hierarchy accounting for value plurality in which relational, instrumental and intrinsic values can be interpreted from any perspective.

## 1. Introduction

A major challenge for post-industrial societies is how human-environment relationships should be organized to enhance the well-being of people and nature (Díaz et al., 2018). The overuse of natural resources and a slow progress towards environmental sustainability have been attributed to the lack of policy instruments to govern natural resources sustainably, and to prevent the deterioration of the environment (Howes et al., 2017). Economic development has been considered as the primary means for increasing human well-being and environmental protection. The widely used Environmental Kuznets Curve

theory assumes that in post-industrial countries, environmental concern and environmental protection increase in line with increases in economic development (Dinda, 2004; Franzen and Vogl, 2013), although a decreasing environmental concern in the most developed countries has been reported (Ficko & Boncina, 2019).

An alternative to economic development for limiting environmental degradation whilst ensuring the well-being of people is to emphasize the actions of civil society through the concept of Social Innovation (SI) (EC, 2014; Baker and Mehmood, 2015; Avelino et al., 2017; Kluvánková et al., 2018, This Issue). SI reflects human capacity to create and implement new ideas, which are likely to deliver value

\* Corresponding author.

E-mail addresses: [simo.sarkki@oulu.fi](mailto:simo.sarkki@oulu.fi) (S. Sarkki), [andrej.ficko@bf.uni-lj.si](mailto:andrej.ficko@bf.uni-lj.si) (A. Ficko), [david.miller@hutton.ac.uk](mailto:david.miller@hutton.ac.uk) (D. Miller), [Carla.Barlagne@hutton.ac.uk](mailto:Carla.Barlagne@hutton.ac.uk) (C. Barlagne), [mariana.melnykovych@hutton.ac.uk](mailto:mariana.melnykovych@hutton.ac.uk) (M. Melnykovych), [mikko.jokinen@luke.fi](mailto:mikko.jokinen@luke.fi) (M. Jokinen), [ihor.soloviy@enpi-fleg.org](mailto:ihor.soloviy@enpi-fleg.org) (I. Soloviy), [maria.nijnik@hutton.ac.uk](mailto:maria.nijnik@hutton.ac.uk) (M. Nijnik).

<https://doi.org/10.1016/j.forpol.2019.03.006>

Received 2 May 2018; Received in revised form 7 March 2019; Accepted 15 March 2019

1389-9341/© 2019 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

(BEPA, 2011). The social needs that innovation is expected to fulfill primarily concern the quality of life and well-being of people. Innovations begin with ideas (for solving social problems), which develop into prototypes and pilots, then become more stable initiatives, potentially up-scale, and may eventually create systemic change (Polman et al., 2017).

SI can occur at multiple levels (SIMRA, 2016; Polman et al., 2017) and, ideally, it should simultaneously meet economic interests and social needs. It can include new institutional environments (e.g. of formal and informal rules) and arrangements (spatial and procedural), new relationships between actors, networks and interactions (e.g. new attitudes, collaborations, values, behaviors, skills, practices and learning processes), and new fields of activity, e.g. social entrepreneurship, social enterprises (SIMRA, 2016). Aiming to improve human wellbeing, SI leads to new responses to pressing social demands, which affect the processes of social interactions. However, the concept of SI requires work to outline what it means in relation to Social-Ecological Systems (SES) (see Cajaiba-Santana, 2014; Howaldt et al., 2015; Marques et al., 2017; Melnykovich et al., 2018).

Our definition of SI in SES draws on that developed in the SIMRA project (Klůvanková et al., 2018, This Issue), but is adapted to the details and context of the research reported in this paper. In the paper we focus on the values that SI seeks to create, enhance or sustain for Forest-Dependent Communities (FDCs). Social innovations relevant for FDCs can be assessed in consideration of the practical, institutional and normative changes they trigger (see Kooiman, 2007; Pahl-Wostl, 2009).

Values that people associate with SES have been assessed using the concept of ecosystem services. However, the ecosystem services concept has been criticized for having an instrumental orientation, and neglecting the intrinsic dimension of nature (Howe et al., 2014). Recently, the concept of relational values has been proposed for capturing the meaningfulness of relationships between individuals or societies and other aspects of the lifeworld (Pascual et al., 2017). Relational values are those, that are derivative from the relationships between people, people and nature, and responsibilities towards these relationships (Chan et al., 2016). The concept of relational values is not new: O'Neill (1993) used it in his critique of market-based approaches to environmental policy, illustrating that humans “value an object in virtue of its relational properties, for example its rarity” (O'Neill, 1993:13). O'Neill justifies his position by arguing that rarity “cannot be characterized without reference to other objects” (O'Neill, 1993: 14). This implies that value attached to an object is primarily relational, depending on its perceived rarity. However, we do not follow this narrow notion of relational values, and instead follow a more recent and general definition (e.g., Chan et al., 2016; Pascual et al., 2017; Klain et al., 2017). For details the reader is referred to Chan et al. (2018), who provide an overview of the history of the concept of relational values.

In studying the value dimension of SI, we use a combination of inductive reasoning (bottom-up logic) where we derive general principles of SI in SES from specific observations in four forest-dependent communities (FDCs) in Europe, and abductive reasoning through which we seek to find the simplest and most likely explanation of how SI changes the quality of life and well-being of people in local communities. The research question addressed in this paper is: What is the relationship between human values and SI in FDCs?

First, we provide a working definition of SI in SES and develop a typology of relational values, and their links to instrumental and intrinsic values. Next, we apply the concepts of SI and relational values to four selected examples of FDC in the northern and eastern rural peripheries of Europe. Finally, we discuss the governance contexts for the SI examined, and propose how to enrich the concept of relational values with additional perspectives to fully capture the values, which may be offered to FDCs by operational, institutional and normative changes.

## 2. Methodology

### 2.1. Definition of social innovations in social-ecological systems

Social-ecological systems have been conceptualized and applied in a range of environments (e.g. Folke et al., 2005; Ostrom, 2009; Sarkki et al., 2017). The research reported in this paper is limited to SES, that (as in Melnykovich et al., 2018) have the following components: a forest ecosystem, forest-dependent communities, other users of the local natural assets, and existing decision-making structures and processes. Communities are characterized as forest-dependent by the benefits they receive from forest ecosystems, by people's dependence on forests for their livelihoods and subsistence, or by being spatially connected to forests either by living within them, using them, or having access and property rights to them (Scherr et al., 2003; Pagdee et al., 2006; Bray et al., 2008; Newton et al., 2016; Klůvanková et al., 2018, This Issue).

Social innovations in SES are defined as the reconfiguration of management and use practices (*operational* changes) of natural assets (e.g. forest), the alteration of decision-making structures and governance processes (*institutional* changes) and/or changes in human perceptions of sustainability (*normative* changes, c.f. Kooiman, 2007; Pahl-Wostl, 2009; Polman et al., 2017). The reconfiguration arises in response to societal challenges and necessarily involves community members. It proceeds towards the creation, enhancement and/or sustaining of (relational) values for FDCs.

### 2.2. Doing, belonging and respecting as relational values

By combining inductive and abductive interpretation of the empirical material (see section 2.3) while searching for the theoretical support in the literature, we categorized relational values into *Doing*, *Belonging* and *Respecting*.

*Doing* encompasses the individual's perspective of the contributions of nature in which the value is created by the opportunities offered by nature to individuals (Gibson, 1979; Ingold, 2000). *Belonging* encompasses a communal dimension of values manifested as experience of “being at home” in social collectives (Yuval-Davis, 2006) and in landscapes (Trudeau, 2006). *Respecting* addresses environmental and social justice that can be captured, for example, by temporal analysis of governance changes and their socio-cultural and environmental implications (see Schlosberg, 2007). The *Doing*, *Belonging* and *Respecting* categories are interdependent, and compromising one often has implications for others (c.f. Schlosberg, 2007; Max-Neef, 2010). Therefore, it is necessary to understand the interlinkages of *Doing*, *Belonging* and *Respecting* holistically, linking them to each other and intrinsic and instrumental values.

The category of *Doing* follows Ingold's (1993) perspective on the inseparable cohabitation of humans and other parts of lifeworld, which he called a dwelling perspective. Dwelling means inhabiting a landscape, be it an inextricable part of it, experiencing it, and to be as formative of the landscape as formed by it (Franklin, 2002).<sup>1</sup> According to Ingold (2000; 2008) culture and meaning are continuously emerging, such that if there is no possibility of doing, the culture is not alive. To link humans to other parts of the lifeworld, Ingold coined the word *taskscape*, which represents “an array of related activities” (Ingold, 1993; 158) which “take their meanings from its position within an ensemble of tasks (...), “performed usually by many people working together”. However, this perspective lacks an explanation of how the components of the *taskscape* transfer to future generations (if at all), and whether humans can actively alter the *taskscape*. Ingold's position was that “in dwelling in the world, we do not act upon it, or do things to it;

<sup>1</sup> The origins of this perspective can be traced back to Heidegger and even Aristotle.

**Table 1**  
Doing, belonging and respecting, examples of concrete actions and their contribution to social needs.

Relational value category	Examples of how relational values are manifested in everyday practices	Contribution to needs of FDCs
<i>Doing</i>	<p><b>By practicing livelihoods:</b> Connects the livelihoods of practitioners to nature and culture via culturally important everyday activities (Crane, 2010; Sarkki et al., 2016).</p> <p><b>By applying traditional knowledge:</b> Connects users and developers of the knowledge to cultural knowledge systems and related skills to interact with nature (Berkes et al., 2000; Hunn et al., 2003).</p> <p><b>By spoken language:</b> Connects the actors to stories, concepts, place names and helps in knowing the environment (Magga, 2006).</p> <p><b>By creating “taskscape”:</b> Consisting of an array of related activities that are not coded (tacit knowledge), with meanings only understood from their position within an ensemble of tasks performed by many community members.</p>	<p>To earn a subsistence living in a socio-culturally acceptable way.</p> <p>To access intergenerational knowledge and skills.</p> <p>To access shared meanings and social interactions.</p> <p>To strengthen the affinity for non-instrumental benefits.</p>
<i>Belonging</i>	<p><b>To a place:</b> Connection to nature and landscapes via (shared) experiences, memories and stories. (Bender, 2006; Trudeau, 2006; Spruce and Thrasher, 2008)</p> <p><b>To a social community:</b> Bonds actors to social networks by shared values, roles, trust, norms of reciprocity and collective activities (Agrawal and Gibson, 1999; Pretty, 2003)</p> <p><b>To a spiritual realm:</b> The sense of connection to a wider force setting responsibilities and providing abilities (Berkes, 1999).</p> <p><b>To a chain of generations:</b> The same activities in the same places as used by ancestors, passing skills and knowledge down to future generations (Bloch, 1954).</p>	<p>To feel bonded to nature/landscapes.</p> <p>To belong to a social group.</p> <p>To connect to a higher power.</p> <p>To be part of intergenerational continuity.</p>
<i>Respecting</i>	<p><b>By empowerment:</b> The ability to engage in decision-making for collective benefit and the extent of self-determination (von der Porten et al., 2015; Fondhal and Wilson, 2017).</p> <p><b>By promoting individual fulfilment:</b> Providing the ability for others to flourish as respected members of global collectives (Schlosberg, 2007).</p> <p><b>By stewardship:</b> Collaborative rules to ensure sustainable use of resources (Ross et al., 2011).</p> <p><b>By sharing power:</b> The practices to allocate decision-making power to others within and beyond a community.</p>	<p>To be respected as a legitimate decision-maker concerning one's own life.</p> <p>To enable others to be what they can be.</p> <p>To feel responsible by taking care of nature.</p> <p>To be fair by enabling collective action.</p>

rather we move along with it”, and that “our actions do not transform the world, they are part and parcel of the world's transforming itself” (Ingold, 1993: 164). Such an understanding seems to preclude evolution by innovations. Therefore, in this paper we have added two elements of modern existential humanism (Jaspers, 1974), which emphasize the sensitivity towards the natural and social environment (*Belonging*) and respect for human and non-human life (*Respecting*) and further elaborated it in the sociological and historical perspective.

The category of *Belonging* can be linked to the work of Yuval-Davis (2006; Yuval-Davis et al. 2018), who elaborated the concept of belonging and the politics of belonging. As with Ingold (2000) with doing, Yuval-Davis (2006) with belonging points to the dynamism and everyday realities. The everyday seems to be “at the centre of human existence, the essence of who we are and our location in the world” (Pink, 2012: 143). According to Yuval-Davis (2006), belonging is often understood as “being at home”. When analyzing belonging, it is essential to consider locations of belonging, identification and emotional attachments to collectives and groupings, and associated political values and ways by which people judge their own and others' belonging. It is also essential to acknowledge the spatial aspect of a community, i.e. connections to a landscape (Trudeau, 2006). Furthermore, “being at home” requires knowing what the home is, even if home would be under a constant process of becoming, as Ingold (2008) points out. Following this line, historian Marc Bloch proposed that historical (dis)continuity effects on the sense of belonging. He notes that “successive technological revolutions have immeasurably widened the psychological gap between generations” (Bloch, 1954: 36). This implies that *Belonging* might be stronger if the things people do are similar to those of previous generations. *Belonging* therefore, is a sense of attachment to a certain *taskscape* and a feeling to be at home in specific social, cultural, environmental and spiritual settings.

The category of *Respecting* follows Schlosberg's (2007) notion of environmental justice, extending the idea of justice being primarily about securing instrumental values for different social groups. The category of *Respecting* involves promoting the capabilities to make morally bounded groups and political communities flourish and involving them in governance. The category of *Respecting* links the history and present situations of relationships between individuals, the State, and

external actors operating on land traditionally used by such communities (Nuttall, 1998). The subjects of justice and respecting are individuals and collectives, which can be social groups but also ecological systems (c.f. Latour, 2004; Schlosberg, 2007). Respecting, therefore, includes a strong view of considering others as equal (Baker, 2015). In terms of FDCs, respecting considers FDCs as equals, with other societal stakeholders, recognizing them as important communities with opportunities for self-determination and the possibility to engage in governance processes, and that the FDCs and others respect the environment and non-human world. Therefore, respecting refers to individuals, communities (social, ecological, hybrid), and nature.

Table 1 lists specific examples of actions relating to the Doing, Belonging and Respecting categories, and explains how these actions contribute to the social needs of FDCs.

A general value hierarchy representing different perspectives on values is presented in Fig. 1. The “globes” perspective is advocated by “traditional conservationists”, who see nature conservation as a moral duty in response to nature's intrinsic value. Conservationists (Ingold uses the term environmentalists) view the globe from the outside. The “globes” perspective is in contrast with the “spheres” perspective, held by people living close to nature, such as FDCs. FDCs inhabit and dwell in the world rather than view it from outside. The “spheres” perspective challenges western separation of nature and culture. However, the opposite extreme view of local people as noble savages (Hames, 2007) living in harmony with nature is also considered inappropriate (e.g. Sarkki et al., 2018). Therefore, there is a need to position the FDCs into the utilitarian, “globes” or “spheres” perspectives of the value hierarchy.

### 2.3. Material and methods

Empirical data were collected in four case studies of the Municipality of Muonio, Finland; Lochcarron, Scotland, UK; Železniki and Semič/Metlika, Slovenia; and the communities of Roztochia, Transcarpathia, and Polissia, in Ukraine (Fig. 2; Table 2). The descriptions of the case studies were standardized. The themes addressed were: social-ecological systems; social needs that ground the SIs; SIs and their links to changes in operational, institutional, and normative

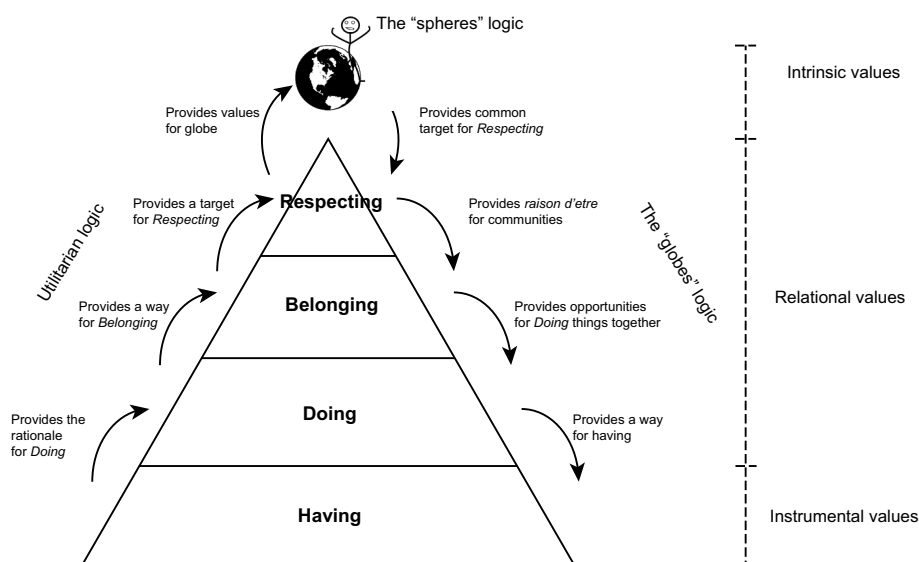


Fig. 1. Utilitarian, “globe” and “spheres” perspectives of the value hierarchy

levels; up-scaling, replicating and mainstreaming of SIs; and the link between SIs and relational value categories. The studies were selected across a range of types of wooded areas in Europe, with spatial variation and heterogeneity in the regions in terms of natural conditions, socio-economic development, social capital, governance and institutional settings, and a range in complexity of SIs. A mixed research methods approach was adopted in all four case studies. The mixed approach is justified because of the character of the topic: social innovations vary greatly across cases and a unified method could overlook the plurality and context specificity of the relational values (Klajn et al., 2017).

The case of Muonio describes the introduction of a co-management arrangement in 2014, as a result of disputes between local actors and a state forestry enterprise. The background to this agreement was a dispute concerning the opportunities for recreational activities in forests between the Finnish forestry enterprise Metsähallitus, local nature-based tourism entrepreneurs, reindeer herders, hunters and local people. At that time, 15 key actors in the dispute were interviewed about the issues and experiences (Sarkki, 2008; Sarkki and Heikkinen, 2010), and analysis carried out of the content of the local media (see Jokinen, 2014). In 2014, the new co-management arrangement for the disputed forests was agreed between Metsähallitus and local people.

In 2018, eight interviews were conducted with the key actors from Metsähallitus, the municipality, nature-based tourism entrepreneurs, reindeer herders and local NGOs. The interviews covered the following themes: what was the dispute about in 2007?; what was the key outcome to be reached by the co-management arrangement in 2014?; what has been accomplished with the 2014 agreement?; how has the co-management arrangement worked?; how has the agreement influenced relationships between local actors?; and, did the agreement increase the willingness to work together, and create a sense of belonging to the same community and mutual respect?

The social innovation based on community forestry and local ownership of the woodland in the Lochcarron case study emerged as a response to social needs expressed by the community, and the necessity to create opportunities for local people (employment and housing opportunities, skills enhancement and cultural heritage). Historically, land resources were owned by a limited number of people, with 432 people owning 50% of Scotland's private rural land (Wightman, 2013). Obtaining ownership of the woodland was regarded as a symbol and embodiment of community empowerment over natural assets and evolving governance arrangements. A desk-based study was conducted, which aimed at understanding the broader context in which SI emerged

and developed. The literature review provided a historical perspective on Scottish forestry and the relationship between communities and forests. Secondary data (reports, social media) on the Lochcarron community were analyzed to understand the regional context and to document the SI. Policy documents relating to community empowerment and ownership were analyzed to understand the institutional framework, enabling conditions and factors that hinder the development of SI.

Primary data in Lochcarron were collected through a focus group and eight semi-structured interviews with key informants. These were to understand the factors relevant to the origins of the SI, and the issues that enable or hinder its operation. The focus group considered the key stages in the evolution of the SI and the actors involved. The semi-structured interviews covered themes of uses, values, perceptions and governance of the forest resources, enabling factors and barriers to the SI. Contextual analysis and relational analysis of both primary and secondary data were performed and quotes extracted to illustrate the findings.

The Železniki and Semič/Metlika case study was on the management motivations of traditional small-scale family farm forest owners, living in two forest management units with natural or other specific constraints. In each of the forest management units a district forester identified one forest owner to be the first interviewee. This initial interviewee recruited other forest owners from amongst their acquaintances. This non-probabilistic, snow-ball sampling was continued until answers began to saturate. In total, 20 semi-structured interviews were conducted in each of the forest management units. All conversations were audio-recorded and then type-written (Pogačnik, 2017). From analysis of the qualitative content, a subset of statements that related to the topic of SI was extracted from the documentation. A word-cloud generator and sentiment analysis were used to find the meaning of the concept of good forest management and detect the polarity of respondents. The output was a word cloud, with the font size larger in proportion to the number of times it appears in the text. The generator helped with the identification of the main reasons for continuing with forest management despite natural and social handicaps, while sentiment analysis determined the attitude of a respondent with respect to the polarity (e.g. negation, sarcasm, specific emotion).

In Ukraine, representatives of 150 households were interviewed in rural areas with a high proportion of forests: Roztochia ( $n = 60$ ), Transcarpathia ( $n = 50$ ), and Polissia ( $n = 40$ ). The survey was based on the Center for International Forestry Research (CIFOR) Survey Module for measuring the multiple roles of forests in household welfare



Fig. 2. Location of case studies.

and livelihoods (Bakkegaard, 2014; Bakkegaard et al., 2016), and the World Bank Living Standards Measurement Survey (LSMS). The survey covered the following sub-themes: socio-economic characteristics of a household and its members, land assets, income generated from forests and dependence upon it, consumption of forest products (e.g. fuel wood, non-wood forest products, NWFP). Then, the analysis focused on SI initiatives to improve the socio-ecological system and advance environmental sustainability in these study areas. This was supported by a literature review of relevant sources, scientific articles and web pages of local governments and NGOs; reviews of national legislation, guidelines, and project reports; and, discussion with knowledgeable experts in the study areas.

Once case studies had been selected, we used inductive reasoning to summarize and upscale the empirical material. There was no strict a priori determination of value categories into which statements, social processes and relationships were classified. After starting the analysis by generalizing and upscaling, we introduced Doing, Belonging and Respecting as labels, which are separate from each other. Then we

followed the deductive approach where Doing, Belonging and Respecting were predefined categories into which further material was clustered.

In interpreting the Doing, Belonging and Respecting categories we relied on theories; this is where abductive reasoning took place. Comparing all possible theoretical explanations for the processes documented in the empirical material was beyond our capacity; hence we tried to find the simplest and most likely explanation for the causes and consequences of SI for people in local communities.

### 3. Results

#### 3.1. Novel co-management arrangements in Finland

##### 3.1.1. The problem context

The Muonio case study concerns ways of reconciling different forest management objectives in the Municipality of Muonio (203,997 ha) in northern Finland. Although forests in the municipality are not intact

**Table 2**  
Overview of the case studies.

Characteristics	Finland municipality of Muonio	Scotland Lochcarron community	Slovenia forest management units of Zelezniki and Semič/Metlika	Ukraine communities in Roztochia, Transcarpathia, and Polissia
Forest-dependent community	Local tourism entrepreneurs, reindeer herders, subsistence and recreational users	Inhabitants of the settlements	Small-scale family farm forest owners	Rural households in highly forested areas
Social needs related to forests and ecosystem services (ES)	Location of high-quality forests for nature-based tourism, local recreation and suitable pastures for reindeer herding	Fuel wood, recreation opportunities, local knowledge and know-how, cultural and historical identity	Multi-functional forest (MFF) management and the viability of the rural areas with natural and other constraints	Forest multifunctionality to provide sustainable flows of forest ecosystem services (ES) for forest-dependent communities and to reduce illegal logging
Social innovation in SES	Novel co-management arrangement between local community and State forestry enterprise Metsähallitus. The co-management group plans and monitors logging by Metsähallitus. Agreement to enhance opportunities for nature-based tourism, reindeer herding and recreation	Community forestry enabled by communities purchasing woodlands from the State. Management in accordance with management plans agreed upon with the Forestry Commission (State body) with aims of increasing positive amenities (biodiversity, cultural ES, etc.)	Rediscovery of relational values, giving priority to place-attachment and maintenance of forest management over for-profit forest management	Initiatives to establish monitoring systems by NGOs and local people based on publishing photographs on illegal activities to enhance ecological sustainability and benefits for local communities from MFF use.
Methods for collecting empirical data	Semi-structured interviews with 15 key actors (representatives of Municipality, State forestry enterprise, reindeer herders, local tourism entrepreneurs) in 2007, and with 8 key actors in 2018	Desk-based study focus group with key informants from the Lochcarron Community Development and partner organizations (n = 5), 8 semi-structured interviews in 2018, participant observation.	Semi-structured interviews with 40 forest owners selected by snow-ball sampling	Survey, based on the CIFOR Survey Module for Measuring the Multiple Roles of Forests in Household Welfare and Livelihoods, and the World Bank Living Standards Measurement Survey (LSMS); Literature review and discussion with knowledgeable experts.
Ownership	State-owned	Community woodland owned by the Lochcarron Community Development Company, a charitable organization representing the community.	Small-scale private forests, family farms	State-owned forests
Principal forest uses	No single dominant forest use: forestry, nature-based tourism, reindeer herding, gaming and recreation (all in the same forests)	No single, dominant forest use: fuel wood, recreation, cultural and historical heritage, affordable housing in the future	No single dominant forest use: forestry, agriculture, multifunctional use	No single dominant forest use: forestry, NWFP gathering, gaming, grazing, nature-based tourism
Decision-making and participation of FDC	Participatory planning where the State forestry enterprise facilitates planning. Note this enterprise is also an interest group	Management plan agreed between the Community and the Forestry Commission, based on the interests of the community.	Individual decision making, household, co-existence	Participation of FDPs is foreseen in the framework of forest certification, however it is more declarative.
Perceptions of sustainability	Economic sustainability of forestry, with an emphasis on multi-functionality by involving nature-based tourism, reindeer herding and local recreation.	Economic sustainability is targeted through the fuel wood business, environmental sustainability through increasing diversity of tree species, and social sustainability through cultural and historical heritage.	Forest management for maintenance of the forest, no clear instrumental or intrinsic values, or subsistence	Attractive socio-economic conditions together with MFF (e.g. value-added NWFPs business, recreation)

old-growth forests with high conservation value, they provide opportunities for nature-based tourism, which is a very significant employer in the municipality. They also provide important areas of pasture for reindeer herding, a traditional local livelihood and subsistence-use of nature, hunting and recreation. The Finnish State enterprise Metsähallitus manages State-owned forests in Finland and carries out logging operations. As a response to a self-organized local campaign against logging, an agreement was reached in 2007 in which Metsähallitus leased the disputed forests for ten years to entrepreneurs in local nature-based tourism. Although the formal agreement on the rent was reached, an atmosphere of distrust has remained, and it is likely that disputes would have re-emerged (Sarkki and Heikkinen, 2010).

### 3.1.2. Social innovation

The co-management arrangement reached between Metsähallitus and a range of local actors in 2014 changed practices of forest use and introduced new decision-making structures and processes to plan and monitor logging. The forests of northern Muonio (8335 ha) function as a pilot area of less-intensive logging, which takes into account scenic landscape values, reindeer herding and the management of habitats for game. A separate management plan was developed for the area, the correct implementation of which will be monitored by a local collaboration group. This is an innovative arrangement, as previously Metsähallitus monitored their own practices for alignment with their own plans, leading to distrust between actors. According to one of the eight interviewees in the case study, a reindeer herder, *“The greatest achievement is that now we can have influence on how loggings are done and be part of the planning. We explore every logging area and give our opinion. Earlier we did not have influence at all”*. All eight interviewees considered the introduced practices to have worked well. Metsähallitus has already replicated the arrangement in some other areas in northern Finland, which are important for nature-based tourism.

### 3.1.3. Relational values

The co-management arrangement has enhanced opportunities for local people to expand current relationships with forests beyond the simple instrumental or intrinsic benefits. Such relationships may be created for economic benefits (e.g. nature-based tourism), or to satisfy needs for quality of life and respect for culture and nature. According to a representative of Metsähallitus, the company made major changes to logging practices even when it cost reduced profits. In 2018, all eight people interviewed considered that the arrangement had increased the willingness of stakeholders to collaborate (“doing” together) and improved the general social atmosphere in Muonio. In particular, collaborative forest planning and control of implementation of the plan have increased the respect of local people towards Metsähallitus and their perspective of the legitimacy of it as a stakeholder in the area. A representative of Metsähallitus reported that the arrangement has increased mutual respect and led to the insight *“that all this is linked to us having better communication now. It reduces suspicion between all stakeholders.”*

## 3.2. Community forestry in Scotland

### 3.2.1. The problem context

The Lochcarron community is located in the Highlands of Scotland, United Kingdom, characterized by its remoteness, ageing population, migration of young people to urban centers, and a lack of affordable housing. In the 1980s, Lochcarron was a vibrant settlement with jobs for local people in the oil, fishing and forestry industries. By 2018, unmet social needs are local employment opportunities, the availability of affordable houses, and the maintenance of a sense of place. Community forestry in Scotland has emerged as the result of a growing sense of community empowerment since the 1980s (Ambrose-Oji et al., 2015; Lawrence et al., 2009), and as the limitations of the conventional

state-directed forestry model started to become apparent (Slee, 2006). The institutional landscape has evolved from the first communities who challenged established governance structures and land ownership (historically limited to a few people or institutions, see Nijnik and Mather, 2008; Wightman, 2013), to contemporary initiatives which empower communities and provide them with opportunities not available previously, in particular the Land Reform (Scotland) Act, 2003 (Scottish parliament, 2003), Community Empowerment (Scotland) Act, 2015 (Scottish Parliament, 2015), and Land Reform (Scotland) Act, 2016; Scottish Parliament, 2016).

To meet such needs, communities have been granted new rights to buy land from the State agency, the Forestry Commission, specifically the National Forest Land Scheme (Forestry Commission Scotland, 2005) and the Community Assets Transfer Scheme (Forestry Commission, 2015). The aim of the purchase of the woodland in the vicinity of Lochcarron is to address essential needs of the community now and in the future. According to an interviewee from Lochcarron (IFT-006), *“By acquiring the woodland, we wanted to create opportunities for the locals and to make it available for the future generations”*.

### 3.2.2. Social innovation

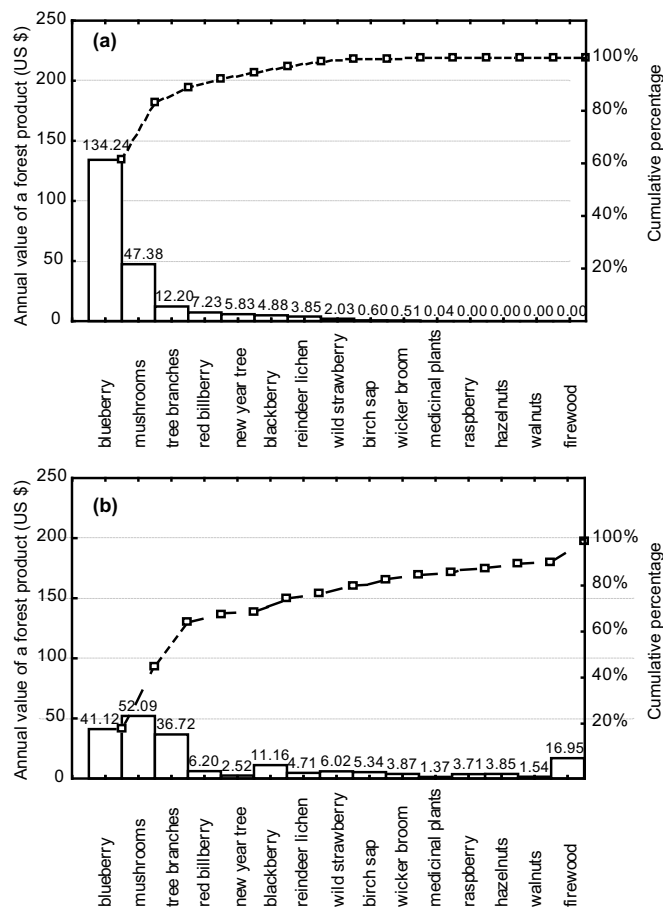
The Lochcarron Community Development Company (LCDC), the charitable company that represents the Lochcarron Community, purchased the woodland in 2012. Having gained access to the woodland and providing opportunities for it to be enjoyed by local people, the community is beginning to re-establish relations in ways that are different to before. From a forest that was primarily used by State enterprises for timber extraction, it has become an asset for which the community now has responsibility. The decision-making structures and processes relating to the woodland have changed due to the LCDC taking ownership of the woodland (cf. Fig. 2). However, findings from the interviews have revealed challenges in replicating such initiatives, most significantly those of: limited funding for co-ordination until the initiatives become self-sustaining; volunteers lacking the time and relevant expertise; over-reliance on the project officer of the LCDC; and, the complexity of bureaucratic tasks required to be undertaken by the LCDC project officer. Despite these issues, current developments in national policy to support community forestry have led to approximately 200 community woodlands across Scotland.

### 3.2.3. Relational values

Acquisition of the woodland in the Scottish case study occurred after a wide consultation of the community, which expressed its opinion on the purchase through a community ballot. This process was accompanied by a process of community engagement involving the use of visualizations of the future of the woodland and its prospective management plan. Both processes supported the empowerment of the community, and fostered stewardship of the woodland (Respecting). Since the acquisition of the woodland, the community has engaged in a range of activities in the woodland aimed at reviving traditional knowledge and history, increasing well-being and therefore creating a sense of place that seemed to have been lacking previously (Informant PP007). Woodcarving, mushroom picking and foraging workshops have been organized, targeting both adults and children. The forest, and the specific tree species that it comprises, have inspired handicraft workshops, contributing to reviving traditional knowledge (Doing). Pupils from the local primary school have been engaged in the study of the history of a family that used to live within the woodland until 1872 when they were cleared from their land. As a result of this activity, they re-enacted the history of this family in a play, which illustrated the transfer of local, communal history between generations (Belonging). On-going arrangements within the woodland include the creation of a heritage trail and positioning of benches to enhance connectivity with the landscape (Belonging).







**Fig. 4.** The Pareto charts showing: (a) Average annual income generated by a rural household from selling forest products; (b) Average annual value of forest products used by a rural household for own consumption (subsistence). The right vertical axes show the cumulative percentage of the total income and own consumption, respectively.

of unemployment and poverty, as well as shortcomings in policy, legislation and forest management practices (see also Melnykovich et al., 2017; Soloviy et al., 2017; Nijnik and Oskam, 2004; Nijnik and van Kooten, 2006).

### 3.4.2. Social innovation

The councils in some FDCs have required that local people have to be consulted and agree to timber harvesting in surrounding forests. While the need to control illegal logging has been recognized at a normative level, it has not fully been reflected in on-the-ground forest use and decision-making. On the other hand, a grassroots movement called “Forest watch movement” is aiming to exert more public control over forestry operations through photo documenting, video recording, reporting to the police and representatives of the local environmental protection agency, and sharing knowledge on illegal logging through social media. A local movement is gradually becoming a game changer; WWF-Ukraine has begun campaigning against illegal logging operations in Ukraine. Since May 2016, the “Forest Guard” project ([wwf.panda.org](http://wwf.panda.org)) has been training volunteers to build a network of activists capable of detecting and reporting crime. The aim of Forest Guard is to establish a wider network of institutions directly involved in forest protection such as environmental inspectors, police, local authorities and forestry organizations.

### 3.4.3. Relational values

The Ukrainian case provides evidence that *Doing*, i.e. picking and selling NWFPs, may lead to SI. Traditionally, tangible economic and

social benefits to rural communities have been derived from the use of forest products for food, for sale and income generation, and for fulfilling a range of social, cultural and religious functions (Nijnik et al., 2009; Melnykovich et al., 2016). *Belonging* was reflected through the strong connections to forests, mostly by older respondents. *Respecting* was held by approximately 85% of respondents, who agreed that forests need to be preserved for future generations (c.f. Melnykovich et al., 2018). *Respecting* was linked to perceived necessity of the direct involvement of the local communities in decision-making processes to ensure FDCs' access to NWFPs.

## 4. Discussion

### 4.1. Social innovations as governance changes

The four cases presented show different types of changes in governance, which are catalyzed by relational values. Changes can be assessed with respect to operational, institutional and normative changes. Once changes emerge they impact the value systems in the communities and may become a catalyst of changes at large. Case studies show how the process of SI develops and reaches the state when changes extend and strengthen civil society.

The State owns and manages the majority of forests in northern Finland, which provided jobs for local people and a profitable forestry industry. However, the mechanization of wood harvesting and transfer of some of the industrial activities to countries with lower production costs has reduced the benefits of industrial forestry for local people. Over the last two decades, industrial forestry has led to conflicts and distrust between the Finnish State forestry enterprise Metsähallitus, local people and NGOs (Raitio, 2008; Sarkki and Heikkinen, 2015). SI in Muonio was motivated by the belief that forests are of greater value managed for use in nature-based tourism, reindeer herding and recreation, than felled and used for the production of pulp. Since the mid-1990s, the pressure to decentralize the decision-making processes of the State organization has enabled the possibility of a co-management agreement in Muonio. The co-management group plans and monitors logging together with Metsähallitus, significantly increasing the level of trust between the actors. The need for these actions illustrates that many local stakeholders no longer accept centralized State-based guidance of “doing” in the forests, leading to a recognition that Metsähallitus should pay greater respect to local communities by enhancing the multi-functional uses of State forests.

In the Slovenian case, families have owned the small-scale forest land for several centuries because the properties were too small to be nationalized. Therefore, they had extensive control over the implementation of innovative practices, were able to exchange knowledge in peer-to-peer networks, and adopt innovation at an early stage of its development (Garbach and Morgan, 2017). In most of Eastern Europe, however, political changes during the 1990s established new actors and institutional arrangements. The discontinuity in “Doing” due to the nationalization of private forests and policy changes on forest utilization in the 1990s and 2000s (Bouriaud and Schmithüsen, 2005) have probably contributed to a decreased sense of “Belonging” and “Respecting” in most of the private forests. A study of the differences in the conceptualization of forest management between Eastern and Western European forest owners (Feliciano et al., 2017) suggests that human values and the dynamics of socio-political systems in the 20th century shape private forest owners' attitudes towards their forests.

In Ukraine, forest harvesting plans continue to reflect the centralized State-based practices of forest governance inherited from the former Soviet Union (Nijnik and Oskam, 2004; Nijnik and van Kooten, 2006). Ukraine is going through a process of adopting European integration and gradually marketing, decentralizing and liberalizing its environmental governance. Societal transformations after the Revolution of Dignity (2013) and subsequent decentralization policies have increased the awareness of citizens of democratic goals, and authorized

and encouraged their participation in forest decision-making. The SI of monitoring illegal logging by NGOs and local communities combines decentralization and neoliberal thinking with authoritative governance. Novel technology and civil society actions to monitor forest use are combined with the State's authority to enforce rules and implement sanctions for non-compliance. While it is doubtful that local monitoring could replace that of the State in halting illegal logging, it is an indication that civil society is motivated to complement State-based governance. This respects the rules currently in place, enhancing opportunities for doing by creating space for balanced multi-functional use of forests. In turn, this provides increased opportunities for FDCs to benefit from NWFPs, and represent one form of decentralized community-based forest management (see Hajjar et al., 2012).

The Scottish case is very different. There, the FDC bought the woodlands to increase its control over decision-making about the resource. Thus, the SI brought about the change of ownership of the forests and the resulting novelty in forest use and the rules governing it. The perceptions of sustainability of local people have also changed through the change to community forestry. This bottom-up process is different to processes in which forests have been transferred from public to private community ownership as a result of the adoption of more neoliberal policies (Hodge and Adams, 2013). Here, social policies have been implemented to support community empowerment and changes in the sense of ownership that challenge the state forestry business and governance models in the 1980s to the benefit of a more multi-functional and community-based management of the resource. Shifts in governance to the benefit of communities has been supported by legal reforms, partly enabled through financial measures such as the Scottish Land Fund, which manages a budget for supporting communities to purchase public assets (Highlands and Islands Enterprise, 2018). Approximately 200 woodlands are now in community ownership (Community Woodland Association, 2018).

#### 4.2. Limitations of the Doing, Belonging, Respecting categories

In the introduction, we noted that SI should be assessed in relation to the values they create, enhance or sustain, and that value assessment should go beyond the instrumental and intrinsic value. Debates about the value of the environment are often condensed into the question of whether to use and exploit nature for people (instrumental values) or to conserve it for its own sake (intrinsic values) (Farber et al., 2002; Tallis and Lubchenco, 2014). Recently, the focus in ecosystem service literature has been on plural values, which are approached by the concept of relational values (Chan et al., 2016; Arias-Arévalo et al., 2017; Klain et al., 2017). We proposed using the Doing, Belonging and Respecting categories to structure relational values of FDCs. This is consistent with the relevance of relational values to the contribution of nature to human well-being (Chan et al., 2016; Pascual et al., 2017).

Although relational values help overcome the unidimensional framing of values, they have certain limitations. The case studies illustrated that a strong motivation for SI in a SES was to sustain the prospects of continuing to live and remain in the rural area. The locations assessed have experienced a lack of employment opportunities, land abandonment and migration to cities. Although the Doing, Belonging and Respecting concept seems a universal solution to keep rural peripheries alive, it is dependent upon the self-determination of local community members to continue living in their (home) area. Otherwise, there is nothing to do, nowhere to belong to, and nothing to respect and thus no reason to be respected. Ingold's (1993; 163) concern that "the taskscape must be populated with beings who are themselves agents, and who reciprocally 'act back' in the process of their own dwelling", has proven true.

A further objection to our interpretation could be that the presented values are elitist and represent views similar to those presented in "the environmentalism of the rich" (Dauvergne, 2017). Drawing from classical value literature, physiological needs (Maslow, 1943) and *Having*

(Allardt, 1993) are superior to *Doing, Belonging and Respecting*. If the FDC is materially well-off it is unlikely that their well-being will further increase due to having more financial resources. Therefore, instrumental, intrinsic and relational values should be considered as co-existing rather than competing or substituting (Arias-Arévalo et al., 2017).

It is also important to distinguish between Doing, Belonging and Respecting as SI, and the popularity of alternative value systems coming from different cultural environments. The members of FDCs may be keen on indigenous and local knowledge systems from culturally different traditions (e.g. Eastern philosophies or "back to the land" movements), but the attention alone will not trigger SI. We propose caution when using the relational values concept, developing it such that relational values assessments and frameworks build on a baseline of material well-being to avoid elitist bias, and that the values created, enhanced or sustained by SIs are always assessed in a local context.

## 5. Conclusion

The objective of this paper was to understand the linkages between SI in SES and human values. Four cases of FDCs in Europe were analyzed, encompassing novel co-management arrangements in Finland, revitalization of traditional forest management practices in Slovenia, community forestry in Scotland, and monitoring for tackling illegal logging in Ukraine. Common components of SI were strong relationships between people, and people and nature, new or re-established co-management arrangements based on empowered individuals, communities or institutions. Although SI primarily created benefits for local communities they could become global game-changers. However, we challenge the dominant position in the SI literature that SIs are game-changers per se, with wide geographical, functional or temporal impacts.

In studying the value dimension of SI, we built upon the theoretical perspective that values are mostly derivatives of the relationships between people, people and nature, and responsibilities towards these relationships (i.e. relational values). We categorized relational values into Doing, Belonging and Respecting using a combination of inductive and abductive reasoning. The three categories helped us to explain the diversity of values and relationships of inhabitants to the environment and each other.

Based on empirical materials and theoretical perspectives we argue for a general value hierarchy accounting for value plurality where relational, instrumental and intrinsic values can be interpreted from the utilitarian, "globes" and "spheres" perspectives.

We conclude that human values may be primary catalysts for SI. A common driving force for SI in our FDC was the need of community members to sustain or enhance relational values linked to forests. Once emerged, SI have potential to become global game-changers. Thus, human values are at the same time catalysts and consequences of SI enabling the well-being of future generations in rural peripheries.

## Acknowledgements

The authors are grateful to the European Commission for support to the project on Social Innovation in Marginalised Rural Areas (SIMRA) provided from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 677622, and to the Scottish Government, which supported this research through their Rural Affairs and the Environment Strategic Research Programme. The Finnish case study was supported by ReiGN "Reindeer Husbandry in a Globalizing North – Resilience, Adaptations and Pathways for Actions", which is a Nordforsk-funded "Nordic Centre of Excellence" (project number 76915). The Ukrainian case was analyzed within the EU ENPI-FLEG Programme support.

## References

- Agrawal, A., Gibson, C., 1999. Enchantment and disenchantment: the role of Community in Natural Resource Conservation. *World Dev.* 27, 629–649.
- Allardt, E., 1993. Having, Loving, Being: An Alternative to the Swedish Model of Welfare Research. In: Nussbaum, M., Sen, A. (Eds.), *The Quality of Life*. <https://doi.org/10.1093/0198287976.003.0008>.
- Ambrose-Oji, B., Lawrence, A., Stewart, A., 2015. Community based forest enterprises in Britain: two organising typologies. *Forest Policy Econ.* 58 (supplement C), 65–74.
- Arias-Arévalo, P., Martín-López, B., Gómez-Baggethun, E., 2017. Exploring intrinsic, instrumental, and relational values for sustainable management of social-ecological systems. *Ecol. Soc.* 22 (4), 43. <https://doi.org/10.5751/ES-09812-220443>.
- Avelino, F., Wittmayer, J.M., Kemp, R., Haxeltine, A., 2017. Game-changers and transformative social innovation. *Ecol. Soc.* 22 (4), 41. <https://doi.org/10.5751/ES-09897-220441>.
- Baker, J., 2015. Conceptions and dimensions of social equality. In: *Social Equality: On What it Means to be Equals*, pp. 65–86. <https://doi.org/10.1093/acprof:oso/9780199331109.003.0004>.
- Baker, S., Mehmood, A., 2015. Social innovation and the governance of sustainable places. *Local Environ.* 20, 321–334. <https://doi.org/10.1080/13549839.2013.842964>.
- Bakkegaard, R.K., 2014. Regional analysis of forest product use and dependence amongst rural households in South Caucasus. In: *Eastern Europe and Russia. ENPI FLEG Forest Dependency Study. Executive Summary*. Available from: [www.enpi-fleg.org/docs/regional-analysis-of-forest-product-use-and-dependence-amongst-rural-households-in-south-caucasus-eastern-europe-and-russia/](http://www.enpi-fleg.org/docs/regional-analysis-of-forest-product-use-and-dependence-amongst-rural-households-in-south-caucasus-eastern-europe-and-russia/).
- Bakkegaard, R.K., Agrawal, A., Animon, I., Hogarth, N., Miller, D., Persha, L., Rametsteiner, E., Wunder, S., Zezza, A., 2016. *National Socioeconomic Surveys in Forestry: Guidance and Survey Modular for Measuring the Multiple Roles of Forests in Household Welfare and Livelihoods*. Food and Agriculture Organization of the United Nations-Center for International Forestry Research-International Forestry Resources and Institutions Research Network-World Bank, Rome.
- Bender, B., 2006. Place and landscape. In: Tilly, C., Keane, W., Küschler, S., Rowlands, M., Spyer, P. (Eds.), *Handbook of Material Culture*. Sage Publications, London, pp. 303–314.
- BEPA, 2011. *Empowering People, Driving Change: Social Innovation in the European Union*. Bureau of European Policy Advisers, European Commission, Brussels.
- Berkes, F., 1999. *Sacred Ecology: Traditional Ecological Knowledge and Resource Managements*. Taylor & Francis, Philadelphia, PA, pp. 209.
- Berkes, F., Colding, J., Folke, C., 2000. Rediscovery of traditional ecological knowledge as adaptive management. *Ecol. Appl.* 10 (5), 1251–1262.
- Bloch, M., 1954. *The Historians Craft*. Trans. J.E. Anderson. Manchester University Press, pp. 192.
- Bouriaud, L., Schmithüsen, F., 2005. Allocation of property rights on forests through ownership reform and forest policies in central and eastern European countries. *Schweizerische Zeitschrift für Forstwesen* 156, 297–305.
- Bray, D., Duran, E., Ramos, V., Mas, J., Velazquez, A., McNab, R., Barry, D., Radachowsky, J., 2008. Tropical deforestation, community forests, and protected areas in the Maya Forest. *Ecol. Soc.* 13, 56. [online] URL: [www.ecologyandsociety.org/vol13/iss2/art56/](http://www.ecologyandsociety.org/vol13/iss2/art56/).
- Cajaliba-Santana, G., 2014. Social innovation: moving the field forward. A conceptual framework. *Technol. Forecast. Soc. Chang.* 82, 42–51. <https://doi.org/10.1016/j.techfore.2013.05.008>.
- Chan, K.M.A., Balvanera, P., Benessaiah, K., Chapman, M., Díaz, S., Gómez-Baggethun, E., ... Turner, N., 2016. Relational values and the environment. *Proc. Natl. Acad. Sci.* 113 (6), 1462–1465. <https://doi.org/10.1073/pnas.1525002113>.
- Chan, K.M.A., Gould, R.K., Pascual, U., 2018. Editorial overview: relational values: what are they, and what's the fuss about? *Curr. Opin. Environ. Sustain.* 35, A1–A7. <https://doi.org/10.1016/j.cosust.2018.11.003>.
- Community Woodlands Association, 2018. Available at: <http://www.communitywoods.org/> [accessed: 24/10/2018].
- Crane, T.A., 2010. Of models and meanings: cultural resilience in social-ecological systems. *Ecol. Soc.* 15 (4), 19.
- Dauvergne, P., 2017. *The Environmentalism of the Rich*. MIT press, pp. 232.
- von der Porten, S., De Loë, R., Plummer, R., 2015. Collaborative environmental governance and indigenous peoples: recommendations for practice. *Environ. Pract.* 17, 134–144. <https://doi.org/10.1017/S146604661500006X>.
- Díaz, S., Pascual, U., Stenseke, M., Martín-López, B., Watson, R.T., Molnár, Z., Shirayama, Y., 2018. Assessing Nature's contributions to people. *Science* 359 (6373), 270–272. <https://doi.org/10.1126/science.aap8826>.
- Dinda, S., 2004. Environmental Kuznets curve hypothesis: a survey. *Ecol. Econ.* 49, 431–455.
- EC, 2014. Science Communication Unit, University of the West of England. Report produced for the European Commission DG Environment, Bristol February 2014. Available at: <http://ec.europa.eu/science-environment-policy>.
- Farber, S.C., Costanza, R., Wilson, M.A., 2002. Economic and ecological concepts for valuing ecosystem services. *Ecol. Econ.* 41, 375–392.
- Feliciano, D., Bouriaud, L., Brahic, E., Deuffic, P., Dobsinska, Z., Jarsky, V., Lawrence, A., Nybakk, E., Quiroga, S., Suarez, C., Ficko, A., 2017. Understanding private forest owners' conceptualisation of forest management: evidence from a survey in seven European countries. *J. Rural. Stud.* 54, 162–176.
- Ficko, A., Bončina, A., 2019. Public attitudes toward environmental protection in the most developed countries: the environmental concern Kuznets curve theory. *J. Environ. Manag.* 231, 968–981. <https://doi.org/10.1016/j.jenvman.2018.10.087> (In press).
- Folke, C., Hahn, T., Olsson, P., Norberg, J., 2005. Adaptive governance of social-ecological systems. *Annu. Rev. Environ. Resour.* 30, 441–473.
- Fondhal, G., Wilson, G.N. (Eds.), 2017. *Northern Sustainabilities. Understanding and addressing the change in circumpolar world*. Springer, Switzerland, pp. 342.
- Forestry Commission, 2015. *Community Asset Transfer Scheme (CATS)*. Available at: <https://scotland.forestry.gov.uk/managing/get-involved/community-asset-transfer-scheme>, [accessed: 08/03/2018].
- Forestry Commission Scotland, 2005. *National Forest Land Scheme*. Available at: [www.forestry.gov.uk/pdf/fcfc102.pdf/\\$FILE/fcfc102.pdf](http://www.forestry.gov.uk/pdf/fcfc102.pdf/$FILE/fcfc102.pdf) [accessed: 08/03/2018].
- Franklin, A.S., 2002. *Nature and Social Theory*. Sage Publications Ltd, London, pp. 274.
- Franzen, A., Vogl, D., 2013. Two decades of measuring environmental attitudes: a comparative analysis of 33 countries. *Glob. Environ. Chang. Hum. Policy Dimens.* 23, 1001–1008.
- Garbach, K., Morgan, G.P., 2017. Grower networks support adoption of innovations in pollination management: the roles of social learning, technical learning, and personal experience. *J. Environ. Manag.* 204, 39–49.
- Gibson, J.J., 1979. *The Ecological Approach to Visual Perception*. Houghton Mifflin Harcourt (HMH), Boston, pp. 348.
- Hajjar, R.F., Kozak, R.A., Innes, J.L., 2012. Is decentralization leading to “real” decision-making power for forest-dependent communities? Case studies from Mexico and Brazil. *Ecol. Soc.* 17 (1), 12. <https://doi.org/10.5751/ES-04570-170112>.
- Hames, R., 2007. The ecologically noble savage debate. *Annu. Rev. Anthropol.* 36, 177–190.
- Highlands and Islands Enterprise, 2018. *The Scottish Land Fund*. Available at: <http://www.hie.co.uk/community-support/community-assets/scottish-land-fund-iii.html> [accessed: 08/03/2018].
- Hodge, I.D., Adams, W.M., 2013. The future of public forests: an institutional blending approach to forest governance in England. *J. Rural. Stud.* 31, 23–35.
- Howaldt, J., Kopp, R., Schwarz, M., 2015. Social innovations as drivers of social change — Exploring Tarde's contribution to social innovation theory building. In: Nicholls, A., Simon, J., Gabriel, M. (Eds.), *New Frontiers in Social Innovation Research*. Palgrave Macmillan, London. [https://doi.org/10.1057/9781137506801\\_2](https://doi.org/10.1057/9781137506801_2).
- Howe, C., Suich, H., Vira, B., Mace, G.M., 2014. Creating win-wins from trade-offs? Ecosystem services for human well-being: a meta-analysis of ecosystem service trade-offs and synergies in the real world. *Glob. Environ. Chang.* 28, 263–275. <https://doi.org/10.1016/j.gloenvcha.2014.07.005>.
- Howes, M., Wortley, L., Potts, R., Dedekorkut-Howes, A., Serrao-Neumann, S., Davidson, J., Smith, T., Nunn, P., 2017. Environmental sustainability: a case of policy implementation failure? *Sustain.* 9 (2), 165. <https://doi.org/10.3390/su9020165>.
- Hunn, E.S., Johnson, D., Russell, P., Thornton, T.F., 2003. Huna Tlingit traditional environmental knowledge, conservation, and the management of a “wilderness” park. *Curr. Anthropol.* 44, S79–S103. <https://doi.org/10.1086/377666>.
- Ingold, T., 1993. The temporality of the landscape. *World Archaeol.* 25 (2), 152–174. <https://doi.org/10.1080/00438243.1993.9980235>.
- Ingold, T., 2000. *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*. Routledge, London, pp. 480.
- Ingold, T., 2008. Bindings against boundaries: entanglements of life in an open world. *Environ. Plan.* 40, 1796–1810.
- Jaspers, K., 1974. *Man in the Modern Age*. Anchor books, Garden City, pp. 212.
- Jokinen, M., 2014. Heated and frozen forest conflicts: Cultural sustainability and forest management in arctic Finland. In: *Forests under Pressure: Local Responses to Global Issues* Katila, P., Galloway, G., de Jong, W., Pacheco, P., Mery, G. (Eds.). IUFRO World Series vol. 32, pp. 381–398.
- Klain, S.C., Olmsted, P., Chan, K.M.A., Satterfield, T., 2017. Relational values resonate broadly and differently than intrinsic or instrumental values, or the new ecological paradigm. *PLoS One* 12 (8), e0183962. <https://doi.org/10.1371/journal.pone.0183962>.
- Klůvanková, T., Špaček, M., Brnkalakova, S., Slee, B., Nijnik, M., Valero, D., Miller, D., Bryce, R., Szabo, T., Kozova, M., Gezik, V., 2018. Understanding social innovation for well-being of forest dependent communities: a preliminary theoretical framework. *For. Policy. Econ.* 97 (December 2018), 163–174. <https://doi.org/10.1016/j.forpol.2018.09.016>.
- Kooiman, J., 2007. Social-Political Governance. *Pub. Manag.* 1 (1), 67–92. <https://doi.org/10.1080/14719037800000005>.
- Krč, J., Pezdevšek-Malovrh, Š., Ficko, A., Šinko, M., Premrl, T., Bogataj, N., Udovč, A., 2015. *Forest Land Ownership Change in Slovenia. COST Action FACESMAP Country Reports. European Forest Institute Central-East and South-East European Regional Office, Vienna*. 49 pages. [Online publication].
- Latour, B., 2004. *Politics of Nature. How to Bring the Sciences into Democracy*. Harvard University Press, Cambridge, London, pp. 320.
- Lawrence, A., Anglezarke, B., Frost, B., Nolan, P., Owen, R., 2009. What does community forestry mean in a devolved Great Britain? *Int. For. Rev.* 11 (2), 281–297.
- Magga, O.H., 2006. Diversity in Saami terminology for reindeer, snow, and ice. *Int. Soc. Sci. J.* 58, 25–34. <https://doi.org/10.1111/j.1468-2451.2006.00594.x>.
- Marques, P., Morgan, K., Richardson, R., 2017. Social Innovation in Question: The Theoretical and Practical Implications of a Contested Concept. *Politics and Space, Environment and Planning*. <https://doi.org/10.1177/2399654417717986>.
- Maslow, A.H., 1943. A theory of human motivation. *Psychol. Rev.* 50 (4), 370–396. <https://doi.org/10.1037/h0054346>.
- Max-Neef, M., 2010. The world on a collision course and the need for a new economy. *Ambio* 39 (3), 200–210. <https://doi.org/10.1007/s13280-010-0028-1>.
- Melnykovich, M., Nijnik, M., Soloviy, I., 2016. Non-wood forest products and the well-being of rural communities: bringing cultural or provisioning ecosystem services to the surface? In: *Proceedings of the COST Action FP1203 European Non-Wood Forest Products*.
- Melnykovich, M., Soloviy, I., Nijnik, M., Nijnik, A., 2017. Ecosystem services, well-being

- and social innovations: what the concepts mean for forest-dependent communities. In: *European Society for Ecological Economics 2017 Proceedings*, pp. 337–339.
- Melnykovich, M., Nijnik, M., Soloviy, I., Nijnik, A., Sarkki, S., Bihun, Y., 2018. Social-ecological innovation in remote mountain areas: adaptive responses of forest-dependent communities to the challenges of a changing world. *Sci. Total Environ.* 613–614 (2018), 894–906. <https://doi.org/10.1016/j.scitotenv.2017.07.065>.
- Newton, P., Miller, D.C., Byenkya, M.A.A., Agrawal, A., 2016. Who are forest-dependent people? A taxonomy to aid livelihood and land use decision-making in forested regions. *Land Use Policy* 57, 388–395. <https://doi.org/10.1016/j.landusepol.2016.05.032>.
- Nijnik, M., Mather, A., 2008. Analysing public preferences for woodland development in rural landscapes in Scotland. *Landsc. Urban Plan.* 86, 267–275.
- Nijnik, M., Oskam, A., 2004. Governance in Ukrainian forestry: trends, impacts and remedies. *Int. J. Agric. Resour. Gov. Ecol.* 3, 116–133.
- Nijnik, M., van Kooten, G., 2006. Forestry in the Ukraine: the road ahead? Reply. *For. Policy Econ.* 8, 6–9.
- Nijnik, M., Bizikova, L., Nijnik, A., 2009. Analysing the development of small-scale forestry in central and Eastern Europe. *Small Scale For.* 8 (2), 159–174.
- Nuttall, M., 1998. *Protecting the Arctic. Indigenous People and Cultural Survival*. Harwood Academic Publishers, Netherlands, pp. 204.
- O'Neill, J., 1993. *Ecology. Policy and Politics*. Routledge and Kegan Paul, London, pp. 229.
- Ostrom, E., 2009. A general framework for analysing sustainability of social-ecological systems. *Science* 325, 419.
- Pagdee, A., Kim, Y.-S., Daugherty, P.J., 2006. What makes community forest management successful: a meta-study from community forests throughout the world. *Soc. Nat. Resour.* 19, 33–52. <https://doi.org/10.1080/089419205003.23260>.
- Pahl-Wostl, C., 2009. A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. *Glob. Environ. Chang.* 19, 354–365. <https://doi.org/10.1016/j.gloenvcha.2009.06.001>.
- Pascual, U., Balvanera, P., Díaz, S., Pataki, G., Roth, E., Stenseke, M., ... Yagi, N., 2017. Valuing nature's contributions to people: the IPBES approach. *Curr. Opin. Environ. Sustain.* 26 (2017), 7–16. <https://doi.org/10.1016/j.cosust.2016.12.006>.
- Pink, S., 2012. *Situating Everyday Life: Practices and Places*. SAGE, London, pp. 176.
- Pogačnik, B., 2017. *Primerjava Razlik V Razumevanju uspešnosti Gospodarjenja in Funkcij Gozda Med Lastniki Gozdov in Gozdarsko Stroko V Izbranih območjih Zasebnih Gozdov V Sloveniji: Magistrsko Delo [Differences in Understanding of Successful Forest Management and Forest Functions between Private Forest Owners and Forestry Professionals in Selected Areas of Private Forests in Slovenia]*. (M. Sc. Thesis. Ljubljana).
- Polman, N., Slee, W., Kluvánková, T., Dijkshoorn, M., Nijnik, M., Gežik, V., Soma, K., 2017. Classification of Social Innovations for Marginalized Rural Areas, Deliverable 2.1, *Social Innovation in Marginalised Rural Areas (SIMRA)*. pp. 32.
- Pretty, J., 2003. Social capital and the collective management of resources. *Science* 302 (5652), 1912–1914.
- Raitio, K., 2008. "You can't please everyone" — conflict management practices, frames and institutions in Finnish state forests (PhD thesis). University of Joensuu. *Publications in Social Sciences*. N: 86.
- Ross, A., Pickering Sherman, K., Snodgrass, J.G., Delcore, H.D., Sherman, R., 2011. *Indigenous People and Collaborative Stewardship of Nature. Knowledge Binds and Institutional Conflicts*. Left Coast Press, Walnut Creek, CA.
- Sarkki, S., 2008. Forest dispute and change in Muonio northern Finland. *J. North. Stud.* 2 (2), 9–29.
- Sarkki, S., Heikkinen, H.I., 2010. Social Movements' pressure strategies during Forest disputes in Finland. *J. Nat. Res. Policy Res.* 2 (3), 281–296.
- Sarkki, S., Heikkinen, H.I., 2015. Why do environmentalists not consider compromises as legitimate? Combining value- and process-based explanations from Finnish forest controversies. *For. Pol. Econ.* 50, 110–117.
- Sarkki, S., Komu, T., Heikkinen, H.I., Acosta García, N., Lépy, É., Herva, V.-P., 2016. Applying a synthetic approach to the resilience of Finnish reindeer herding as a changing livelihood. *Ecol. Soc.* 21 (4), 14. <https://doi.org/10.5751/ES-08819-210414>.
- Sarkki, S., Ficko, A., Wielgolaski, F.E., Abraham, E.M., Bratanova-Doncheva, S., Grunewald, K., Hofgaard, A., Holtmeier, F.K., Kyriazopoulos, A.P., Broll, G., Nijnik, M., Sutinen, M.L., 2017. Assessing the resilient provision of ecosystem services by social-ecological systems: introduction and theory. *Clim. Res.* 73, 7–15.
- Sarkki, S., Heikkinen, H.I., Herva, V.-P., Saarinen, J., 2018. Myths on local use of natural resources and social equity of land use governance: Reindeer herding in Finland. *Land Use Policy* 77, 322–331. <https://doi.org/10.1016/j.landusepol.2018.05.055>.
- Scherr, S., White, A., Kaimowitz, D., 2003. *A new Agenda for Forest Conservation and Poverty Reduction: Making Markets Work for Low-Income Producers*. Forest Trends and Center for International Forestry Research (CIFOR), Washington, D.C., USA.
- Schlosberg, D., 2007. *Defining Environmental Justice: Theories, Movements, and Nature*. Oxford University Press, David Schlosberg (New York) 256 pp.
- Scottish Parliament, 2003. *Land Reform (Scotland) Act 2003*. Available at: [www.legislation.gov.uk/asp/2003/2/contents](http://www.legislation.gov.uk/asp/2003/2/contents).
- Scottish Parliament, 2015. *Community Empowerment (Scotland) Act 2015*. Available at: <http://www.legislation.gov.uk/asp/2015/6/contents/enacted>.
- Scottish Parliament, 2016. *Land Reform (Scotland) Act 2016*. Available at: <http://www.legislation.gov.uk/asp/2016/18/contents/enacted>.
- SIMRA, 2016. *Social Innovation in Marginalised Rural Areas. Innovative, Sustainable and Inclusive Bioeconomy, Topic ISIB-03-2015. Unlocking the growth potential of rural areas through enhanced governance and social innovation. European Union Framework Programme Horizon 2020, Brussels*.
- Slee, B., 2006. Forestry and rural development in Scotland. In: Wall, S. (Ed.), *Small-Scale Forestry and Rural Development*. COFORD, National Council for Forest Research and Development and Galway-Mayo Institute of Technology, Galway, Ireland, pp. 478–487.
- Soloviy, I., Nijnik, M., Deyneka, A.M., Melnykovich, M., 2017. Reimagining forest policy, institutions and instruments through concepts of ecosystem services and social innovations: Ukraine in the focus. *Sci. Bul. UNFU* 27 (8), 82–87. <https://doi.org/10.15421/40270812>.
- Spruce, D.B., Thrasher, T. (Eds.), 2008. *The Land Has Memory: Indigenous Knowledge, Native Landscapes, and the National Museum of the American Indian*. University of North Carolina Press. [https://doi.org/10.5149/9780807889787\\_blue\\_spruce](https://doi.org/10.5149/9780807889787_blue_spruce).
- Tallis, H., Lubchenco, J., 2014. Working together: a call for inclusive conservation. *Nature* 515 (7525), 27–28.
- Trudeau, D., 2006. Politics of belonging in the construction of landscapes: place-making, boundary-drawing and exclusion. *Cult. Geogr.* 13 (3), 421–443. <https://doi.org/10.1191/1474474006eu3660a>.
- Wightman, A., 2013. *The Poor Had No Lawyers: Who Owns Scotland and How They Got It* — Birlinn — 18 April 2013: ISBN-13: 978-1780271149.
- Yuval-Davis, N., 2006. Belonging and the politics of belonging. *Patterns of Prejudice* 40 (3), 197–214.
- Yuval-Davis, N., Wemyss, G., Cassidy, K., 2018. Everyday bordering, belonging and the reorientation of British immigration legislation. *Sociology* 52 (2), 228–244. <https://doi.org/10.1177/0038038517702599>.
- Zhyly, T., Soloviy, I., Zhyly, A., Rudych, A., 2014. *National Report on Forest Products Dependence of Rural Communities in Ukraine*. Available from: [www.fleg.org.ua/docs/781](http://www.fleg.org.ua/docs/781).