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Local knowledge in nature conservation management

Situation in Finland, Sweden, Norway, Iceland, Greenland and the Faroe Islands

Marjatta Hytönen (ed.)

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Abstract

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This review was compiled within the project "Building Shared Knowledge capital to support natural resource governance in the Northern periphery – BuSK" (2016-2019) financed by the Interreg Northern Periphery and Arctic Programme (2014-2020). The chapters of the review give an overview of collaborative nature protection practices of state agencies at national and local level in Finland, Sweden, Norway, Iceland, Greenland and Faroe Islands. A few innovative non –governmental arrangements are also described.

In Finland, the state forest management agency Metsähallitus has played a central role in the evolution of public participation procedures with the help of development projects and planning systems. At local level, the reform of the Finnish Land Use and Building Act in 1999 has led to significant strengthening of stakeholder involvement in planning. According to researchers, participation in international nature conservation negotiations has been important for increasing involvement of local people in Sweden. In northern Sweden, the Laponia process within the Laponia World Heritage Site is an innovative effort based on cooperation involving indigenous Sami people. In Norway, political processes have led to decentralisation of nature conservation management through the establishment of local protected area management boards and advisory councils. There exist numerous Norwegian studies dealing with these recent nature conservation reforms. Debates dealing with energy development proposals, nature conservation and tourism have been common in Iceland during recent decades. An Icelandic speciality is the abundance of potential geotourism destinations. Public participation practices are evolving within the three UNESCO World Heritage Sites established recently in Greenland. The sites have been planned cooperatively, and the documents compiled for UNESCO contain a lot of up-to-date information, and enable follow up and monitoring. Debates dealing with natural resource governance between planning authorities, local actors and stakeholders are common in the Faroe Islands. The Faroese land use problems are often connected to fishing, aquaculture and tourism.

The Sami Parliaments in Finland, Sweden and Norway play an important role in decision-making processes in the Sami areas. Finland and Sweden are members in the European Union. Natura 2000 Network and Maritime Spatial Planning (MSP) are EU-wide systems with a participatory dimension. The developments within Natura 2000 Network are important for public participation because most of the nature conservation areas in the EU member countries belong to the Network. The directive-based MSP–process is applying cutting edge public participation procedures in preparing maritime spatial plans by the year 2021. The new maritime spatial plans are required to be integrated with the more established land use plans to include the "land-sea interaction" aspect into planning. The establishment of international UNESCO networks of World Heritage Sites, Biosphere Reserves and Geoparks has also increased local involvement in natural resources management.

The importance of land use planning legislation in enhancing public involvement is a common feature in the BuSK countries. Out-migration from rural areas is a problematic trend in all the regions included in this report. This has led to increased discussion on the role of nature conservation areas in local economy and to efforts to develop nature-based tourism.

Keywords: nature conservation, livelihoods, participation, governance, decision-making

Contents

1. Introduction 7

2. Finland 8

2.1. Background 8

2.2. Nature protection areas in Finland 8

2.3. Use of local knowledge by Metsähallitus; participatory tools and methods 8

2.3.1. Guidelines 8

2.3.2. Natural resource planning 13

2.3.3. Management planning 13

2.3.4. Landscape ecological planning 14

2.4. Use of local knowledge by regional authorities; participatory tools and methods 14

2.4.1. Regional authorities 14

2.4.2. Regional and local land use planning 15

2.4.3. Maritime spatial planning 16

2.4.4. Natura 2000 master plans 17

2.5. Concluding remarks, trends and challenges 17

3. Sweden 19

3.1. Background 19

3.2. Nature protection areas in Sweden 19

3.3. Use of local knowledge by the Swedish Environmental Protection Agency (SEPA); participatory tools and methods 19

3.3.1. Environmental Code 19

3.3.2. National Park Plan 20

3.3.3. Management plans for national parks 20

3.3.4. Laponia process 21

3.4. Use of local knowledge by regional authorities; participatory tools and methods 22

3.4.1. Regional authorities 22

3.4.2. Regional and local land use planning 22

3.4.3. Maritime spatial planning 23

3.4.4. Natura 2000 planning 24

3.5. Concluding remarks, trends and challenges 25

4. Norway 27

4.1. Background 27

4.2. Nature protection areas in Norway 27

4.3. Use of local knowledge Norwegian Environment Agency (NEA); tools and participatory methods 28

4.3.1. National Park Plan 28

4.3.2. Local protected area management boards 28

4.3.3. Management plans for protected areas 30
4.4. Use of local knowledge by regional authorities; tools and participatory methods 31
4.4.1. Regional authorities 31
4.4.2. Regional and local land use planning 31
4.5. Concluding remarks, trends and challenges 34
5. Iceland 36
5.1. Background 36
5.2. Nature protection areas in Iceland 36
5.3. Use of local knowledge; participatory tools and participatory methods 36
5.3.1. Thingvellir National Park 36
5.3.2. Snaefellsjokull National Park 38
5.3.3. Vatnajökull National Park 39
5.3.4. The Master Plan for Nature Protection and Energy Utilization 40
5.4. Use of local knowledge by regional authorities; participatory tools and methods 41
5.4.1. Regional authorities 41
5.4.2. Regional and local land use planning 41
5.4.3. Katla Geopark 42
5.5. Concluding remarks, trends and challenges 43
6. Greenland 44
6.1. Background 44
6.2. Nature protection areas in Greenland 44
6.3. Use of local knowledge by the Department of Nature and Climate; participatory tools and methods 44
6.3.1. Northeast Greenland National Park 44
6.3.2. Ilulissat Icefjord World Heritage Site 45
6.3.3. Kujataa World Heritage Site 46
6.3.4. Aasivissuit –Nipisat World Heritage Site 47
6.4. Use of local knowledge by regional authorities; participatory tools and methods 49
6.4.1. Regional authorities 49
6.4.2. Regional and local land use planning 50
6.5. Concluding remarks, trends and challenges 51
7. Faroe Islands 52
7.1. Background 52
7.2. Nature Protection areas in the Faroes 52
7.3. Use of local knowledge by the national protection committee 53
7.3.1. Planning situation 53
7.3.2. The case of Mølheyggjar 53

7.4. Use of local knowledge by regional authorities; participatory tools and methods 54
7.4.1. Regional authorities 54
7.4.2. Regional and local land use planning 54
7.5. Concluding remarks, trends and challenges 55
8. Conclusions 56
References 58

1. Introduction

This review is one of the key deliverables of Work Package WP 2 of the project "Building Shared Knowledge capital to support natural resource governance in the Northern periphery – BuSK" (2016-2019) financed by the Interreg Northern Periphery and Arctic Programme (2014-2020). The WP T2 focused on the relationships between state agencies and local communities in the collaborative planning and management of protected areas. The aim of the WP was to contribute to the programme objective of increased preparedness for community-based sustainable environmental management.

The BuSK project covered northern parts of Finland and Sweden, north-western parts of Norway and Ireland and whole Iceland. Greenland and the Faroe Islands, under Danish jurisdiction, also participated in the project.

This review contains an overview of the management arrangements and state-local community relations in the countries and regions mentioned above, except Ireland which is described in a separate project report (McDonagh et al. 2020). The main focus is on state-owned nature conservations areas.

The project area descriptions consist of:

- general description of the nature protection system in the areas;
- description and examples of participatory tools and methods used by the main public authorities dealing with nature conservation;
- description and examples of participatory tools and methods used by regional public authorities with emphasis on land use planning practices, and a
- summary of trends and challenges of nature conservation and public participation.

The concluding comments summarise the findings of the chapters which include examples situated in or processes affecting the regions covered by the BuSK project. Conclusions are also made concerning the partner countries on a broader scale and in a broader international context.

The review is based on materials available on the internet. The references contain a large amount of websites because of the big role of public organisations, quickly evolving societal processes such as land use planning and the dependency of the information on the electoral terms of politicians. The contents refer to situation in spring 2019. The authors of the chapters are mentioned in connection to each chapter.

2. Finland

Marjatta Hytönen, Seija Tuulentie, Ari Nikula

2.1. Background

Finland is a republic with a parliamentary democracy. The population of the country is approximately 5.5 million, which includes about 8000 indigenous Sami people. The area of Finland is 338 440 km². The length of the coastline is 1250 km (Coastline lengths 2019). Finland joined the European Union as a member country in 1995 (Sami in Sweden 2019, Shine with facts… 2019). The Northern Periphery and Arctic 2014–2020 Programme covers the north-eastern parts of Finland.

2.2. Nature protection areas in Finland

Most of the nature protection areas of Finland are managed by Parks & Wildlife Finland (P&WF) of the state-owned enterprise Metsähallitus. The total amount of protected areas managed by P&WF is 44 300 km², which corresponds to 10 % of the total area of Finland. The coverage of the 803 statutory nature reserves is 20 000 km². They include, for example, national parks and mire reserves. The coverage of other types of protected areas is 24 300 km², which include, for example, wilderness areas and national hiking areas (Number and size… 2018).

The state-owned nature protection areas belong to the European Natura 2000 network. The combined area of all Finland's Natura 2000 areas is 50 000 km² or 15 % of Finland's territory. Almost 80 % of the area covered by the network is maintained by Metsähallitus. (Natura 2000 Areas… 2019).

In addition to the state-owned areas, there are nature protection areas on private lands, which are taken care of by private landowners, together with the regional Centres for Economic Development, Transport and the Environment (ELY centres) and P&WF. At the end of 2014, there were 9500 such sites with a total area of 3000 km². Furthermore, temporary protection areas can be established, for example, for 20 years by contract between an ELY Centre and a private landowner. These kinds of contracts have also been made for sites situated in state-owned commercial forestry areas. (Principles of… 2016, 30–31).

2.3. Use of local knowledge by Metsähallitus; participatory tools and methods

2.3.1. Guidelines

Participatory Approach to Natural Resource Management – A Guide Book (1999)

The first guidelines for public participation "Participatory Approach to Natural Resource Management – A Guide Book" was published by Metsähallitus in Finnish in 1997 and in English in 1999.

Participation

The guidelines emphasise the role of public participation in enhancing social sustainability. The practical methods of participatory management include "*informing, gathering value based and geographic input, talking with the stakeholders and the public and giving them feedback. Negotiating or even seeking consensus might as well come into question. The aim is to improve the working relationships with all those stakeholder groups and the citizens interested in the FPS's (=Metsähallitus) activities*

and the management of the State lands. An effort is made to determine at an early stage – when activities are being planned – the different interest groups and their expectations and knowledge related to the natural resources being planned. All public input is documented and taken into account." (Loikkanen et al. 1999).

Principles of Protected Area Management in Finland (2016)

P&WF applies the principles in the management of national parks and other protected and recreational areas. "*The document describes the role of protected areas in the conservation and sustainable use of biodiversity, defines protected areas in Finland, and explains the basis of their adaptive planning and management. It also covers the practices and principles of conservation and management of habitats, species, and cultural heritage, as well as those of securing sustainable protected area use*." (Principles of… 2015, 11). The principles also guide the activities on sites not yet established statutorily as protected areas (Principles of… 2016, 41).

First principles for protected area management were published by Metsähallitus in 1992. Since then the guidelines have been updated several times. Nowadays the principles are updated at two to three year intervals (Principles of… 2015, 11–12).

Participation

Participation is included in the framework of adaptive management, which "*applies the latest research and monitoring information, and uses feedback from the local communities and stakeholders, as well as the users of protected areas and their services. It also involves learning best practices through experience and cooperation, and duplicating them actively in operational practice*." (Principles of… 2016, 42).

According to P&WF management planning guidelines, the level of participation needed is dependent on the number, variability, and importance of the protected areas included in the planning area, as well as on the fragmentation of land ownership or the number of stakeholders and the consequent quantity and quality of expected conflicts. Planning does not necessarily require any organised participatory events, while in some situations a whole spectrum of different methods, from public events to bilateral discussions, is needed. Posting information on planning projects on the Metsähallitus websites and in local newspapers is a basic part of participatory management planning. In the last few years, feedback has been collected using interactive GIS-based Internet tools. (Principles of… 2016, 50). (Box 1).

Box 1. Summary of PPGIS applications used by Metsähallitus (Pietilä, 2018).

"In Finland, Metsähallitus has not so far listed PPGIS as a visitor monitoring method, but it has piloted these methods as a means to support planning and management of state-owned lands. Metsähallitus has carried out several PPGIS surveys to support different planning purposes. The first PPGIS survey was used in Sipoonkorpi after it was nominated as a national park in 2011. The study was carried out to support the formation of the Park management plan, and therefore such issues as how people use the park and what kind of development they wish to be implemented were measured. A comparable PPGIS survey was recently carried out in Ärjänsaari (in Oulujärvi), after the state bought the island for protection in 2017. In this case, spatial information on issues, such as the activities that visitors were willing to participate in and the infrastructure visitors wished to have on the island, were collected. The information was used to form a development plan for the island (Metsähallitus 2017). Another type of PPGIS study was conducted around Saaristomeri National Park where the aim was to collect spatial information on visitors' and residents' landscape values to emphasize the concept of landscape in the Park's and Wildlife Finland's operations (Fagerholm et al. 2014). As these studies had an emphasis on outdoor recreation, PPGIS methods have also been piloted in studying how these methods succeed in involving different stakeholders (e.g. reindeer herders, Sami people, tourism actors) into larger-scale natural resource planning in Lapland (Heikkonen 2013)." (Pietilä 2018, 18).

Metsähallitus promotes participation by establishing cooperation groups involving key stakeholders, or expert groups tackling specific themes, for the duration of the planning process. These groups may continue working afterwards. Especially in management planning projects involving national parks, the cooperation groups often have a significant role and cooperation can continue beyond the planning project. In northern Lapland, there are cooperation groups appointed for larger municipalities. Within the Sami Homeland, the Sami Parliament is also consulted on matters related to land use. (Principles of… 2016, 50).

In northern and eastern Finland, the Ministry of Agriculture and Forestry has appointed advisory boards with representatives of various interest groups to advise Metsähallitus on regionally significant issues concerning state-owned lands. Such advisory boards can also be appointed for national parks. Urho Kekkonen National Park has an advisory board appointed by the Ministry of the Environment. (Principles of… 2016, 50).

The ELY Centres have a stronger role in protected area planning than other stakeholders, because of their statutory role as authorities responsible for the conservation measures at the Natura 2000 sites. Always when private protected areas are included, participation of the ELY Centre is also justified. (Principles of… 2016, 50).

In addition, practical management tasks in protected areas are carried out together with stakeholders. For example, volunteers support park management by organising work camps and events, voluntary experts collect information on threatened species in protected areas, hunting associations collect information on game populations and traditional agricultural habitats are managed in cooperation with landowners. In 2014, about 40 national organisations and 130 local associations worked together with P&WF for the protected areas and about 2500 volunteers were involved. (Principles of… 2016, 50).

Akwé: Kon guidelines

Akwé: Kon guidelines contain recommendations "*for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities*" (Akwé: Kon Guidelines… 2004, 5). In 2009, the Ministry of the Environment set up a national expert group to work on the indigenous traditional knowledge specified by Article 8j of the Convention on Biological Diversity (CBD) to provide recommendations on the application of the Akwé: Kon guidelines in the Sami Homeland. The procedure was tested in 2010–2012 and developed in cooperation with stakeholders in connection with management planning of the Hammastunturi Wilderness Reserve. (Principles of… 2016, 49, Juntunen & Stolt 2013). Metsähallitus has decided to apply the guidelines in corresponding protected area management planning projects (Principles of… 2016, 50–51).

The Akwé: Kon guidelines are best suited for natural resource planning of state-owned lands and management planning of nature reserves and wilderness areas. "*Applying the Akwé: Kon guidelines at various stages of the planning processes helps to identify and respond to issues that are important in terms of preserving the Sámi culture and to the concerns of the Sámi. For Metsähallitus, it is also a tool in identifying those preconditions for practicing traditional livelihoods that must be taken into account in land use planning. It is essential to ensure effective participation of the Sámi in the whole process and cooperation with other stakeholder groups.*" (Principles of… 2016, 50–51).

Participation

In addition to the cooperation group which is included in the normal planning system of Metsähallitus, the Sami Parliament and Metsähallitus appointed a separate Akwé: Kon working group for the Hammastunturi Wilderness Reserve, as recommended by the guidelines. The members of the working group were able to participate in the cooperation group's meetings. It was agreed that the working group would also report to the cooperation group concerning their work and proposals. (Stolt & Juntunen 2013, 27).

The Akwé: Kon principles complement the obligation set by 9 § of the Act on the Sami Parliament to arrange negotiations regarding management and land use plans (Stolt & Juntunen 2013, 69). (Box 2).

Box 2. Section 9 "Obligation to negotiate" in the Act on the Sami Parliament 974/1995.

"The authorities shall negotiate with the Sami Parliament in all far reaching and important measures which may directly and in a specific way affect the status of the Sami as an indigenous people and which concern the following matters in the Sami homeland:

community planning;

1. the management, use, leasing and assignment of state lands, conservation areas and wilderness areas;
2. searching and using mine-based minerals as well as gold washing on state-owned land and water areas;
3. legislative or administrative changes to the occupations belonging to the Sami form of culture;
4. the development of the teaching of and in the SSmi language in schools, as well as the social and health services; or
5. any other matters affecting the Sami language and culture or the status of the Sami as an indigenous people.

Principles of Sustainable Tourism – National Parks, Nature Sites, Historical Sites and World Heritage Sites (2016)

The principles for sustainable tourism were published in 2004 and updated in 2014. Metsähallitus is committed to take them into account in operations and cooperation with tourism entrepreneurs (Sustainable tourism… 2016, 5). The guidelines consist of six principles. Each principle is followed by more detailed objectives helping to implement the principles in practice.

Participation

The detailed objectives for implementation of the guidelines include statements promoting public participation. The objectives most clearly related to participation deal with using local knowledge as a starting point for delivering experiences, cooperating with local residents in the management of the sites, promoting job creation in the local economy and organising training for tourism operators in the area.

Metsähallitus has also published separate guidelines for tourist companies to ensure that all commercial and organised tourism activities in protected areas are based on partnership agreements. Metsähallitus uses two types of partnership agreements: 1) free of charge partnership agreements for companies not using the campfire sites and rest stops in the protected area and 2) partnership agreements for companies using the campfire sites and rest stops in the protected area; these agreements are subject to a charge. The agreements are prepared together with the partner companies. All agreements are concluded for a fixed term (3–5 years) at first, and can be renewed later for a fixed term (3–5 years) or until further notice. (Sustainable tourism… 2016).

2.3.2. Natural resource planning

Natural resource planning *"is long-term multi-objective planning of state-owned lands and waters that involves defining the regional focus and scale of operations and the development of local ecological networks. These plans also set the direction for management and use of protected areas (nature tourism focus, habitat restoration, and management planning needs etc.). Protected sites and their surrounding state land holdings are scrutinised on a broad scale as a single entity. A landscape ecological plan is formulated for subsections of the whole planning area."* (Principles of… 2016, 39).

Metsähallitus has used the natural resource planning methodology since the 1990s. Each plan is valid for ten years and has a mid-assessment and update, where necessary, after five years. The large-scale plans cover the whole country and all state-owned land holdings that are governed by Metsähallitus (Principles of… 2016, 40). At the moment four plans are valid: Northern Lapland 2012–2021, Kainuu 2015–2020, Southern Finland 2017–2022 and Ostrobothnia 2018–2023. The natural resource plan for Lapland 2019–2024 is under preparation (Natural resource… 2019).

Participation

An example of the use of public participation methods within natural resources planning is the recently finalised plan for the region of Ostrobothnia. The planning project was led and coordinated by a steering group and a project group, which consisted of representatives of Metsähallitus. The plan was drafted together with a cooperation group consisting of 28 members who represented associations, educational and research organisations, companies and official bodies. Metsähallitus and the cooperation group met three times during the autumn and winter. Creative collaborative techniques were used at the one-day workshops. A separate workshop was organised for young people. Representatives of Metsähallitus met also other stakeholders and participated in various events. An online survey was offered to the general public in late 2017. (Towards a more sustainable… 2017, Natural resource… 2018).

An example of the development work on PPGIS is a master's thesis "Geographic Information System as a support for participatory Natural Resource Planning in Lapland" published 2013 in Finnish (Heikkonen 2013). The study focuses on the challenges, opportunities and practical issues related to the utilisation of public participation geographic information systems (GIS) from the point of view of Metsähallitus.

2.3.3. Management planning

"A management plan is statutorily drawn up for all national parks, wilderness reserves, and national hiking areas. For strict nature reserves and other nature reserves and protected sites, a management plan is drafted if this is seen as necessary. Management plans are also quite frequently drafted for sites not yet statutorily established. More and more management plans are drawn up for an extended area, including several established protected sites and sometimes also sites not yet established as proper nature reserves. Nowadays, planning areas mostly follow the borders of Natura 2000 site designations. The plan presents the baseline information needed for management decisions, including analysis of natural and cultural values and the threats and pressures affecting them." (Principles of… 2016, 37).

The presentation of the plan was formalised in 2009. "*This heralded the transition from paper-based to data-based protected area planning*" (Principles of… 2016, 44). The plans are made for 15 years (Päijänteen kansallispuiston… 2017, 9).

Participation

The public participation principles of Metsähallitus are also applied to management planning. Stakeholders and the general public can influence the plan during the planning process. Participatory methods are used to collect information, to reduce conflicts and to increase the acceptability of the operations. In addition, an aim is to enable cooperation and interaction between the actors operating in the areas. (Päijänteen kansallispuiston… 2017, 16).

The main tools for participation are meetings, internet and requests for an opinion. For example, during the preparation of the recently completed management plan for the national park of Päijänne, three open meetings were organised for citizens and interest groups, and it was possible for anybody to send comments through the project website. Requests for an opinion were sent to 28 stakeholder groups. (Päijänteen kansallispuiston… 2017, 16).

2.3.4. Landscape ecological planning

Landscape ecological plans were prepared by Metsähallitus in 1996–2000. During this period 112 plans were made for 6.5 million hectares. A new project for applying the approach was started in 2018. (Alue-ekologisen tarkastelun… 2015, 3–4).

According to the guidebook published in 2000, landscape ecological planning *"views an extensive forest area as a whole including managed forests, nature conservation areas and special areas for recreational use. The long-term objective of landscape ecological planning is to assure the survival of the areas's native species as viable populations."* (Karvonen 2000, 8).

Participation

The public participation processes within landscape ecological planning complement the participatory approaches used by Metsähallitus in other processes, for example in natural resource planning. Methods utilising Internet-based geographic information (PPGIS) are used in collecting and including local knowledge into planning. Meetings and other participatory methods are used to involve stakeholder groups and organisations when needed. The planning approach emphasises that hearings included in the other planning processes can not replace cooperation with stakeholder groups and local communities in operational planning concerning, for example, reindeer herding, tourism areas, villages and sites with special values for various interest groups. Active information delivery is also an essential component in landscape ecological planning. Metsähallitus uses special tools for involving people through the internet. For example, online surveys on the websites of Metsähallitus can be modified according to the specific needs of each landscape ecological planning process. (Alue-ekologisen tarkastelun… 2015, 13).

2.4. Use of local knowledge by regional authorities; participatory tools and methods

2.4.1. Regional authorities

Finland has 311 municipalities and 19 regions. The regions have regional councils which are made up of the municipalities in each region. (Finnish municipalities… 2017). The regional councils are responsible for developing regional land use plans which guide local-level plans and policies. (The spatial planning… 2016).

At the national level, the Ministry of Environment is responsible for land-use planning according to the Land Use and Building Act (132/1999). Local planning is supervised by the Centres for Economic Development, Transport and the Environment (ELY Ccentres), which are central government authorities present in each of the regions. (The spatial planning… 2016).

The regional offices of Metsähallitus are involved in local decision making concerning nature protection and recreation areas. The environment and natural resources –units of the ELY Centres play also an essential role in processes dealing with natural resources. The 15 ELY Centres of Finland cooperate closely with the regional councils. In northern Finland, the Sami Parliament is involved in local planning and decision-making processes. (The Sámi Parliament… 2019).

2.4.2. Regional and local land use planning

The law-based land use planning system in Finland consists of regional land use plan, local master plans and local detailed plans. Regional and local planning is directed by national land use guidelines. Regional plans are drawn up by the regional councils. Local master plans and local detailed plans are prepared by the municipalities. (Steering of land use… 2019, The spatial planning… 2016).

National land-use guidelines are designed to ensure that national issues of importance are considered in regional and local planning. The guidelines must also be taken into account in the activities of state authorities. (The spatial planning… 2016).

The regional land use plans are legally binding and guide local-level plans and policies (The spatial planning… 2016). They set out principles for land use and community structure, and designate areas that are needed for regional development (The Governance of Land Use… Finland 2017, 2–3).

The local master plan is a land-use plan allocating areas for different land use purposes including recreation. It is also possible for two or more municipalities to draft a joint master plan. Local detailed plans regulate land use and building activities in specific areas. (The spatial planning… 2016). Detailed shore plans are made for building in shore areas. These plans can be drafted by landowners but the approval of the plans is the municipalities' responsibility. (Land use planning… 2019).

Participation

Land Use and Building Act 132/1999 includes citizens' rights to participate in land use planning (Box 3). The extent of public participation is defined according to the nature of each plan in specific participation and evaluation plans. Participation in planning processes is open to all parties with an interest in the plans, including landowners, local residents, and other people whose livelihoods or other interests will be significantly affected. (Public participation… 2019).

Box 3. Participation in Land Use and Building Act 132/1999.

Section 62 Interaction in drawing up a plan

Planning procedures must be organized and the principles, objectives and goals and possible alternatives of planning publicized so that the landowners in the area and those on whose living, working or other conditions the plan may have a substantial impact, and the authorities and corporations whose sphere of activity the planning involves (interested party), have the opportunity to participate in preparing the plan, estimate its impact and state their opinion on it, in writing or orally. (Maankäyttö- ja rakennuslaki 132/1999, 62 §).

Section 63 Participation and assessment scheme

When a plan is being drawn up, a scheme covering participation and interaction procedures and assessment of the plan's impact must be drawn up in good time, as required by the purpose and the significance of the plan. The initiation of the planning process must be publicized so that interested parties have the opportunity to obtain information on the principles of the planning and of the participation and assessment procedure. Such publicity must be arranged in a manner appropriate to the purpose and significance of the plan. The publicity may also take place in connection with the publication of a planning review. (Maankäyttö- ja rakennuslaki 132/1999, 63 §).

The regional land use planning practices affect the use of areas managed by Metsähallitus. As an authority defined by the Land Use and Building Act, Metsähallitus has an obligation to contribute towards the implementation of a regional land use plan. The main features of land use in the vicinity of the protected areas are outlined in the regional land use plans and local master plans. An aim is to integrate into the land use plans the Metsähallitus goals and policies that may relate to, for example, tourism enterprise development in the protected areas. (Principles of… 2016, 127). On the other hand, the wider society can affect the activities of Metsähallitus because of the law-based participation procedures. According to a study by Huttunen (2011), the best possibilities to contribute to the objectives of regional land use plans are to be found within natural resource planning and the connected landscape ecological planning.

2.4.3. Maritime spatial planning

In July 2014, the European Parliament and the Council adopted legislation to create a common framework for maritime spatial planning (MSP) in Europe (Principles of… 2016, 40). In Finland, maritime spatial planning was included in the Land Use and Building Act in 2016, and the preparation of the plans started in the same year.

MSP examines the needs of different uses and strives to coordinate them. In accordance with the Land Use and Building Act the plans should focus on the following sectors: energy, maritime transport, fisheries and aquaculture, tourism, recreational use, nature protection and improvement of environment. Cultural heritage, mining, blue biotechnology, maritime industry, national security needs and interaction between land and sea have also been identified as essential themes with regard to planning. (Maritime spatial… 2019).

MSP cooperation is guided by a coordination group which includes representatives of the coastal regional councils and the Ministry of the Environment. The Regional Council of Southwest Finland has coordination responsibility. Finland’s eight coastal regions will develop three maritime spatial plans by the end of March 2021. The plans will cover 1) the Gulf of Finland, 2) the Archipelago Sea and

southern Bothnian Sea, and 3) the northern Bothnian Sea, Kvarken and Bothnian Bay. The Åland Islands will compile its own plan (Maritime spatial… 2019).

In addition to land areas, Metsähallitus administers and manages about 34 170 km² of water areas. According to the MSP Platform established by the European Union to support member states to implement maritime spatial planning, alignment between marine and terrestrial planning should be achieved through consistency of plans and decisions (European MSP… 2018). The EU has published guidelines on how to address land sea interactions (LSI) in the development of maritime spatial plans (Land Sea… 2017). Especially tourism and coastal recreation are pivotal LSI topics for Metsähallitus.

Participation

The Land Use and Building Act 132/1999 includes statements outlining participation in MSP. The regional councils are to organise the preparation of a maritime spatial plan so that the authorities and communities whose activities are dealt with have an opportunity to participate in the preparation work. The regional councils are also obliged to request for opinions from those whose interests are concerned in the plan. The plan and the related background information must be published in the internet to provide an opportunity for anybody to express their opinion. (Maankäyttö- ja rakennuslaki 132/1999, 67 a §).

The interaction plans of the planning areas describe how, where and when participation is possible. Information about the opportunities for participation is available on the maritime spatial planning websites. Anybody can register with the planning cooperation network through the national website. The registered persons will receive information about national and regional events as well as information about other participation opportunities and the newsletter. (Maritime spatial… 2019).

2.4.4. Natura 2000 master plans

Regional Natura 2000 network master plans form the basis for evaluation of the protected area network at national level. Planning needs of the Natura 2000 sites were assessed first time regionally in 2006. A new round of master planning was completed by the ELY Centres in cooperation with P&WF in 2017. The plans allocate nature protection and management measures to the most urgent sites. The plans help the nature protection professionals in planning practical operations. (Principles of… 2016, 44–45, Natura 2000 -verkoston… 2019).

Master planning at regional level has recently been developed into a formalised data-based procedure. The operational processes contained within the planning framework are incorporated into the SASS (“protected area planning and monitoring”) information system of Metsähallitus. (Principles of… 2016, 44–45).

Participation

Participatory methods were used when the first Natura 2000 master plans were compiled in 2006. For example, a wide range of participatory methods were applied in the master plan for the Helsinki–Uusimaa region (Ojala 2007). Public participation was not used in the updating of the plans in 2017.

2.5. Concluding remarks, trends and challenges

A special feature in Finland is the central role of the state-owned enterprise Metsähallitus in organising nature conservation and recreation. Metsähallitus administers 125 000 km² of state-owned land and water areas (91 000 km² lands and 34000 km² waters) (Areas and maps 2019). The regional ELY

Centres are also key players in the management of natural resources through, for example, the planning and management of Natura 2000 sites.

Promotion of public participation was started voluntarily by Metsähallitus (Loikkanen et al. 1999). Participatory planning has since then evolved significantly within Metsähallitus and become a common practice in many fields of land use, partly because of legislative measures. The reform of the Land Use and Building Act in 1999 affected planning culture by introducing "*a meaningful and mandatory participatory process that strengthened stakeholder involvement in the planning process*" (The Governance of Land Use… Finland 2017, 4). Also the Act on the Sami Parliament and the recent law-based developments in maritime spatial planning strengthen participatory and interactive planning culture.

A future challenge is the continuity of interaction and cooperation after the planning phase, and the monitoring of public involvement in land use management. There are many trends strengthening the cooperation culture including the steadily increasing amount of cooperation agreements between Metsähallitus and local private entrepreneurs. These contribute to the integration of state–owned protection areas to local socio-economic contexts. The identification and follow up of these interaction trends comprehensively would clarify the inclusion of local knowledge in natural resource governance.

The water-related strategies of Metsähallitus are well in line with the objectives of maritime spatial planning. According to the Principles of protected area management, the planning in maritime areas "*should be seamlessly integrated with terrestrial land use planning*" (Principles of … 2016, 40). Furthermore, "*on the coast and the islands, as well as the major inland waters, management planning of the protected areas must be based on an integrated ecosystem approach*." (Principles of… 2016, 69). Concerning local knowledge, the principles state that ecosystem approach accentuates the role of people associated with ecosystem structures and functions, and promotes the development of flexibility in management procedures. Consequently, an objective is to delegate responsibility for management decisions closer to stakeholders. (Principles of… 2016, 20). From the practical point of view tourism and recreation are the most important socio-economic water-related activities of Metsähallitus.

3. Sweden

Marjatta Hytönen, Per Sandström, Stefan Sandström

3.1. Background

Sweden is a constitutional monarchy with parliamentary democracy. The population of the country is about 10 million which includes 20 000–40 000 indigenous Sami people. The area of Sweden is 528 447 km². Sweden joined European Union as a member country in 1995 (Sweden – Sverige 2019, Sweden – Overview 2019). The length of the coastline is 3218 km (Coastline lengths 2019). The Northern Periphery and Arctic 2014–2020 Programme covers the northern half of Sweden.

3.2. Nature protection areas in Sweden

There are 30 national parks in Sweden (Explore your… 2019). There are also other types of protected areas: culture reserves, natural monuments, habitat protection areas, wildlife and plant sanctuaries, shore protection areas, environmental protection areas and water protection areas (The Swedish Environmental Code… 2000, 37–43).

The Swedish Environmental Protection Agency (SEPA) and County Administrative Boards (CABs) lead the work on nature conservation in cooperation with other authorities (Swedish nature… 2009, 3). National parks are located on state-owned land. They are established by the government with the consent of parliament. SEPA has authority for the planning, implementation, setting conservation objectives and the enforcement of management plans for the parks. The CABs are responsible for the day-to-day management of the parks. (Holmgren et al. 2017, 23).

Regional and local authorities can establish nature reserves. The land of the reserves may be privately or publicly owned. Many nature reserves and national parks are also Natura 2000 sites (Protected nature… 2019, Swedish nature… 2009, 29, 48). About 75 % of the Natura sites overlap with national protection areas (Fauchald et al. 2014, 248).

3.3. Use of local knowledge by the Swedish Environmental Protection Agency (SEPA); participatory tools and methods

3.3.1. Environmental Code

The key elements of international commitments, national environmental quality objectives and legislation in the Environmental Code (Miljöbalken) provide the basis for environmental efforts in Sweden (Swedish nature… 2009, 3, also Hållbar utveckling… 2019). The code includes the regulations concerning different types of area protection, such as national parks, nature reserves, habitat protection and shoreline protection (The Swedish Environmental… 2018). The Code came into force in 1999. It merged several older laws into a single entity and clarified the division of tasks between the Planning and Building Act and environmental legislation. (The Governance of Land Use… Sweden 2017, 3–4). Only fundamental environmental rules are included in the Code, more detailed provisions are laid down in ordinances made by the Government (The Swedish Environmental… 2000, 1).

Participation

The chapter dealing with protection of nature includes a statement concerning public participation (The Swedish Environmental… 2000, 37–48). According to Section 25 of the Code: "*In connection with*

the consideration of matters relating to protected areas referred to in this chapter, private interests shall also be taken into account. Restrictions on the rights of private individuals to use land or water under safeguard clauses provided in this chapter must therefore not be more stringent than is necessary in order to achieve the purpose of the protection." (The Swedish Environmental… 2000, 44).

3.3.2. National Park Plan

The first National Park Plan was published in 1989 (Nationalparksplan för Sverige –långsiktig… 88, 2008). A review "National Park Plan for Sweden – Long-term Plan" was published in 2008 (Nationalparksplan för Sverige – Långsiktig plan 2018). The plan has been updated and revised in 2008 and 2015: Nationalparksplan för Sverige – Genomförande 2009–2013 (2008) and Nationalparksplan för Sverige – Genomförande 2015–2020 (2015). The most recent updating implementation plan describes the areas which SEPA will prioritise for national park establishment until 2020. The process for establishing individual national parks is also described in the plan. (Nationalparksplan för Sverige – Genomförande… 2015, 9–10).

Participation

The long-term plan published in 2008 describes the attitudes towards national parks followingly: *"An investigation of attitudes to existing national parks has been carried out in municipalities, among the managers of national parks and among previous owners of national park land. This investigation has revealed an overwhelmingly positive view. The municipalities' overall assessment of national parks as a concept show that 92 % of responses are positive. This is one of several aspects relating to local support and local benefits of national parks as described in the plan."* (Nationalparksplan för Sverige - Långsiktig plan 2008, Summary, 83).

The updating revisions contain guidelines for organising public participation when planning and establishing national parks. According to the revision published in 2015: "*The implementation presupposes broad cooperation between stakeholders. The process begins with stakeholder consultation before the Environmental Protection Agency decides whether or not to initiate a new project. Throughout the process, transparency is required with respect to the outside world, along with ongoing initiatives relating to information and communication with relevant stakeholders, organisations and the local population. The way in which the work should be carried out and the aspects that should be included in a national park establishment project are described comprehensively in this report*." (Nationalparksplan för Sverige – Genomförande 2015, 9–10).

The arrangements to organise public participation when establishing a national park include the setting up of a steering group and a working group containing national and local authorities. A steering group can establish a permanent reference group which contains representatives of local people, non-governmental organisations and Sami villages in the Sami regions. The Sami Parliament (Sametinget) can also be invited to participate in the negotiations. The methods for delivering information and organising dialogue include meetings, newsletters, web pages, exhibitions with commenting possibility, excursions and social media. (Nationalparksplan för Sverige – Genomförande 2015, 23–25).

3.3.3. Management plans for national parks

SEPA adopts the management plans for national parks after consultation with the local CAB, the affected municipalities and the Swedish Agency for Marine and Water Management (Hongslo et al. 2016, 1005). All national parks have a management plan. A plan is usually divided into two parts. The first part describes the area and the second part deals with management, tourism, participation and

other social and economic aspects. (Skötselplaner för nationalparkerna 2019, Nationalparksplan för Sverige – Genomförande 2015, 31).

Participation

According to Hongslo et al. (2016, 1008) participation of local people in nature conservation management has been emphasised in Swedish government bills in 2001 and in 2008. The bill published in 2008 includes a proposal that all national parks should have advisory management boards, "*but this has not yet been implemented*" (Hongslo et al. 2016, 1008).

By 2016 seven national parks had included statements concerning public participation in the management plans. These are the nationalparks of Fulufjället, Tyresta, Kosterhavet and the four parks (Sarek, Padjelanda, Muddus and Stora Sjöfallet) situated in the Laponia World Heritage Site (Skötselplan – Fulufjället… 2002, 114, Skötselplan för Tyresta… 2017, 120, Skötselplan för Kosterhavets… 2009, 214–215, Laponiaprocessen – Skötselplan 2011). In addition to the above mentioned plans by SEPA, the Laponia process has produced a more comprehensive managent plan for the whole Laponia World Heritage Site (Laponia – Management plan 2011). The Laponia process is described more in detail in the following chapter.

Hongslo et al. (2016, 1005) summarise the participation situation the following way: The boards of Laponia World Heritage Site and Kosterhavet National Park "*consist of representatives of municipalities (officers or politicians), officers from the CAB, and vested interests such as Sami communities, fishers, and environmentalists, and in Laponia SEPA is represented… In Fulufjället, however, private actors are only represented through a consultative management council and a group that deals with tourism issues… Tyresta is a peculiar case in the Swedish context and only includes official representatives. Representatives from CAB and SEPA as well as politicians from the municipalities are represented in the management board…*" (Hongslo et al. 2016, 1005).

3.3.4. Laponia process

Laponia World Heritage Site (WHS) was established in 1996. The WHS is situated in the municipalities of Jokkmokk and Gällivare in Norrbotten County in northern Sweden. The area includes four national parks: Sarek, Padjelanda, Muddus and Stora Sjöfallet. The WHS covers also two nature reserves and other areas. Together they comprise forests, mountains and wetlands covering 9400 km². (Laponia – A living… 2019).

In 2006, the principal parties (CABs, the Sami communities and the municipalities of Jokkmokk and Gällivare) agreed on basic principles, according to which "*Laponia was to be directed by a local organisation with a Sámi majority on the committee. It was also determined that the Laponia Process would be based on a set of common basic values, and that all decisions would be made by consensus.*" (The Laponia process… 2019).

In 2011, a new management organisation for the area – the Laponiatjuottjudus – was founded. The Laponiatjuottjudus consists of representatives of nine reindeer herding communities, the CAB of Norrbotten, SEPA and the municipalities of Gällivare and Jokkmokk (Holmgren et al. 2017, 29). A comprehensive management plan for the WHS was also adopted in 2011 (Laponia – Management plan 2011). The plan contains a chapter dealing with GIS (Box 4).

Box 4. Laponia-GIS.

"In connection with the development of the Management Plan, a large amount of geographical information has been put together to support the work of the new management. The target of Laponia-GIS is to make geographical information easily accessible both for the management and for others who are looking for information about the area. Laponia-GIS is a channel to ensure that information about regulations that specify prohibitions for certain activities and operations in different parts of the area, as well as information on reindeer husbandry areas sensitive to disturbances, are easily accessible and clearly understandable.

Ambition: Laponia-GIS is an important tool used in the continuous work of management. The information is to be accessible by other authorities as a support for making decisions concerning Laponia. Up-to-date and relevant information is available to visitors in order for them to plan their visit to Laponia.

The Task of Laponiatjuottjudus:

- Investgate forms of management and up-dating of information on Laponia-GIS, as well as how the information is to be made available, for example through a web tool.

Dutes for the Public Entities Involved

- Coordinate up-dates of informational layers with Laponiatjuotjudus." (Laponia – Management… 2011, 93).

Holmgren et al. (2017, 29) describe the new organisation as "*a shared-governance partnership where interactions are characterised by consensus seeking.*" Hongslo et al. (2016, 1005) conclude that the process of Laponia WHS "*resulted in management regime that can be characterized as co-management*".

3.4. Use of local knowledge by regional authorities; participatory tools and methods

3.4.1. Regional authorities

In Sweden there are 21 counties and 290 municipalities (The Governance of Land Use… Sweden 2017, 1). Political tasks at regional level are undertaken by the county councils, the members of which are directly elected by the people of the county, and by the County Administrative Boards (CABs) which are government bodies in the counties (The Swedish model… 2019). Municipalities are responsible for local planning. (The Governance of Land Use… Sweden 2017, 1).

At the national level, the Ministry for Business and Growth is responsible for the Swedish Building and Planning Act, together with the National Board of Housing, Building and Planning. (The spatial planning… 2016). Local planning is steered by the Planning and Building Act and the Environmental Code (The spatial planning… 2016). The indigenous Sami people are represented by the Sami Parliament (The Sami Parliament 2019).

3.4.2. Regional and local land use planning

There are no national planning instruments guiding spatial regional and local planning, and no regional landuse plans, except in the county of Stockholm (The spatial planning… 2016, The Govern-

ance of Land Use… Sweden 2017, 2). However, the government requires that there is a regional development strategy in each county. This strategy may contain spatial elements and influences land use decisions. (The Governance of Land Use… Sweden 2017, 1).

Municipalities prepare comprehensive plans as a means of strategic planning. The compliance of the comprehensive plans with national objectives is checked by the CABs. The detailed plan is the statutory instrument to regulate land use at municipal level. Detailed plans are only prepared in areas where it is necessary to control a change in land use and are valid until they are repealed or replaced. (The Governance of Land Use… Sweden 2017, 2–3).

Participation

According to the OECD survey, *"The main formal co-ordination mechanisms between levels of government and other relevant actors and stakeholders are mandatory consultations that occur in the plan-making process…. In practice, consultations are channelled through the County Administrative Boards, which play a co-ordinating role."* (The Governance… Sweden 2017, 3).

The Swedish Environmental Code contains sections dealing with the role of CABs and municipalities in establishing nature reserves (The Swedish Environmental… 2000, 37–43). The practical procedure involves negotiations. (Box 5).

Box 5. Establishing a nature reserve in Sweden.

"The initiative to protect an area frequently comes from the county administrative board but can also come from municipalities, non–profit organisations, the public or landowners. The county administrative board consults with landowners and puts forward a proposal for decision about the nature reserve, which sets out aims, stipulations and a management plan. The state then hires an independent surveyor who calculates the market value depreciation which will result from converting the land into a reserve. After negotiations are complete, the state and the land-owners usually sign a contract. During the process, the county administrative board circulates reserve proposals to other authorities and organizations for comment, after which it makes a decision about establishing the nature reserve. The county administrative board plots out the reserve's borders, with the assistance of a surveyor." (Swedish nature… 2009, 29).

3.4.3. Maritime spatial planning

Sweden has transposed the EU Framework Directive on Maritime Spatial Planning into Swedish legislation through the Swedish Environmental Code and the Marine Spatial Planning Ordinance. According to the Code, there will be three national plans – one for the Gulf of Bothnia, one for the Baltic Sea, and one for Skagerrak and Kattegat. The plans provide guidance to public authorities and municipalities in the planning and review of claims for the use of the areas. (Proposal for the Marine… 2018, 11). The plans are due to be completed in 2021 (Proposal for the Marine… 2018, 24).

Participation

According to the proposal for the Marine Spatial Plan for the Gulf of Bothnia "*the foremost task of the marine spatial planning is to weigh up different public interests. Public interests in the planning of land and water are interests that contribute to achieving societal objectives for economically, socially, and environmentally sustainable development. The public interests and the national interests that the marine spatial plans are to cover are not defined in further detail. They shall, however, be public interests of material significance."* (Proposal for the Marine… 2018, 13). Public interests of material significance can be interests dealing with, for example, pollution and waste or municipal interests

that are considered to be of national interest. Public interests in municipal planning include nature-related and cultural aspects. (Proposal for the Marine… 2018, 13).

The process of preparing marine spatial plans is done in multiple stages where revisions and dialogue take place at each stage. The affected municipalities, regional planning bodies, municipal collaboration bodies, county councils as well as trade associations and other interest groups have the possibility to participate in the work. The coastal CABs are responsible for the dialogue with the municipalities and actors responsible for regional development. The discussions are conducted in the form of meetings that are held nationally, regionally and with neighbouring countries. During the final reviews of the plans, a possibility to submit comments is also provided. (Proposal for the Marine… 2018, 23–24).

3.4.4. Natura 2000 planning

There are about 4000 Natura 2000 sites in Sweden (Bouwma et al. 2010, 43, Vad är Natura… 2019). The total area of the sites is 6 000 000 ha (60 000 km²) which corresponds to 15 % of Sweden's area. Approximately 60 % of the Natura 2000 sites are protected as national parks and nature reserves. Many sites are privately owned. (Bouwma et al. 2010, 43).

SEPA coordinates Natura 2000 at national level, and develops strategies for area protection, produces practical guidelines (e.g. Förutsättningar för prövningar … 2017) and assists the 21 CABs which are responsible for the management of the sites. The initial selection of sites has been carried out by the CABs. (Bouwma et al. 2010, 43, 46).

The preparation of a conservation plan is obligatory for all Natura 2000 sites in Sweden. The CABs are responsible for these plans. A nature protection site can have two plans: a Natura 2000 conservation plan and a management plan. Conservation plans focus only on the Natura 2000 interests but management plans can address a wider range of interests in the area. (Bouwma et al. 2010, 43, 45–46).

SEPA maintains an internet map service "Skyddad natur" (protected nature) (http://skyddadnatur.naturvardsverket.se/, 14.6.2019). The service includes information on Natura 2000 sites and other existing and planned nature conservation areas in Sweden. (Kartverktyget Skyddad… 2018, Vad är Natura… 2019).

Participation

According the to SEPA guidelines, every Natura 2000 conservation plan needs to be processed with the landowner before it is finished. However, counties use different approaches for making and discussing the management plans, varying from informing land owners without discussions to participatory approaches (Bouwma et al 2010, 47). Bouwma et al. (2017, 47) describe the communication problems connected to the planning of the Natura sites: "*In some counties, poor information was available the first years. In other counties, information was better. In general, not all landowners were informed sufficiently during the selection process, for example about expected management restrictions. In some counties, biologists informed landowners in a way that is perceived as arrogance, or, on the contrary, understated the possible consequences for the landowners. In that stage, it was not very clear to anyone (including the government officials) what Natura 2000 would mean in terms of restrictions.*" (Bouwma et al. 2010, 47).

The communication problems connected to Natura 2000 sites and other nature conservation areas have been recognised also by SEPA. The agency launched an educational programme "Dialogue for Nature Conservation" on public participation in 2008. The programme was planned primarily for personnel within SEPA and the CABs. (Box 6).

Box 6. The contents of the courses organised by the Dialogue for Nature Conservation programme during 2008-2009 to promote public participation (Dialogue for Nature… 2008, 6).

1. Basic course for officials
2. Course in environmental communication for nature conservation directors
3. Advanced courses in four specific areas:
    a. management and site protection
    b. large carnivore issues
    c. wildlife management
    d. local development and nature conservation
4. Advanced courses in communication:
    a. cooperation and learning
    b. conflict management.

3.5. Concluding remarks, trends and challenges

According Holmgren et al. (2017, 23) Swedish nature conservation has long been characterised by top-down management and application of expert knowledge (Holmgren et al. 2017, 23). The management of conservation areas has also been centralised (Hongslo et al. 2016, 999).

Sweden has recently signed international conventions that promote decentralisation of natural resource management (Hongslo et al. 2016, 999). Participation in the international negotiations has been important for increasing involvement of local people (Fauchald et al. 2014, 247). The international nature conservation discourse forwarding local and indigenous participation has paved the way, for example, for the Laponia process (Holmgren et al. 2017, 33). However, according to Hongslo et al. (2016, 1008) decentralisation of nature conservation management has been restricted to a few national parks in Sweden.

A study by Bouwma et al. (2010) sheds light on nature conservation related conflicts in Sweden. The study was carried out as a part of the European Commission project "Dealing with Conflicts in the Implementation and Management of the Natura 2000 Network – Best Practice at the Local/Site Level" (Bouwma et al. 2010, 4). The causes of conflicts with landowners when establishing Natura 2000 sites included lack of information, uncertainty on conditions, disagreement on management, long delays in the Natura 2000-process and arrogant behavior of the authorities (Bouwma et al. 2010, 47). To improve the situation, another EU study "Civil society acts for environmentally sound socio-economic development" (CO–SEED) (2016–2019) (http://co-seed.eu/, 14.6.2019) has collected examples of good practices (Box 7).

Box 7. CO-SEED case study "Inclusion of local communities ensures their buy-in and continued support for the project" from Sweden.

"The Askö-Tidö Nature Reserve is a shallow bay of Lake Mälaren with unique broadleaf forests on its southern shore. It is a Natura 2000 area under both the Birds and the Habitats Directives, as well as a Ramsar wetland of international importance, and a nature reserve protected under the Swedish environmental code. Local landowners were originally not in favour of designating the site, but a public participatory process resulted in a compromise. This left 18 hectares of wet meadows outside the Natura 2000 area. The remaining 120 hectares of wet meadows in the Natura 2000 site are managed in a traditional way (mowing and grazing by cows), and farmers receive financial compensation via rural development funds. Although a small proportion of wet meadows were left out of the protected area, the compromise reached during the designation process made the creation of the Natura 2000 site possible and acceptable for the local land-owners.

A public participatory process also informed the development of the site's management plan and management is being carried out in a participatory way. The county administrative board, the managing authority for the site, organizes two to three meetings a year for environmental NGOs, landowners, and the city of Västerås to discuss management measures, monitoring results, and other issues. The Natura 2000 site has also been successful in creating awareness of the value of nature and the need to protect species and habitats. A "nature school" was established 20 years ago and almost 100,000 schoolchildren and students have since visited the site." (Examples of best… 2017).

4. Norway

Marjatta Hytönen

4.1. Background

Norway is a constitutional monarchy with parliamentary democracy. The population of the country is about 5 million which includes 50 000–65 000 indigenous Sami people. The area of Norway is 385 155 km². (About Norway 2019, Sami in Sweden 2019). The length of the coastline is 83 291 km (Coastline lengths 2019). The Northern Periphery and Arctic 2014–2020 Programme covers almost whole Norway, only the south-eastern part is left out.

4.2. Nature protection areas in Norway

The Ministry of Climate and Environment, the Norwegian Environment Agency (NEA) and the county governors are the central government bodies involved in the management of protected areas in Norway. Since July 2009, the daily management responsibilities in national parks and other large protected areas have been delegated to local protected area management boards. By 2018, 44 boards were established (Engen 2018, 40–41).

The Norwegian Nature Inspectorate is responsible for ensuring compliance with environmental legislation and providing advice and information concerning national parks and large nature conservation areas. It may carry out these tasks itself or purchase services from others. The Inspectorate is a separate unit within NEA. (Conservation areas 2019).

There are around 2700 conservation areas on the mainland Norway and Svalbard (Coservation areas 2019). Protected areas cover about 17 % of the mainland territory, and 25 % including Svalbard and Jan Mayen (The Governance of Land Use… Norway 2017, 2).

There are now 37 national parks in mainland Norway and seven in Svalbard (Conservation areas 2019). The other conservation areas are: protected landscapes, nature reserves, habitat management areas and marine protected areas. Also other forms of protection (e.g. natural monuments and bird reserves) were used under the 1970 Nature Conservation Act. They are being transferred to the new classification system: "*All these sites are still protected. If the protection regulations for any of them need to be revised, new regulations will be adopted under the 2009 Nature Diversity Act and adjusted to bring them in line with the new protection categories.*" (Conservation areas 2019).

The Ministry of Climate and Environment designates protected areas according to the Nature Diversity Act (The Governance of Land Use… Norway 2017, 1, Nature Diversity… 2009). The designation prerequisites involvement of various stakeholders. (Box 8).

Box 8. Public participation when establishing a nature protection area according to the Nature Diversity Act.

"Section 41 (administrative procedure)

When a protection process under this chapter commences, steps shall be taken within the limits of the second to third paragraphs and sections 42 and 43 to ensure that administrative procedures are carried out in the closest possible cooperation with landowners, rightsholders, interested commercial parties and representatives of the local community, including Sami cultural and business interests, the municipal and county authorities, the Sami Parliament and other relevant authorities. The same applies when a landowner or rightsholder himself offers areas for protection. The administrative process shall ensure that the purpose of protection and the conservation value, the delimitation of the area and the consequences of protection are defined as clearly as possible. As part of the administrative process, information shall also be obtained regarding other possible elements of value in the area." (Nature Diversity… 2009).

4.3. Use of local knowledge Norwegian Environment Agency (NEA); tools and participatory methods

4.3.1. National Park Plan

In 1980, the Ministry of Environment initiated a general plan for the designation of new large protected areas. The National Park Plan was presented in 1986, and approved by the parliament in 1992 (Hongslo et al. 2018, 14). Since then, new national parks have been established and others extended. The national park network is now almost completed. (Conservation areas 2019).

Participation

The Plan resulted in a conservation policy targeting areas that were economically more productive and included more private land than protected areas designated earlier. The new policy affected many municipalities and resulted in conflicts across Norway throughout the 1990s, strengthening already existing conflicts between national environmental agencies on one side and local authorities and landowners on the other. (Lundberg 2017, 33–34).

The conflicts "*resulted in lifting up demands for increased local participation and emphasis on sustainable use to the national political agenda, and the Norwegian Parliament came to play a defining role in changing the management system*" (Lundberg 2017, 33–34). In 1996, the Parliament instructed the government to initiate pilot projects of alternative governance arrangements, which led to different forms of local management being tested in four protected areas. (Engen 2018, 43).

4.3.2. Local protected area management boards

As a result of pilot projects, the government initiated a governance reform in 2009 (Engen 2018, 44). One of the main goals of the reform was to improve local management through local participation. The reform was initiated as part of the national budget by the government. (Lundberg 2017, 36–37).

The reform led to the establishment of local protected area management boards (verneområdestyrer) to manage national parks and large conservation areas (Hongslo et al. 2016, 1003). The boards are comprised of locally and regionally elected politicians, and representatives appointed by the Sami Parliament in areas with Sami interests (Lundberg 2017, 37, Lundberg 2017, 37).

Local board members are proposed by the municipal councils, county parliament and the Sami Parliament, and officially approved by NEA (Engen 2018, 49). The boards appoint local stakeholders to advisory councils, which have a consulting function. Park managers act as the local board's secretaries, and are employed by county governors. (Engen 2018, 42). The local boards are obligated to forward all their decisions to regional authorities and NEA, and to report to the county governor annually (Engen 2018, 45).

Local protected area boards manage single or clusters of protected areas, aided by park managers with conservation expertise. By 2018, approximately 500 local politicians distributed across 44 local protected area boards have been involved in protected area management in Norwegian national parks, protected landscapes and other protected areas. (Engen 2018, 40–41).

The boards are responsible for the management plans and decision making on specific activities within the protected areas. Preparing management plans gives the boards opportunities to influence the long-term development of the protected area. The protected area regulations provide the boards with the possibility to allow a range of activities in protected areas, including construction, use of motorised vehicles, hunting and forestry. (Fauchald et al. 2014, 247).

Engen (2018, 46) concludes that "*in Norway the elected politicians on local protected area boards can be considered both downwardly accountable to their constituency and upwardly accountable to the national authorities that appointed them*" (Engen 2018, 42, 46). (Box 9).

Participation

Stakeholder participation is still a challenge with the new management model (Engen 2018, 47–48). Despite ambitious goals aiming at creating local ownership and including local knowledge, "*attention to stakeholder participation in the policy documents that laid the foundation for the reform was relatively low*" (Lundberg & Hovik 2017 in Engen 2018, 48).

Stakeholder participation is carried out through advisory councils. In the new system, the advisory councils are the only arena to influence for groups not represented in the board. (Fedreheim & Blanco 2017, 768). The boards are required to inform and consult stakeholders through annual meetings with an advisory council (Fedreheim & Blanco 2017, 756). However, "*establishing well-functioning advisory councils has been a challenge. The direct contact between stakeholders and local board members is modest and instead, stakeholders contribute with local knowledge in a more informal way through contact with protected area managers on a case-to-case basis … local board members have a much more favorable evaluation of how well stakeholder participation functions compared with the stakeholders themselves.*" (Lundberg & Hovik 2017 in Engen 2018, 48).

Norway is currently developing management models with stronger representation from local interests (Fedreheim & Blanco 2017, 756). The Ministry of Climate and Environment is carrying out co-management experiments in three protected area management boards during the period 2017–2019. In the experiments, two national park boards include property owners and one landscape conservation area board includes a broader range of local stakeholders. (Lundberg 2017, 39).

Box 9. Reisa National Park management board, managers and advisory council.

The Reisa national park board was established in 2011. The board is also responsible for the Ráisduottarháldi Protected Landscape Area which borders the national park in the northwest (Aktivitet i Reisa… 2017… 2018, 4). The board consists of two representatives from the Sami Parliament, two representatives from the municipality of Nordreisa and one representative from the Troms county council (Reisa National… 2019).

The members of the board are nominated by the NEA according to the proposals of the Sami Parliament, the municipality and the county council (Forvaltningsplan og besøksforvaltningsstrategi… 2018, 110). In 2017, the board had five meetings (Aktivitet i Reisa…2018, 5).

The board cooperates with two park managers who manage the daily operations in the areas (Reisa National… 2019). The managers work administratively under the board and are employed by the county governor. The managers function as the secretaries of the board and prepare topics for the meetings. (Forvaltningsplan og besøksforvaltningsstrategi… 2018, 110-111).

The board cooperates with the advisory council, which includes stakeholders from various interest groups. The participants of the council are invited by the board. The council can make statements concerning the management of the park, and comment the annual and long-term plans. (Referat fra møte… 2017, Forvaltningsplan og besøksforvaltningsstrategi… 2018, 111). In 2017, the council had two meetings, the spring meeting was participated by 12 persons and the autumn meeting by 14 persons (Aktivitet i Reisa… 2017… 2018, 6). The participants of the advisory council meeting in 13.11.2017 came from the following interest groups: nature conservation association of Nordreisa, municipality of Nordreisa, Troms Hiking Association, Nordreisa scooter and båtförening (Nordreisa scooter and boat association), Nord-Troms turlag (The Norwegian Trekking Association), Visit Lyngenfjorden, Halti National Park Centre, Statskog/Fjelltjenesten (State-owned Land and Forest Company/Mountain services), reindeer herders, Reisa River Trust, Nord-Troms friluftsråd (Nord-Troms outdoor recreation organisation), Nord-Troms museum, reindeer police and local persons. In addition, the national park board members and the two park managers participated in the meeting. (Referat fra møte… 2017).

4.3.3. Management plans for protected areas

The local management boards are responsible for drafting and revising management plans for protected areas (Fauchald & Gulbrandsen 2012, 8). The management plans must be approved by NEA (Fauchald et al. 2014, 247).

Many protected areas do not yet have a plan. According to Fauchald et al. (2014, 247), about 25 % of protected areas have a management plan. The need for a plan varies depending on the conservation objectives and the utilisation of the areas. It has been estimated that management plans are needed for about 1500 of the 2700 protected areas in Norway. (Protected areas – Norway 2019, Conservation areas 2019).

Information about the protected areas, the management boards and management plans can be found through the homepage www.nasjonalparkstyre.no. The information is available in Norwegian.

Participation

The rules of procedure for the local management boards emphasise the involvement of interested parties in adopting and revising management plans (Fauchald & Gulbrandsen 2012, 8). According to

NEA, it is important to take user interests (e.g. reindeer husbandry, farming, forestry, outdoor recreation) into account in developing the plans (Conservation areas 2019). However, the specific interests reflected in the plans and decisions depend on the categories of stakeholders represented in the management boards (Fauchald & Gulbrandsen 2012, 11–12). (Box 9 and Box 10).

Box 10. Reisa National Park management plan.

The preparation of the management plan started in 2007 before the establishment of the Reisa national park board by a group which had representatives from Troms county council, Nordreisa municipality, Statskog Troms, reindeer herding and other local interests. After many revisions, the draft was compiled following the structural guidelines provided the NEA. (Forvaltningsplan og besøksforvaltningsstrategi… 2018, 9-10, (Aktivitet i Reisa… 2018, 6). Information about the planning process and the most recent draft plan (9.1.2018) is available in the internet (Reisa Nasjonalpark… 2019).

The plan covers Reisa National Park (804 km²) and the adjacent Ráisduottarháldi Protected Landscape Area (83 km²) (Forvaltningsplan og besøksforvaltningsstrategi… 2018, 3). It will be revised the first time after 5-7 years, and after that with ten year interval (Forvaltningsplan og besøksforvaltningsstrategi… 2018, 8-10).

4.4. Use of local knowledge by regional authorities; tools and participatory methods

4.4.1. Regional authorities

There are 19 counties and 428 municipalities in Norway (The Governance of Land Use… Norway 2017, 1). Nationally the responsibility for land use planning belongs to the Ministry of Local Government and Modernisation (The spatial planning… 2016). The legislative framework for land use planning is provided by the Planning and Building Act (2008). Since 1989, the Sami Parliament has been involved in the decision making concerning the interests of the indigenous Sami people in Norway (The Sami people 2019).

At the regional level, the land use planning tasks are divided between the county authorities and the county governors. The county authorities work under the county councils, which are elected by direct vote at the same time as the municipal councils. The county authorities are responsible for, among other things, regional development, cultural heritage and outdoor recreation. The county governors represent central government. They are responsible for following up and coordinating the state's different functions in the county. (National framework… 2014). They have an important control function in the management of protected areas (Lundberg 2017, 37). The county authorities and county governors cooperate extensively in planning matters (National framework… 2014). Municipalities are responsible for the preparation and approval of local planning strategies and detailed plans. (The Governance of Land Use… Norway 2017, 1).

4.4.2. Regional and local land use planning

At national level, a document setting out the Government's "*expectations of regional and municipal planning*" is prepared every four years (National framework… 2014). This document forms the basis for regional and municipal planning strategies. The regional planning strategy and the municipal planning strategy have to be revised every fourth year, synchronised with the election period of the regional and local government. (National framework… 2014, The spatial planning… 2016).

At regional level, the county councils prepare regional planning strategies and regional plans, which focus on issues of regional importance, such as land use and transport, outdoor recreation planning and coastal planning (National framework… 2014, The Governance of Land Use… Norway 2017, 1). The regional planning strategies are general planning documents that determine the areas for which regional plans are needed. (The Governance of Land Use… Norway 2017, 1). The regional plan is not legally binding for municipalities but provides guidance for municipal planning (The spatial planning… 2016).

At municipal level, the municipal councils are responsible for the municipal planning strategy, the municipal master plans and zoning plans (National framework… 2014, The spatial planning… 2016). The purpose of the municipal planning strategy is to help the new council to clarify what planning functions the municipality should prioritise during the electoral term. Then councils present their proposals for the strategy during the first year of the four-year electoral term. (Municipal planning… 2013). Municipal master plans are the main spatial planning documents of municipalities. They are comprehensive plans for local development and cover all spatially relevant policy fields. They contain general guidelines, strategic plans and a land use plan for the entire municipality. (The Governance of Land Use… Norway 2017, 3). There are two forms of zoning plans: area zoning plans and detailed zoning plans. They are mostly prepared for areas for which development is foreseen, but are also used to protect areas from development. Most of the local zoning plans are prepared by private developers or sectoral authorities and submitted to the municipalities for political approval. (The Governance of Land Use… Norway 2017, 1, 3). (Box 11).

Box 11. The Nordreisa municipality from the point of view of the Reisa National Park and Ráisduottarháldi Protected Landscape Area (translated from Norwegian by MH).

Reisa National Park (RNP) og Ráisduottarháldi Protected Landscape Area (RPLA) are situated in the municipality of Nordreisa… Municipalities are the local representatives of environmental administration, and have many tasks affecting RNP and RPLA directly and indirectly. Municipalities have responsibilities according to the laws dealing with biological diversity, planning and building, wildlife, fish, outdoor recreation, motor vehicles and pollution. The municipality of Nordreisa has representatives in the board of RNP and RPLA and in the advisory council… The Planning and Building Act is the most important law in regulating land use outside protected areas. The municipality is thus the most important planning authority concerning the areas bordering RNP and RPLA. In the municipal master plan it is possible to define a bufferzone to secure important nature values, and to pay special attention to natural environment, cultural environment and outdoor recreation. (Forvaltningsplan og besøksforvaltningsstrategi… 2018, 111).

Participation

The administrative reforms carried out in 2008–2009 in Norway have resulted in increased decentralisation of responsibilities. According to Hongslo et al. (2016, 13), the reforms have made the developmental role of counties stronger. The decentralisation has also led to closer cooperation between local stakeholders and municipal governments. The Norwegian Planning and Building Act includes many sections promoting public participation in regional and local land use planning procedures. (Box 12).

Box 12. Public participation statements is the Planning and Building Act (2008).

Chapter 1. Common provisions

Section 1-1. Purpose of the Act

… Planning and administrative decisions shall ensure transparency, predictability and public participation for all affected interests and authorities. There shall be emphasis on long-term solutions, and environmental and social impacts shall be described….

Chapter 5. Public participation in planning

Section 5-1. Public participation

Anyone who presents a planning proposal shall facilitate public participation. The municipality shall make sure that this requirement is met in planning processes carried out by other public bodies or private bodies.

The municipality has a special responsibility for ensuring the active participation of groups who require special facilitation, including children and youth. Groups and interests who are not capable of participating directly shall be ensured good opportunities of participating in another way.

Chapter 7. Regional planning strategies

Section 7-1. Regional planning strategies

… The regional planning strategy shall contain an overview of how the prioritised planning functions shall be followed up and the arrangements for public participation in planning work.

Chapter 10. The municipal planning strategy

Section 10-1. The municipal planning strategy

… When working on the municipal planning strategy, the municipality shall solicit the views of central government and regional bodies and neighbouring municipalities. The municipality should also promote broad public participation and general debate as a basis for the municipal council's consideration of the strategy….

Chapter 11. The municipal master plan

Section 11-2. The social element of the municipal master plan

The social element of the municipal master plan shall serve as the basis for sector plans and activities in the municipality. It shall provide guidelines for the way the municipality's own goals and strategies shall be implemented in municipal activities and in connection with participation by other public bodies and private bodies.

PPGIS studies dealing with municipalities and nature conservation issues have been carried out in Norway recently. The study by Brown et al. (2015) describes the spatial "value transfer" methods which extrapolate ecosystem values. PPGIS survey methods were implemented in two large study regions including municipalities and nature conservation areas to identify ecosystem values and to analyse their spatial associations with land cover data. The studied ecosystem values included recreation-related and provisioning values. (Brown et al 2015). In the study by Engen et al. (2018) web-

based PPGIS is used to analyse the consistency between local preferences and conservation policy. (Box 13).

Box 13. Local acceptance of protected area management using public PPGIS (Engen et al. 2018).

A web-based PPGIS study was carried out to analyse the consistency between local people's preferences and protected area management in Norway. The study focuses on preferences dealing with consumptive resource use, motorised use, land development and predator control (Engen et al. 2018, 28).

The study includes two separate mountainous regions. The northern region (8390 km²) covers six municipalities with a total population of 68,600, and with 48 protected areas comprising 68 % of the total area. The southern region (14,601 km²) covers five municipalities with a total population of 35,000, and with 53 protected areas comprising 61 % of the total area. (Engen et al. 2018, 28).

The results demonstrate that web-based PPGIS can be a cost-effective method for assessing acceptable conservation policies in large cross-section of communities. Mapped preferences can, for example, aid policy makers during policy design or once conservation initiatives are in effect. The results of a PPGIS study can also be used by local protected area management boards and advisory councils in negotiations between protected area authorities and local residents (Engen et al. 2018, 31-33).

According to the study, local preferences are in line with current conservation policy in Norway, which restricts land development while allowing small-scale consumptive uses in protected areas. The results "suggest that a use-based framing of conservation is more likely to resonate with these communities than narratives tied to the preservation of pristine nature and emerging conservation ideas of the rewilding of nature" (Engen et al. 2018, 33).

4.5. Concluding remarks, trends and challenges

Norway has signed international conventions that promote decentralisation of natural resource management (Hongslo et al. 2016, 999). The international trends have been one reason for employing strategies of community-based conservation (Engen 2018, 40–41). For example, the commitments under the Convention on Biological Diversity (CBD) have been a part of the justification for the Norwegian reforms (Fauchald et al. 2014, 247). Another reason for employing a strategy of community-based conservation has been conflicts between central and local governments in relation to conservation management (Fauchald & Gulbrandsen 2012, 7, Hongslo et al. 2016, 999, Engen 2018, 40–41). These developments led to the establishment of local protected area management boards and advisory councils.

Researchers have criticized the decentralisation reform by stating *that "the room to maneuver for local boards is too small in order for the local boards to properly balance local community needs with conservation"* (Andersen et al. 2013; Auditor General 2014; Overvåg et al. 2015, 2016; Skjeggedal et al. 2016; Lundberg & Hovik 2017; Skjeggedal & Clemetsen 2017; Hovik & Hongslo 2017 in Engen 2018, 45). According to Lundberg (2017, 37), stakeholder involvement has been limited to participation in stakeholder groups (Lundberg 2017, 37). To improve the situation the Norwegian government has started three pilot experiments to develop management models with stronger representation from local interests (Fedreheim & Blanco 2017, 756).

Researchers have also brought up positive aspects connected to the Norwegian decentralisation policy. According to Fauchald & Gulbrandsen (2012, 17) the local boards may increase political commitment to nature conservation at the local level. Furthermore "*The Norwegian reform should be regarded as an experiment from which other countries might learn, rather than as a model for reform of protected areas. Four issues of particular relevance for future research and policy design stand out: the effect of improved collaboration among property owners and management authorities for achieving long-term conservation objectives; the effect of various forms of transparency on achieving these objectives; the composition, functions and impact of advisory councils; and the effect of the reform in lowering the level of conflict in protected area management.*" (Fauchald & Gulbrandsen 2012, 18).

Norwegian researchers have studied actively many social, political and socio-economic aspects of nature conservation governance. They have also brought up the underrepresentation of women as a legitimacy challenge for collaborative governance arrangements in nature conservation (Lundberg 2017). Local protected area management board members are equally divided between men and women but only 25.6 % of the advisory council members are female during the period 2015–2019 (Lundberg 2017 in Engen 2018, 49). Lundberg (2018, Abstract) concludes that "*actors at the local and national level do not regard gender equality as relevant for local participation*."

A general trend in Norway has been to delegate responsibilities from the central to the local level (Engen 2018, 40–41). Regional planning has increasingly been used as an environmental policy tool to overcome fragmentation and reconcile use and protection of natural resources, for example, concerning wild reindeer areas and coastal areas (Lundberg 2017, 39).

To improve integration between local and regional land use and conservation, and to reduce conflicts, researchers have proposed "*to transfer responsibility for protected areas to the land use planning sections where the municipalities are in charge, to include local development as an explicit goal for protected areas and occasionally open up for revision of the protection regulations.*" (Engen 2018, 46–47).

5. Iceland

Marjatta Hytönen, Rannveig Ólafsdóttir, Thorvardur Arnason

5.1. Background

Iceland is a republic with parliamentary democracy (How is Iceland... 2019). The island state is located in the Atlantic Ocean by the Arctic Circle with 357 000 inhabitants (Icelandic population… 2019). The area of Iceland is 103 000 km² (The official gateway… 2019). The length of the coastline is 4970 km (Coastline lengths 2019). The Northern Periphery and Arctic 2014–2020 Programme covers whole Iceland.

5.2. Nature protection areas in Iceland

There are various types of nature conservation areas in Iceland and the institutional arrangements connected to them are numerous. According to the homepage of the Ministry of the Environment and Natural Resources, "*there are a large number of protected areas in Iceland, to which varying rules apply depending upon the aim of the protection accorded them, the nature of the area and the accord reached with stakeholders. As a result, the classes of protection are numerous, including natural sites, national parks, nature reserves, protected areas with sustainable resource utilisation, country parks etc.*" (National Parks … 2019). Petursson et al. (2016, 13–14) refer to the situation by stating that "*in addition to formal protection, there are also other statutory and non-statutory types of land-based protection.*"

There are three national parks in Iceland. The Environment Agency of Iceland (EAI), which operates under the Ministry for the Environment and Natural Resources, manages Snaefellsjokull National Park. Vatnajökull National Park and Thingvellir National Park are independent institutions. (National Parks… 2019).

About 20 % of the terrestrial land area is formally protected in 113 individual units (Petursson et al. 2016, 14). There are further plans to expand the protected area, especially under the new Nature Conservation Act and on the basis of the Master Plan for Conservation of Nature and Utilization of Energy. (Petursson et al. 2016).

5.3. Use of local knowledge; participatory tools and participatory methods

5.3.1. Thingvellir National Park

Thingvellir National Park is located in the southwestern part of Iceland in the municipality of Blaskogabyggd about 50 km from Reykjavík. The park was established in 1928 as the first national park in Iceland. Administratively the park is under the Prime Minister's Office, and is governed by the Thingvellir Commission comprising seven members of the parliament. (Thingvellir National… 2004, 5–8).

The park was included in the World Heritage List in 2004 as a cultural landscape (Decision of the World Heritage… 2004). According to the decision of UNESCO World Heritage Committee, Thingvellir "*is the National Park where the Althing – an open-air assembly, which represented the whole of Iceland – was established in 930 and continued to meet until 1798… Located on an active volcanic site, the property includes the Thingvellir National Park and the remains of the Althing itself: fragments of*

around 50 booths built of turf and stone. Remains from the 10th century are thought to be buried underground. The site also includes remains of agricultural use from 18th and 19th centuries, the Thingvellir Church and adjacent farm, and the population of arctic char in Lake Thingvallavatn. The park shows evidence of the way the landscape was husbanded over 1,000 years." (Decision of the World… 2004). The park was enlarged and the conservation status improved with new legislation in 2004. The area of the present park is 237 km².

Participation

The management plan for the park covers the period 2004–2024. The plan was prepared by Alta consulting company (https://www.alta.is/english). The management plan is accompanied by an operational plan, which will be renewed every five years (Thingvellir National… 2004, 5). The starting point in 2003 concerning public participation is described in the management plan as follows: "*The national park consults with many bodies and parties connected to the park's work. These are primarily public bodies in the fields of archaeology, forestry, soil reclamation and other such matters subject to public administration, in addition to bodies in local and national government. In general, one may say that this consultation takes place as required, in order to resolve matters that arise in the work of the national park. There has been little consultation with other bodies connected with the national park, e.g. power companies and various public associations.*" (Thingvellir National… 2004, 24).

The preparation of the present plan started with an opinion poll of visitors to the national park and with several consultative meetings with stakeholders. A total of 78 businesses, agencies and organisations were invited to send a representative to consultative meetings, and about 100 representatives attended the meetings. (Thingvellir National… 2004, 30). An increased emphasis on public participation is outlined in the plan. (Box 14).

Box 14. Commitments dealing with cooperation and public participation in the Vision for 2024 in the Thingvellir National Park management plan 2004-2024.

"The Thingvellir National Park takes the initiative in cultivating relations with many parties and bodies connected to the park, through active and organised consultation. Thus efforts are made to avoid conflicts of interest, and synergistic effects are hoped for through the involvement of different bodies.

The national park seeks collaboration and consultation with organisations and institutions connected to the history of Thingvellir, primarily parliament and the national Lutheran church.

The national park consults with local authorities adjacent to the park, on matters where their interests may overlap, e.g. planning issues.

The national park issues rules for leisure activities such as diving, angling and horse-riding, in consultation with relevant associations, and seeks to provide for such activities, with the emphasis on spreading the load, so that minimal permanent effects result.

The national park consults with large companies located in the vicinity of the national park, e.g. power companies, with regard to common interests such as the organisation of publicity and research, flow of visitors and distribution systems.

Business within the national park is in principle run by the national park itself, or under contract with the Thingvellir Commission in those fields where experience has been gained of contracting out specified services to private businesses, e.g. catering, which the national park would otherwise clearly have to undertake itself.

The Thingvellir Commission governs national park operations. The Commission can, by contract, entrust private businesses with parts of its operation while ensuring that such services are rendered with the respect Thingvellir is due. All activities are consistent with objectives on conservation, sustainability and respect for the sanctity of Thingvellir in people's consciousness. The national park will give adequate notice of all changes which affect those whose livelihood is based upon the national park or visitors to the park, and will seek to mitigate the effects of such changes." (Thingvellir National… 2004, 25).

5.3.2. Snaefellsjokull National Park

Snaefellsjokull National Park is situated on the Snaellsnes peninsula. The park was established in 2001. The area of the park is 170 km² (Snaefellnes Regional … 2019). It is administered by the EAI (National parks… 2019). The Nature Preservation Institute is responsible for the park and its protection plans (National park… 2019). The sights within the park include Snaefellsjokull glacier, volcano and coastline (Snaefellsjokull National… 2019, National parks… 2019).

Participation

The whole Snaefellsnes peninsula is 80 km long and 10–20 km wide. The population of 3 900 lives in 5 municipalities which cover 1 461km². (Blumenthal 2014, 38–39, Snaefellsnes regional… 2019).

The inhabitants of the local communities have actively looked for means to develop the region through branding. In 2008, the five municipalities in the Snaefellsnes peninsula together with the national park obtained a joint Green Globe certification which in 2010 changed to Earth Check certification (Welcome to environmentally… 2019, Ólafsdóttir & Dowling 2014, 80–81, Snaefellsnes region-

al… 2019). In 2011, consult company Alta Consulting introduced the concept of regional park to the municipalities and local associations (Blumenthal 2014, 39). The work on the formulation of Snaefellsnes Regional Park was started in February 2011 and the Park was established in April 2014. The efforts in Snaefellsnes are based on experiences accumulated in regional parks in continental Europe, the United Kingdom and Norway. (Snaefellsnes regional… 2019).

The main aim of the regional park is to promote economic development in the area. The five municipalities and local livelihood associations are active in the park (Blumenthal 2014, 40–41). According to the regional park's vision, the park shall strengthen local identity, increase awareness of the area's uniqueness and create synergies which enhance employment and living in the area. The regional park does not receive any support from national authorities. (Blumenthal 2014, 38–39).

5.3.3. Vatnajökull National Park

Vatnajökull National Park was established by special legislation in 2008 (Petursson et al. 2016, 17–18). It covers an area of about 14 000 km² (Vatnajökull National… 2019). The park includes the entire Vatnajökull glacier with surrounding land areas (Baldursson et al. 2018, Preface). The glacier covers about 7800 km² of the park (Baldursson et al. 2018, 10).

In 2018, the park was nominated for inclusion in the World Heritage List (About the National… 2919). The nominated property, a total of 14 482 km², comprises the whole of Vatnajökull National Park and two contiguous protected areas. (Baldursson et al. 2018, 10, 184). Most of the land adjacent to the property is subject to the law on public land, where any invasive use requires approval by the Prime Minister's Office. The property is managed by the government agency "Vatnajökull National Park" (Vatnajökulsþjóðgarður). The agency operates under the Ministry for the Environment and Natural Resources. (Baldursson et al. 2018, 204, 230–231).

In 2018, altogether five persons lived within the national park permanently. Most temporary employees live within the property during their time of employment, which can range from few months in the highlands to 12 months at the busiest lowland sites. The nominated property lies within the boundaries of eight municipalities. (Baldursson et al. 2018, 223, 233).

Participation

The park is divided into four administrative regions. In each region, there are one or two park managers and a regional advisory committee. The park has a governing board which comprises seven voting members: the four chairs of the regional committees, one member nominated by environmental conservation associations, and a chair and deputy chair who are appointed by the responsible minister. Representatives of outdoor activity associations have observer status. The board is responsible for the overall operation and management of the park and allocates funding. (Baldursson et al. 2018, 230–231). According to the park's webpage, one of the main tasks of the governing board is to cooperate with public bodies, local authorities and stakeholders. (Governance 2019).

The minister appoints an advisory committee for each administrative region. The committees comprise six members each; three are nominated by local authorities, one by the tourism sector in the area, one by outdoor activity associations, and one by local environmental associations. The chair of each regional committee is a member in the park's governing board. The regional advisory committees advise the park manager and serve in a coordination role between the park management, local authorities, landowners and other stakeholders in the area. (Baldursson et al. 2018, 231–232).

The preparation of the Vatnajökull National Park Management Plan is supervised by the regional advisory committees and the park's governing board with "*a high degree of inclusion of residents,*

interest organisations, relevant institutions and other stakeholders, as appropriate" (Baldursson et al. 2018, 237). The first plan was approved in 2011. It was revised and re-approved in 2013 (Baldursson et al. 2018, 237). (Box 15).

Box 15. The relationship between municipal planning and the Vatnajökull National Park management plan.

"The Vatnajökull National Park Act no. 60/2007 stipulates that local authorities are bound by the terms of the park's Management Plan (MP) when making planning decisions relating to areas within the park. The MP is, therefore, decisive in local authority planning. It should, nevertheless, be stressed that the MP itself has been created in collaboration with the relevant local authorities and numerous other stakeholders within and outside their municipalities, ensuring local input… It is assumed that planning-related issues that have been accepted as elements of the park's MP will be incorporated into the relevant municipal and/or detail plans and elaborated further in these. Standard planning procedures will then come into play, including a democratic consultation with the public and the relevant stakeholders." (Baldursson et al. 2018, 233).

According to Arnason (2012, 224), the establishment of the Vatnajökull National Park changed the nature conservation culture in Iceland because 1) inhabitants of the communities that border on the park were given much more influence over the park´s governance than has previously been the case, 2) the park seeks to reconcile nature conservation and traditional land use to a much greater extent than previous national parks in Iceland, and 3) the park´s management plan places considerable emphasis on the park´s role in sustainable rural development, in addition to the traditional roles of protecting nature and facilitating outdoor recreation of tourists. Petursson et al. (2016, 17–18) describe the governance structure of the park as "*a co-management governance system giving local government and civil society a formal role in its governance, decision making and executive action alongside the state.*" (Petursson et al. 2016, 17–18).

5.3.4. The Master Plan for Nature Protection and Energy Utilization

The Master Plan is a mechanism to resolve conflicts between nature conservation and natural resource utilisation for energy development (Petursson et al. 2016, 18–19). The plan classifies potential energy sites into "utilisation category", "hold category" or "conserve category". Areas within the "conserve category" are protected from energy utilisation under the Nature Conservation Act and within the government's formal protected area regime. (Petursson et al. 2016, 18–19). The methodology of the Master Plan is under continuous development and is adapted to the tasks at any particular time. (The Master Plan… 2019).

Participation

According to Petursson (2016, 18–19), the Master Plan has been a seminal conflict resolution instrument in the challenging debates between nature conservation and energy production. The steering committee on the Plan consists of six persons and it is appointed by the Minister for the Environment and Natural Resources for a term of four years at a time. (The Master Plan… 2019). The steering committee is responsible for making sure that "*the utilisation of geographical areas where there are power plant options is based on long-term views and on a comprehensive assessment of interests.*" (On the steering committee 2019). The steering committee has two tools at its disposal to perform its duty (On the steering committee 2019):

1. The steering committee receives advice from the expert committees that consist of specialists in various fields. The steering committee decides on the number and the subjects for the expert committees and selects the representatives for these committees.

2. The steering committee seeks consultation with interested parties, public agencies, the public and non-governmental organisations during various phases of the work on the Master Plan as prescribed in the Master Plan Act (48/2011).

The steering committee and expert committees need to take many types of utilisation and interests into consideration in their work. These include culture, historical relics, travel industry, tourism and outdoor life, hunting and fishing, grazing resources and other soil resources, macroeconomic issues, economy and regional development, and public health (Other landuses… 2019).

5.4. Use of local knowledge by regional authorities; participatory tools and methods

5.4.1. Regional authorities

Iceland has two administrative levels of government: the state and the local authorities. At national level, the National Planning Agency under the Ministry of the Environment is responsible for the administration, monitoring and implementation of the legislation regulating planning. The Agency is responsible for the national planning strategy, which presents national guidelines for land use at the local level. It is also responsible for assisting and advising local authorities in preparing and reviewing local spatial plans. (The spatial planning… 2019, 2).

Iceland is divided into 74 municipalities (Baldursson et al. 2018, 233). Since 1973, all local authorities in the country have been members in the Icelandic Association of Local Authorities (Icelandic Association… 2019). In addition to belonging to the Association of Local Authorities in Iceland, the municipalities operate eight regional associations of local authorities (Local Governments… 2019, 15).

5.4.2. Regional and local land use planning

Spatial planning in Iceland is carried out at national, regional and municipal levels. The National Planning Strategy and municipal plans are mandatory while regional plans are optional, except for the capital region. (Baldursson et al. 2018, 233).

The National Planning Strategy was approved for the first time by the Parliament in 2016. It is a new tool for coordinating all planning work in Iceland. Its aim is to ensure coordination of spatial planning at regional and local levels. (Baldursson et al. 2018, 232).

The voluntary regional plan has no corresponding administrative level. Two or more local authorities have the option to join forces voluntarily to create a common regional plan across municipal boundaries to coordinate policies in the region over a period of at least 12 years. (The spatial planning… 2019, 2).

The key planning instrument in Icelandic spatial planning is the municipal plan, which requires the approval of the municipal council and the Ministry for the Environment and Natural Resources. The plan defines policies concerning land use, transportation, environmental matters and the development of settlements in the municipality. The municipal plan is accompanied by local plans, which are more detailed development plans for specific areas. (The spatial planning… 2019, 2).

Participation

Planning and Building Act (1997, 1999) included rules for public participation. According to the planning requirements, *"when development plans are prepared, every effort shall be made to seek the viewpoints and proposals of the inhabitants and others who have interests to defend regarding the formulation of policy and the objectives of the development plan"* (Planning and Building Act 1997, 1999, Article 9). The Icelandic planning legislation was reformed in 2010 and a new Planning Act no 123/2010 was released. New regulations for the content, presentation, consultation and procedures regarding land-use policy were published in 2011. (OECD Environmental… 2014, 41).

The Ministry of Transport and Local Government, which is responsible for rural policy, informs about the regional plans of action that provide a context for the information provided by the land use plans (Box 16).

Box 16. Public participation in Regional plans of action (Regional plans… 2019).

"Regional plans of action are strategic plans that include the jurisdictions of regional Associations of Local Authorities. They consist of an assessment of the situation of the region, a future vision, specific targets and actions aimed at achieving those targets.

Regional plans of action set out regional priorities that take into account the main objectives of the regional development programme, national land use policy, regional and detail plans, cultural policy and other public policies as the case may be. The governmental steering committee of regional development provides support for regional Associations of Local Authorities in preparing plans of action and in negotiations between the Associations and Ministries.

Regional plans of action are drafted in a consultative forum in each region, which involves the following parties: local authorities, government agencies, private sector representatives, cultural organisations, the academic community and other stakeholders in the respective regions."

5.4.3. Katla Geopark

Katla Geopark was accepted into the Global Geopark Network (GGN) in September 2011. The park lies in southern Iceland and covers 9542 km². The geopark is situated in three municipalities with total population of around 2700. (Katla Geopark… 2010, 6–7, Ólafsdóttir & Dowling 2014, 77).

The GGN was established by UNESCO in 2004. *"The GGN is an international, non-governmental, non-profit and voluntary network with a mission to influence, encourage and assist local communities worldwide to conserve the integrity and diversity of abiotic and biotic nature. It also ensures the sustainable use of natural resources as well as the support of economic and cultural development for local communities. The GGN seeks to enhance the value of territories designated as geoparks and at the same time create employment and promote regional and local economic development."* (Ólafsdóttir & Dowling 2014, 73). The Global Geopark brand is a non-statutory label denoting quality. The special heritage sites within a geopark are protected under local, regional or national legislation. (Ólafsdóttir & Dowling 2014, 73). A geopark is thus a "global marketing concept" (Ólafsdóttir & Dowling 2014, 71).

Participation

The preparation for Geopark started in 2008 with a project led by the South Iceland University Centre. The founding organisations of the Katla Geopark Project were the three municipalities, the Uni-

versity Centre of South Iceland, Skógar museum, visitor centre Kötlusetur, cultural centre Kirkjubæjarstofa and the University of Iceland's Institute of Regional Research Centres. The three tourist information centres run by the municipalities in the villages Kirkjubæjarklaustur, Vík and Hvolsvöllur are the main Geopark offices. The cooperation between the municipalities and involved organisations is called Katla geopark Project. (Katla Geopark… 2010, 4–7).

In 2017, Katla UNESCO Global Geopark commissioned Dutch architecture and landscape architecture firm NOHNIK to conduct a participatory planning process to create Destination Management Plan (DMP) for the Geopark (The Katla Geopark… 2017, 9). The stakeholders in the process included representatives of the municipalities, tour operators and tourism industries, inhabitants, land-owners and representatives of the Vatnajökull National Park. The process of developing the DMP was structured by organising three workshops with all participants. (Destination Management… 2017). The DMP helps the three municipalities to see how they could collaborate to organise and finance the different management projects, and to clarify who is responsible for the implementation of the different actions as outlined in the plan (The Katla Geopark… 2017, 230).

5.5. Concluding remarks, trends and challenges

There are various types of nature conservation areas in Iceland, and the rules and institutional arrangements connected to them vary a lot. For example, the three national parks of Iceland have different organisational structure and management system. The organisational complexity "*creates a coordination challenge and a risk that knowledge of and capacity for conservation management becomes scattered*" (Petursson et al. 2016, 20).

The centralised approaches to nature protection have led to increased demand for participation possibilities for stakeholders who live close to conservation areas. Petursson et al. (2016, 21–22) mention as important examples of positive development the innovative co-management arrangements in Vatnajökull National Park and the participatory processes included in the Master Plan for Conservation of Nature and Utilization of Energy.

Conflicts between nature conservation and energy development proposals have been common in Iceland during recent decades. The competing interests of tourism and the energy sector are also creating tensions. (Petursson et al. 2016, 15, 19). In these debates, the importance of national parks for tourism has been increasingly used as an argument for nature protection (Benediktsson & Thorvardardottir 2005, 341). Because of the growing numbers of tourists, protected areas are nowadays regarded as "*a major natural resource base for tourism, and currently a key driver of the Icelandic economy*" (Petursson et al. 2016, 16). The economic importance of the national parks is illustrated also by a recent study of Siltanen (2017).

People are moving away from rural areas in Iceland, also the surroundings of national parks are affected by out-migration and ageing population (e.g. Benediktsson & Thorvardardottir 2005, 340, Snaefellnes Regional… 2019). Investments in tourism are one way to counteract this development. Snaefellsnes Regional Park and Katla Geopark are examples of municipality-based development and branding efforts to create new livelihoods including tourism.

Especially the unique geological resources of Iceland offer possibilities for tourism development. Ólafsdóttir and Dowling (2014) have collected information on nine potential geotourism areas, including Reykjanes peninsula which was included in the Unesco Global Geopark Network in 2015 as the second geopark in Iceland.

6. Greenland

Marjatta Hytönen, Hans Holt Poulsen, Karl Zinglersen

6.1. Background

Greenland was a colony of Denmark until 1953 (Politics in Greenland 2019). Since then Greenland has become an "*autonomous country*" within Denmark, which means, among other things, that the government of Greenland has overall management responsibility and the right of self-determination over biodiversity and living resources (Schütz 2018).

The population of Greenland is 55 992 with 17 984 inhabitants living in the capital Nuuk (Grønlands befolkning 2019). The indigenous Inuit people constitute 85 % of the population while the others are primarily Danes (Facts about Greenland 2019).

The total area of Greenland is 2 166 086 km² (Facts about Greenland 2019a). Inland ice and glaciers cover 1 755 637 km² (Facts about Greenland 2019b). The length of the coastline is 44 087 km (Coastline lengths 2019). No land in Greenland can be owned privately, but "right to use" contracts can be made to specific areas (Weber et al. 2017, 17, Nomination of Aasivissuit – Nipisat… 2017, 26).

6.2. Nature protection areas in Greenland

Nature conservation issues are taken care by the Department of Nature and Climate which is organisationally under the Ministry of Nature, Environment and Research. The responsibilities of the Department include conservation and management of particularly vulnerable natural areas and management of the Northeast Greenland National Park. (Department of Nature… 2019).

There are three different types of protected areas in Greenland: national parks, nature reserves and protected areas. *"In practice there is no difference in how the three types of protected areas are managed, and in recent years, there has been a movement away from using the designations of National Park and Nature Reserve for newly designated areas"* (Protected areas – Greenland 2019). It is possible to move about, fish and hunt in most of the protected areas. Altogether 12 nature conservation areas are listed and described on the webpage of the Department of Nature and Climate. (Protected areas – Greenland 2019).

6.3. Use of local knowledge by the Department of Nature and Climate; participatory tools and methods

6.3.1. Northeast Greenland National Park

The park was established in 1974 (National Parks of Denmark… 2019). It is managed by the Department of Nature and Climate (Department of Nature… 2019). The park covers an area of 972 000 km². The area includes the entire north eastern part of Greenland and 18 000 km of coastline. Along the coast there are remains of ancient Inuit settlements. (The National Park 2019).

The Park became a Biosphere Reserve in 1977 (Tommasini 2016, 127–128). In 2018, the Government of Greenland decided to withdraw the park from the World Network of Biosphere Reserves, because the park does not fulfill the criterion according to which the reserve should be permanently inhabited (Naalakkersuisut afmelder… 2018).

Participation

The entrance to the park is situated in the coastal village of Ittoqqortoormiit with 452 inhabitants (Tommasini 2016, 131, 137). The access to the park is regulated by an executive order from the government. Only local people, public authorities and persons working within the park are permitted to have access to the area (Executive order… 1999, § 21). To enter the park visitors need to obtain a permit from the Ministry of Nature, Environment and Research (The National Park 2019).

6.3.2. Ilulissat Icefjord World Heritage Site

Ilulissat Icefjord is a fjord located on the west coast of Greenland 250 km north of the Arctic Circle. The area was listed on UNESCO's World Heritage List in 2004 as a natural heritage site. The size of the site is 4024 km². No permanent settlements are allowed in the area. (Ilulissat Icefjord… 2019). Ilulissat Icefjord Office, which is situated in the settlement of Ilulissat in Avannaata municipality, is responsible for the daily management of the site. Ilulissat is the third largest town in Greenland with population of 4413 persons (Population of Cities… 2019). The heritage site is being developed as tourism destination. (Administration 2019).

Participation

The administration plan for the site was prepared in 2009 by the Ilulissat Icefjord Office in cooperation with the government of Greenland. The plan was compiled in dialogue with interest groups and the population of Ilulissat, who had the opportunity to contribute to the plan through meetings. (Forvaltningsplan for Verdensarvsområdet… 2009, Preface).

The Agency for Culture and Palaces of Denmark has the overall responsibility for the WHS in relation to UNESCO. The government of Greenland is involved through the Department of Nature, Environment and Research in the management of the area. The daily management is undertaken by the municipality Avannaata. (Management plan for Ilulissat… 2019, 49). Cooperation with the national authorities and municipal actors is coordinated by a steering committee, which comprises:

- a representative of the Agency for Culture and Palaces of Denmark
- a representative of the Department of Nature, Environment and Research
- the site manager from the municipality of Avannaata
- a representative of Business Administration, Mining and Tourism, municipality of Avannaata
- a representative of Infrastructure, Construction and Environment Management, municipality of Avannaata. (Management plan for Ilulissat… 2019, 49–50).

The steering committee's tasks include the periodic reporting to UNESCO (Management plan for Ilulissat… 2019, 50). The Periodic Report includes questions concerning public participation and cooperation. (Box 17).

Box 17. Questions and answers dealing with public participation and cooperation in the Periodic Report to UNESCO (Ilulissat Icefjord Periodic… 2013).

4.3.8 - If present, do local communities resident in or near the World Heritage property and / or buffer zone have input in management decisions that maintain the Outstanding Universal Value?
Local communities directly contribute to some decisions relating to management

4.3.9 - If present, do indigenous peoples resident in or regularly using the World Heritage property and / or buffer zone have input in management decisions that maintain the Outstanding Universal Value?
Indigenous peoples directly contribute to some decisions relating to management but their involvement could be improved

4.3.10 - Is there cooperation with industry (i.e. forestry, mining, agriculture, etc.) regarding the management of the World Heritage property, buffer zone and / or area surrounding the World Heritage property and buffer zone?
There is little or no contact with industry regarding the management of the World Heritage property, buffer zone and / or area surrounding the World Heritage property and buffer zone

4.3.11 - Comments, conclusions and / or recommendations related to human resources, expertise and training…
4.3.3.2 **The coordination between local and Greenlandic national level is good. The coordination involving Denmark as official state party is more complex. From a local perspective, Ilulissat/ Greenland is not always regarded equal partner, compared to the other Danish sites (i.e. lack of funding in common projects).This relationship will be strengthened if the national level (Denmark) takes greater account of the specific conditions in Greenland when searching funds or arranging meetings.**

The site manager for Ilulissat Icefjord is employed by the municipality of Avannaata. The duties of the manager include involving local citizens and schools in different activities, preventing and resolving conflicts about the use of the area, holding annual "Icefjords Day" and dialogue with tourist operators. Since 2009, the municipality has employed also one park ranger. I addition, other municipal employees work to varying degrees with the WHS, for example in construction projects. (Management plan for Ilulissat… 2019, 50–51).

6.3.3. Kujataa World Heritage Site

The Kujataa WHS was inscribed on UNESCO's World Heritage List in 2017 as a cultural heritage area (This is why south Greenland… 2019, Kujataa – a subarctic… Management… 2016, 10). The WHS is located in the municipality of Kujalleq in South Greenland close to Qaqortoq, which is the fourth largest town in Greenland with the population of 3224 persons (Population of cities… 2019). The area is made up of five parts representing the farming community based on a combination of animal husbandry and marine mammal hunting established by Norse colonists in the 10th century AD and continued to this day by Inuit farmers. (Kujataa – a subarctic… Management…2016, 6). The estimated number of inhabitants within the area was 151 in 2015 (Kujataa – a subarctic… Nomination… 2016, 202).

Participation

The Danish Agency for Culture and Palaces has the overall responsibility for the nominated World Heritage area in relation to UNESCO. In Greenland the responsibilities for the area are divided be-

tween the government of Greenland, the Greenland National Museum and Archives and Kujalleq Municipality. (Kujataa – a subarctic… Management… 2016, 10).

The inhabitants of the municipality of Kujalleq were involved in the preparation of the management plan for the area through public meetings and visits to selected sheep farms (Kujataa – a subarctic… 2016, Foreword). One of the aims of the management plan is to "*create a sound and sustainable balance between the various uses and interests associated with the area*" (Kujataa – a subarctic… Management… 2016, 9).

According to the management plan, the steering group of the area has two members from Kujalleq Municipality, two from the government of Greenland, two from the Greenland National Museum and Archives and one from the Danish Agency for Culture and Palaces (Kujataa – a subarctic… Management… 2016, 11).

The daily activities in the area are taken care by a site manager in cooperation with a park ranger and the management group of the WHS. The management group is proposed to consist of representatives from local administration and interest groups. (Kujataa – a subarctic… Management… 2016, 12). (Box 18).

Box 18. The proposed composition of the representatives in the management group of the Kujataa WHS (Kujataa – a subarctic… Management… 2016, 12).

1. One Greenland National Museum representative for archaeological matters
2. One Greenland National Museum representative for historic buildings
3. One Kujalleq Municipality representative for the local museums in the municipality
4. One Kujalleq Municipality representative from the business/tourism sector
5. One Kujalleq Municipality representative for public works and the environment
6. One member from the cooperative Sheep Farmers' Association SPS, representing local sheep farmers
7. One representative from the joint settlement council/office in Igaliku
8. One representative from the joint settlement council/office in Qassiarsuk
9. One representative from the joint settlement council/office in Narsarsuaq
10. Site manager

The management plan also includes plans to establish local interest groups. The role of an interest group is described the following way: "*The group shall, when nomination of the World Heritage area has taken place, consist of citizens with a special interest in being involved in the development of the future World Heritage area, such as sheep farmers, tradesmen (carpenters, plumbers, electricians etc.) and tourism businesses. Communication shall take place primarily through meetings in the local area as well as through (electronic) newsletters and other means of online communication*." (Kujataa – a subarctic… Management… 2016, 13).

6.3.4. Aasivissuit –Nipisat World Heritage Site

The area was inscribed on UNESCO's World Heritage List in 2018 as a cultural heritage site. The site covers 4178 km² and is situated just above the Arctic Circle on the west coast of Greenland in the municipality of Qeqqata. The 235 km long and 20 km wide area extends from the sea in the west to the ice sheet in the east. The area is owned by the government of Greenland. (Nomination of Aasivissuit – Nipisat… 2017, 8–9, 17).

The site contains the remains of 4 200 years of human activities including buildings, structures and archaeological sites (Aasivissuit – Nipisat… 2019). Seven of the best preserved and most accessible of the historical sites have been selected as key localities (Nomination of Aasivissuit – Nipisat… 2017, 12).

Sarfannguit is the only inhabited settlement in the heritage site. In 2016, Sarfannguit had 113 inhabitants. The principal occupations in the settlement are fishing and hunting. (Nomination of Aasivissuit – Nipisat… 2017, 12, 42, 68, 81). The two nearby settlements involved in the management of the heritage site are Sisimiut on the coast and Kangerlussuaq close to the inland ice sheet. Sisimiut is the second largest settlement in Greenland with its 5227 inhabitants (Population of Cities… 2019). Kangerlussuaq has about 500 inhabitants and is the homestead of one of the largest airports in Greenland (Kangerlussuaq in Greenland… 2019).

Participation

The municipality of Qeqqata has the responsibility for the planning, protection and use of the WHS. The main responsibility within the government of Greenland is invested with the Ministry of Education, Culture, Research and Church. The Agency for Culture and Palaces in Denmark has the overall responsibility for the WHS in relation to UNESCO. (Nomination of Aasivissuit – Nipisat… 2017, 17).

According to the management plan, the steering committee of the WHS has four representatives from the settlements of the municipality of Qeqqata, four from ministries of the government of Greenland, one from the Greenland National Museum and Archives and one from the Agency for Culture and Palaces in Denmark. The area's site manager functions as secretary for the steering committee. (Nomination of Aasivissuit – Nipisat… 2017, 18).

The site manager is situated in the Qeqqata Municipality's Office of Sustainability. The site manager's duties include contacts with the local population including holding of public meetings, and cooperation with interest groups and stakeholders including the setting up of ad hoc working groups. The site manager appoints one or more park rangers. (Nomination of Aasivissuit – Nipisat… 2017, 18–19).

A series of workshops were held during formulation of the nomination material involving residents in Sarfannguit, Kangerlussuaq and Sisimiut. In addition, interviews were recorded with a number of inhabitants who have experienced the development of the area and its use over time. (Nomination of Aasivissuit – Nipisat… 2017, 95). (Box 19). The management plan for the site was also drafted in cooperation with relevant stakeholders and the inhabitants of Qeqqata Municipality (Nomination of Aasivissuit – Nipisat… 2017, Preface).

Box 19. The chapter "Inclusion of the local population" in the management plan of the Aasivissuit –Nipisat World Heritage Site.

"With the inclusion of local people in the nomination process, the foundation has been laid for the continued involvement of the local population in the management of the nominated property… It is expected that the app project outlined in the section on monitoring will ensure the continued involvement of users of the area.

In connection with the nomination process of Aasivissuit – Nipisat as a UNESCO World Heritage Site, a resident inclusion group was formed by Qeqqata Municipality. In order to involve residents in the project, the group has, since 2011, arranged exhibitions, public meetings, workshops, interviews, meetings with interested parties and lectures. Communication has taken place primarily via the project's Facebook page and local media.

A municipal council meeting on the project was held in 2010 and subsequently several public meetings have been held in Sarfannguit, Kangerlussuaq and Sisimiut. In January 2016, a meeting was held for the residents in the old people's home in Sisimiut, as well as a workshop and an exhibition in the cultural centre Taseralik in Sisimiut. At this workshop, local residents spoke about life in the now abandoned settlements in Aasivissuit – Nipisat, and the nomination group gave a talk about the history, the fauna and tourism in the nominated property. In June and October 2016, similar workshops were held in Kangerlussuaq and Sarfannguit. Here there was a focus on tourism, and the development of sustainable tourism in Aasivissuit – Nipisat was enthusiastically discussed. Through group discussions at the three workshops, a knowledge exchange was established between local users of the area and the nomination group.

In addition to the above-mentioned initiatives, people have been invited to send in suggestions for the name of the nominated property, as well as their own photographs. Drawing competitions for children have also been held. Hunters and older people have been interviewed and some of the resulting material has been included in the production of a short documentary. All the events were well attended and residents have been very receptive of the idea of having Aasivissuit – Nipisat inscribed on UNESCO's World Heritage List. The nomination group has obtained valuable information through the dialogue with residents, in particular hunters and tourist operators." (Nomination of Aasivissuit – Nipisat… 2017, 95).

The "app project" mentioned in Box 19 refers to developing a communication app for smartphones and the like so that visitors to the WHS can submit their experiences about local conditions to the site manager and park rangers. Another objective is to enable the collection of hunting stories and other experiences via the app to "*integrate the Greenlandic story-telling tradition into its active presentation.*" (Nomination of Aasivissuit – Nipisat… 2017, 94).

6.4. Use of local knowledge by regional authorities; participatory tools and methods

6.4.1. Regional authorities

As a result of the administrative reforms in 2009 and 2018 the former 18 municipalities of Greenland have been consolidated into five large ones: Kujalleq, Sermersooq, Qeqqata, Qeqertalik and Avannaata. A municipality in Greenland is an administrative district containing a number of commu-

nities and encompassing vast expanses of trackless wilderness, including large parts of the ice sheet. (The Necessity of Close… 2017, 10).

The government of Greenland is the regulatory authority with the power to issue national planning directives or requiring municipalities to formulate a specific plan. Otherwise, the responsibility for planning lies with the municipalities. (Nomination of Aasivissuit – Nipisat… 2017, 26). Legislative context for land use planning is provided by the Act no. 17 of 17 November 2010 on planning and land use (the Planning Act) (Nomination of Aasivissuit – Nipisat… 2017, 25).

In Greenland there is no private ownership of land. Instead of owning land, people are granted land use permits giving them the right to use an area for a specific purpose such as housing, business or storage. (The Necessity of Close… 2017, 97).

6.4.2. Regional and local land use planning

The Planning Act (2000) states that the Government on Greenland must submit a report on the national planning to Inatsisartut (Greenland Parliament) at least every four years. (National Planning 2019). "*The national spatial planning reports are specifically designed to foster transparency and identify a number of underlying conditions and tendencies. Based on these reports, it is the job of politicians, both in the municipalities and in parliament, to make decisions on the path that we wish to take to achieve our common political objectives.*" (The Necessity of Close… 2017, 7–8). The most recent National Spatial Planning Report "The Necessity of Close Collaboration" was published in 2017. The Report includes a description of the key elements of national spatial planning and municipal planning in Greenland (The Necessity of Close… 2017, 104).

The municipal plan is compiled by the municipalities every fourth year. Residents' rights concerning land use are specified in the municipal plan. The plan serves as the legal foundation for the land use permits that are granted by the local administration. The municipalities also compile more detailed sectoral plans which supplement the municipal plan. (The Necessity of Close… 2017, 81–82).

Participation

The Planning Act (2010) includes statements concerning social aspects and public participation. The aims of the Planning Act are:

1) protection of nature

2) a socially appropriate ratio between open land and the built environment

3) land use that, in planning terms, promotes commercially, socially and environmentally favourable development

4) involvement of the public in the planning of land use

5) harmonisation of points 1–4 in decisions made within the framework of physical and economic planning. (Kujataa – a subarctic… Management… 2016, 22–23).

National Spatial Planning Report is the result of three-year prioritisation process which has included a wide range of stakeholders. A purpose of the report is to enhance cooperation and coordination among, and in dialogue with, the individual departments in the administration, the municipalities, non-governmental organisations, citizens and other stakeholders. Another aim of the report is to foster transparency in the physical and economic planning to enable cooperation among stakeholders. (The Necessity of Close… 2017, 7–8).

Municipal plans are approved by the municipal council after at least six weeks of public consultation (Nomination of Aasivissuit – Nipisat… 2017, 26). The national NunaGIS gives the municipalities access to centralised data for use in local analyses (Weber et al. 2017, 30). It is *"an online atlas of maps from across Greenland, designed to ensure easy public access to high-quality spatial data, and so enable continuous public involvement in planning processes. It is possible to view national maps as well as more detailed maps of different municipalities. By zooming in, viewers can also access aerial photos of towns and villages. It is possible to access geographical information related to land stock, buildings, roads, national planning directives, animal monitoring, land allotments, licences, etc.*" (Weber et al. 2017, 17). NunaGIS has been developed by the government-owned company Asiaq (Greenland Survey) (www.nunagis.gl/en, 2.4.2019).

6.5. Concluding remarks, trends and challenges

Over the past 75 years the people in Greenland have increasingly moved into larger communities (The Necessity of Close… 2017, 38–39, Grønlands befolkning 2019). For example, about 100 persons have left the village Ittoqqortoormiit on the east coast close the Northeast Greenland National Park during the last few years, although tourism is growing in importance in the region. (Tommasini 2016, 138–139). The whole Greenland has experienced emigration abroad for more than 40 years, and it is expected that the population will still decrease about 7 % from 2017 to 2040. (The Necessity of Close… 2017, 42–43, Greenland Population 2019).

Greenland's approach to nature conservation has traditionally been focused on species conservation and harvesting regulations (Tommasini 2016, 141). The establishment of protected areas has been based on protection of unique habitats or ecological representativeness (Tommasini 2016, Abstract). The recent establishment of the three World Heritage Sites is changing the situation. The sites have been planned cooperatively, the documents compiled for UNESCO contain a lot of up to date information and the Periodic Reporting process will contribute to follow up and monitoring. The sites can also serve as recreation areas for the nearby settlements and as tourist attractions.

According to Weber et al. (2017, 30), spatial planning in Greenland has recently become more flexible. Municipal planning has shifted its focus away from sectoral planning to the services that municipal councils intend to offer to local citizens (The Necessity of Close… 2017, 81–82).

7. Faroe Islands

Marita Svartá, Gestur Hovgaard, Ragnheiður Bogadóttir, Marjatta Hytönen

7.1. Background

The Faroe Islands, or the Faroes, is a parliamentary democracy, with a population of about 51 000 inhabitants and a land area of 1399 km². The 18 islands in the Faroes are of volcanic origin, characterised by mountains, steep cliffs and narrow fjords (Faroe Islands… 2019). The Faroes is a self-governing archipelago, encompassed by the "*external sovereignty of the Kingdom of Denmark*", which gives competence to legislate and govern independently in a wide range of areas including nature conservation and protection of the environment (Faroe Islands… 2019).

7.2. Nature Protection areas in the Faroes

Only three areas are formally protected in the Faroes: Mølheyggjar (1983), Frammi við Gjónna (1983) and Fjallavatn (1988). According to the Faroese law of nature preservation from 1970, these areas should remain free of human made structures and should be allowed to retain their aesthetic appearance. The protection also entails that it is not allowed to collect materials such as sand, stone, soil, flora and fauna in these areas, but certain agricultural activities are allowed.

There are also other forms of nature protection and conservation areas, for example archaeological and heritage sites. The island of Koltur is an example of a designated local heritage area.

Whether an area is worthy of protection under the nature preservation law is initially considered and decided by the designated local nature preservation committee which also determines the terms and conditions of conservation. The designated national committee of nature preservation (Yvirfriðingarnevndin) must formally affirm all decisions taken by the local nature preservation committee. The Ministry of Health and the Interior administers the law on nature preservation and the minister appoints the majority of the members in the local committees for a period of six years whilst the majority of the members in the national committee are determined directly in the law by virtue of their formal positions in public administrative organisations and bodies. For example, the law stipulates that the Judge of the Faroe Court of Justice shall chair the national committee. With a newly proposed law, the so-called "law on administration of biodiversity", changes will be made regarding nature protection, but today (June 2019) it is still unclear whether the new law will pass, and how it will be administered.

Several international treaties give the Faroes obligations (Ríkari framtíð… 2006, 9):

- International Convention for the Regulation of Whaling (1946)
- Convention on Wetlands (The Ramsar convention, 1971)
- Convention on Migratory Species of Wild Animals (Bonn convention, 1979)
- Convention on Biological Diversity (1992)
- Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsingfors-convention, 1992)
- Convention for the protection of the marine environment of the North-east Atlantic (Ospar-convention, 1992).

The Ramsar convention has recently (April 2018) resulted in an executive order to protect birdlife on the islands of Mykines, Nólsoy and Skúvoy from the negative effects of marine traffic (The Faroe Islands… 2012). The order prohibits boats to sail faster than 8 miles an hour in a 500-meter radius around the islands from April 15th – August 31st. The unnecessary noise such as loud music and water scooters is also forbidden in this period (Verja av fugli… 2018).

7.3. Use of local knowledge by the national protection committee

7.3.1. Planning situation

There often occur conflicts between planning authorities and local stakeholders. The area of Mølheyggjar on Sandoy island is an example of how not involving local actors in the decisions and processes of protecting an area can result in a conflict between national and local interests.

7.3.2. The case of Mølheyggjar

In 1970, the national committee of nature preservation registered the sand dunes called Mølheyggjar, an area on the beach in the village of Sandur on the island of Sandoy, as a protected area. Some years later, the committee wanted to expand the protected area to include the surrounding area of the sand dunes. The surroundings were included in the protection in 1981, and formally and publicly announced in 1983.

The protection encompasses an area of about ½ square kilometres. The sand dunes are protected because of their remarkable nature with valuable flora in chalky shell sand (Rørbo 2004, 131–132). Furthermore, some species of spiders are registered at Mølheyggjar as their only known location in the Faroes (Lissner 2011).

The intention was to protect the area against threats such as removal of shell sand for growing potatoes or for making concrete to build houses (Rørbo 2004, 131–132). Leisure activities such as All-Terrain Vehicle (ATV) -riding that pose a threat to the sand dunes are also prohibited.

It is common knowledge that destructive activities (i.e. removal of sand, bonfires, ATV-riding) have been taking place several times after the protection of Mølheyggjar was formally announced (Rørby 2004, 131–132, Laursen 2014). Many locals seem to ignore the protective terms given for Mølheyggjar and the surrounding area. It seems to be unclear which authority has the responsibility to insure the protected area from destructive activities (Laursen 2014). The law itself does not regulate which authority has the supervisory duties.

In connection to our studies included in the BuSK project, we have made several interviews with people working in institutions involved in land use planning at national and local level. Our interviews show that some people in the municipality of Sandur feel the protected area to be an enforced national initiative, which mainly creates obstacles for land use development in the municipality since they are not allowed to do anything on the protected area. They do not agree on the value nor the reason for the protection of Mølheyggjar. On the other hand, there are also local voices that argue for the value of keeping these protected areas protected. Same kind of local divisions also apply to other sites that are protected for archaeological and heritage reasons in Sandur, and are also recognisable elsewhere in the Faroes. This exemplifies the need for a more coherent national policy on nature preservation and protection, and the need for better understanding between national and local interests on key issues of land use.

7.4. Use of local knowledge by regional authorities; participatory tools and methods

7.4.1. Regional authorities

The jurisdiction of land use planning and natural resource governance is mainly administered by the Ministry of Health and the Interior and its subsidiary institutions including the Environment Agency. Several jurisdictions managed by other ministries also affect land use planning concerning, for example, agriculture and tourism.

The Faroes have currently a scattered framework for land use planning. There is the law of nature preservation from 1970, an environmental law from 1988 and the law of statutory planning from 1954. Together these set the current framework for land use planning in the Faroes, and are mostly administered by the Environment Agency.

The Faroes are divided into 29 municipalities, which act as the local planning authority. The capital Tórshavn is the largest municipality with about 23000 inhabitants, the second largest town is Klaksvík with around 5000, and the third is Runavík with 4000 inhabitants. Nine municipalities have between 1000 and 2500 inhabitants, and the rest only a few hundred or less than fifty inhabitants.

7.4.2. Regional and local land use planning

There is no overall strategic masterplan for land use planning or for natural resources on the Faroe Islands (Nielsen 1980, Rørbo 2004, own interviews). The law of statutory planning (1954) states that the municipalities have local planning authority and are obliged to make a land use plan for the registered infield area. The outfield area, that is the uncultivated land area outside villages and towns, is not included in the plans made by the municipalities (Nielsen 1980, own interviews).

The capital of Torshavn is directed by legislation to make an overall town plan whilst the other municipalities are directed to make local town plans (Nielsen 1980). Although the legislation was established in 1954, it was not until after 1974 that it had its effect and municipalities began to make local town plans. Today all municipalities have an approved local town plan.

Participation

After the municipalities have made new town plans or adjusted old plans, they are required to conduct a hearing about the plan, allowing local actors and stakeholders to make their remarks and complaints. Hence, local actors and stakeholders have the possibility to comment on town plans in writing under the consultation period. The consultation process does not open up for mutual dialog nor using local knowledge as a basis for future land use planning (Hovgaard & Bogadóttir 2018).

After the consultation period, the plan is sent to the national council of town planning for evaluation. The council evaluates the plan and recommends whether it can be approved or dismissed. Hereafter the Minister of Health and the Interior will receive the plan together with the council's evaluation, and as the highest planning authority is the final approval authority in the matter. According to the law, the Ministry can also use its provisions to coordinate planning issues that cross municipal borders.

7.5. Concluding remarks, trends and challenges

In the Faroes national protective initiatives are mostly defined by the ratification of international treaties. However, it sometimes seems to be unclear which Faroese ministries and institutions have the responsibility to implement the commitments that are defined in the international treaties. Therefore, many of the international obligations are not properly implemented in the Faroese planning system (own interviews). Thus, there is a need for better implementation of international treaties in the Faroese legislation, so that vital international obligations are more clearly administered and supervised by the executive government.

The involvement of local actors and stakeholders in the Faroese planning processes is, with a few exceptions, critically low. Combined with the outdated and scattered legislation in land use planning and management of nature resources, this often leads to conflicts between planning authorities, local actors and stakeholders as has happened in the area of Mølheyggjar on Sandoy island. Even though the Faroes have a well-developed physical and digital infrastructure, the location of planning areas under several different ministries calls for a national master plan, and also for better coordination tools and efforts between local and national planning authorities.

The current land use planning initiatives are often heavily influenced by powerful private interests resulting in planning initiatives that do not take into account other local interests nor national requirements for environmental protection. Our BuSK case study shows that the planning authorities in general do not consider how to include local knowledge and local interests in planning processes. Even though most authorities have started to work with GIS, the discussion goes on how to streamline formalistic or top-down oriented planning processes. Thus, there is a need for an overall discussion about the democracy issues that arise when using tools such as GIS and about democratic planning processes in general (Hovgaard & Bogadóttir 2018).

Land use planning and natural resource governance is not a prioritised jurisdiction in the Faroe Islands, although currently a much discussed issue. As a small archipelago, the Faroes share many characteristics with other small islands of the world which call for new planning systems and procedures. Among the characteristics are the major difficulties deriving from highly intensified natural resource extraction and from the increased interdependencies of specialised and strong economic interests. In the Faroes, this race for land use is recently seen in the developments of large-scale industrial production in fishing and aquaculture, and in increased tourism.

8. Conclusions

Public participation practices

Public participation practices have developed in all the involved countries during recent decades. In Finland, the state forest management agency Metsähallitus has played a central role in developing public participation procedures. In Norway, the political process has led to the decentralisation of the management of nature conservation areas. In the other countries the establishment of international UNESCO networks of World Heritage Sites (WHS), Biosphere Reserves (BR) and Geoparks have increased local involvement in natural resources management. The WHS Periodic Reports and the BR Periodic Reviews produce follow up information through the sections dealing with public participation. The community-based regional park model involving local people and associations has been applied in Iceland.

Involvement of indigenous people

About 85 % of the inhabitants of Greenland are Inuit. Consequently, the role of indigenous people in the society is significant. Concerning nature conservation, public participation practices are evolving within the three World Heritage Sites established recently in Greenland. In Sweden, the Laponia process within the Laponia World Heritage Site in based on cooperation involving indigenous Sami people. The Sami parliaments in Finland, Sweden and Norway play an important role in decision-making processes in the Sami areas. In the reindeer herding areas, the representatives of reindeer herding associations frequently participate in decision-making processes, for example, concerning national parks. The Akwé: Kon guidelines, which are based on the UN Convention on Biological Diversity, and applied by Metsähallitus in Finland, also promote the involvement of indigenous and local communities.

Female issues

The underrepresentation of females in decision making concerning nature conservation has been discussed especially by Norwegian researchers. The WHS and BR periodic reporting systems ask for follow up information about the participation of females in decision making and management. The Akwé: Kon guidelines emphasise the importance of equal opportunities for males and females in the planning and management of state-owned lands.

Reforms of land use planning legislations

The land use planning legislation includes regulations promoting public participation, and gives the possibility to participate to anybody. The law-based requirements promoting the involvement of citizens in planning processes have increased in recent years. For example in Finland, the reform of the Land Use and Building Act in 1999 led to significant strengthening of stakeholder involvement in planning. The environmental impact assessment procedures also include and enable the promotion of public participation.

EU membership

Finland and Sweden are members in the European Union. Natura 2000 Network and Maritime Spatial Planning (MSP) are EU-wide planning systems with a participatory dimension. The possibilities of citizens to participate in Natura 2000 planning have been limited, and a lot of conflicts have been connected to establishing Natura 2000 sites. Efforts have been made to prevent and solve conflicts nationally and internationally. For example, the EU financed project “Dealing with Conflicts in the Implementation and Management of the Natura 2000 Network – Best Practice at the Local/Site Lev-

el" (2010) includes guidelines for avoiding conflicts (Natura 2000 – Addressing… 2010). The developments within Natura 2000 Network are important for public participation because most of the nature conservation areas in the EU member countries belong to the Network. On the other hand, the directive-based MSP–process is applying cutting edge public participation procedures in preparing the maritime spatial plans by the year 2021. The new maritime spatial plans are required to be integrated with the more established land use plans to include the "land-sea interaction" aspect into planning (Land Sea … 2017).

Counteracting rural depopulation

Out-migration from rural areas is a trend in all the countries included in this report. This has led to increased discussion on the role of nature conservation areas in local economy and to efforts to develop nature-based tourism. The UNESCO World Heritage Sites and Biosphere Reserves receive worldwide attention because of belonging to global networks. The planning, management and monitoring documentation of the UNESCO sites provide good information sources also for developing tourism. The Snaefellsjokull Regional Park and the Geoparks, which are supported by the UNESCO Global Geopark Network, are municipality-based branding efforts in Iceland.

Role of research

There exist numerous Norwegian studies dealing with nature conservation area governance. Studies comparing nature conservation management in Norway and Sweden have also been carried out. In Finland Metsähallitus produces English language studies on public participation concerning nature conservation areas. In Iceland, the information in English is being provided by various different types of actors including researchers, the government and non-governmental actors. The written information accompanying the establishment and management of the three World Heritage Sites in Greenland has been a valuable source for this report. The international comparative studies carried out by the EU provide information, for example, on the societal aspects of Natura 2000 Network. The comparative studies carried out by OECD and Nordregio have provided systematic information on spatial planning in the BuSK countries.

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