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Towards sustainable rural development in Bergslagen: Mapping stakeholder opinions as a base for action

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Sammanfattning

De flesta politiska riktlinjer har idag en hållbar samhällsutveckling som övergripande och gemensam nationell ambition. Det innebär att uppsatta mål för ekologisk, ekonomisk och social hållbarhet ska nås i samverkan mellan aktörer från olika sektorer och på olika beslutsnivåer. Att förstå vad det innebär på lokal och regional nivå, och hur man kan nå de målen, är inte så enkelt. Syftet med denna studie är att skapa ett underlag som kan användas i arbetet med hållbar landsbygdsutveckling, inom den informella regionen Bergslagen i Sverige. Hinder och möjligheter för hållbar landsbygdsutveckling har analyserats genom att arrangera fokusgruppdiskussioner med olika intressegrupper i samhället. Insamlade data i form av intressegruppernas uppfattningar har analyserats och kategoriserats efter ekologisk, ekonomisk och social hållbarhet, samt delats in i kategorier beroende på vilken typ av ekosystemtjänst de berör. Resultaten visade att intressegruppernas fokus var på tillgodoseende och kulturella ekosystemtjänster liksom ekologiska och sociala hållbarhetsdimensioner. Arbetssättet och resultaten kan användas för att bidra till en kunskapsbaserad dialog, och för att underlätta samarbete mellan olika aktörer.

List of content

1. Abstract 1
2. Introduction 3
3. Methodology 7
3.1. Terms and terminology 7
Sustainability and Sustainable Development 7
Stakeholder participation 8
Ecosystem services 9
Social and ecological systems 10
3.2. Study area 11
3.3. Methods 12
Mapping of landscape stakeholders 12
Focus group discussions 13
4. Results 17
4.1. Emerging topics 17
4.2. Topics by sustainability dimensions and ES 18
4.3. Threats and opportunities for a sustainable Bergslagen 23
5. Discussion 29
5.1. The focus group method as a means of deliberation 29
5.2. The challenge of knowledge-based SD 30
5.3. Ecosystem Services as a tool for supporting sustainable development processes 32
6. Conclusions 33
7. Acknowledgements 35
8. References 37
9. Appendix 45

1. ABSTRACT

In line with national to global policies, all societal development should follow the principles of sustainable development and sustainability. Municipalities, regions and countries all struggle with these principles and try to develop criteria, indicators and performance targets, as well as to improve collaboration among actors and stakeholders. An increasing demand for natural resources and their use has created an interest in segregating different rural landscapes for different land uses, such as forestry, agriculture, infrastructure, nature conservation, recreation and heritage areas. This requires changes in societal steering towards including multiple levels and sectors. However, with many stakeholders and conflicting interests the situation in natural resource management is becoming increasingly complex. It is thus important to see sustainable development as a collaborative learning process aiming to combine stakeholders' interests, opinions and knowledge through collaborative social learning. Ultimately, a holistic approach is needed to sustain natural resources, as well as to maintain and develop sustainable landscapes. A fundamental component for this is to map and learn about stakeholders' opinions, interests and values among different sectors at multiple levels of societal steering. To catch variation within and among local landscapes in the Bergslagen region I collected data covering two river basins in Bergslagen (Hedströmmen and Svartälven), each covering roughly 1000 km^2. I arranged a series of focus group discussions about Bergslagen with stakeholders representing different interests. The focus was on public, civic and private sector representatives that actively use and thus impact rural landscapes. In addition to web searches and contact with locals, at the end of each focus group discussion I asked and received advice on whom to include in coming focus group discussions. Each focus group contained 3-10 participants and the discussions were recorded digitally. In the analysis I identified interests and opinions about ecosystem services (ES) (provisioning, regulating, cultural and supporting services) and sustainability dimensions (ecological, economical and social). I noted if the statements were positive or negative, and identified if statements related to the past, present or future. Provisioning and cultural ES as well as ecological and social sustainability dimensions were the main focus in almost every focus group. In addition nature was mentioned in every focus group as an important factor for human well-being. Fishing and hunting were important positive aspects for many, while abandonment of the agricultural landscape was mentioned as a problem. Forestry aiming a wood production was mentioned in both positive and negative ways and concerned several ES and sustainability dimensions. Conflicts and lack of communication among actors were a problem according to several stakeholder groups. I conclude that the focus group approach to stakeholder engagement is an efficient way to create an overview of stakeholder interests and opinions that could support the implementation of sustainability policies by improved participation in development processes.

2. INTRODUCTION

Diseases, rapid urbanization, climate change, water scarcity, natural and man-made disasters, deforestation, overfishing, epidemics, air pollution and social segregation illustrates that the viability of our global communities is threatened by many persistent and complex challenges (Baker, 2006, Lang et al., 2012). Rockström et al. (2009) identified nine Earth-system processes and associated thresholds for reduced sustainability, which, if crossed, could generate unacceptable environmental change. They suggested that three of the Earth-system processes; climate change, rate of biodiversity loss and interference with the nitrogen cycle, have already transgressed their thresholds. According to a range of global, European, EU, national and business policies all development should follow the principles of sustainable development (SD); which includes both how the processes of social steering are carried out (Baker, 2006) and ecological, economical and social sustainability (Norton, 2005).

Also Swedish national policies follow the principles of SD and sustainability in a range of policy areas. The aim of SD is to include environmental considerations in societal steering and promote SD as a continuous process (Baker, 2006). The document "Strategic Challenges - A Further Elaboration of the Swedish Strategy for Sustainable Development" (Miljödepartementet, 2005) is a communication that represent an elaboration of the Swedish strategy for sustainable development. Regarding sustainability, the 16 Swedish Environmental Quality Objectives express the environmental dimension of Swedish sustainability policy. They concretize short-term goals for how to implement the Swedish environmental code and to include integration of Ecosystem Services (ES) into economic valuation, political considerations and decision making in society (Miljödepartementet, 2001, Miljödepartementet, 2009, SFS 1998:808, SOU 2013:68). However, how to define the SD process and how to reach sustainability locally and regionally are two challenges. Municipalities, regions and countries all struggle with translating the principles of SD and sustainability to criteria and indicators, as well as measurable verifier variables and norms (e.g., performance targets) that define what sustainability is (Lammerts van Buren & Blom, 1997; Angelstam et al., 2013c). With many stakeholders and conflicting interests the situation in natural resource management is becoming increasingly complex (Young et al., 2010). Stakeholders representing different societal sectors often have a very diverging understanding of both sustainable development and sustainability (Lidskog et al., 2013). Increasing demands for natural resources and different options to use those have created a high demand on natural capital and thus place-based solutions to maintain green infrastructure (European Commission, 2013). This requires adaptive governance and management as well as improved spatial planning (Angelstam et al., 2010).

Mutual understanding of different perspectives and needs are crucial ingredients to solve some of them. Different stakeholders view ecosystems in terms of their own economic, cultural and society needs (CBD, 2003). It is thus important to see SD as a process aiming to satisfy all stakeholders' interests, opinions and

knowledge through collaborative social learning about different dimensions of sustainability (Axelsson et al., 2011, Kates et al., 2001, Keen et al., 2005, Lang et al., 2012, Leeuwis & Pyburn, 2002, Wals, 2009). A fundamental condition to handle natural resource management for sustainable landscapes is to map and learn about stakeholder´s opinions, interests and values.

In Sweden, municipalities are responsible for comprehensive planning and implementation of SD policy including ecological, economical and social sustainability dimensions (SFS 2010:900). However, there are several problems connected to implementation of sustainability policies. In particular, small and rural municipalities have limited transparent knowledge about the states and trends of sustainability. This makes it harder to make informed decisions. Additionally, decision-making in municipalities are often specialized resulting in de-centralization and fragmentation with poor integration among different stakeholders (Andersson et al., 2012, Henningsson & Küller, 2008).

Ideally, SD is a collaborative learning process towards an agreed goal, namely sustainability. The aim of a policy can be used as the goal or description of sustainability. Satisfying ecological, economic and social sustainability criteria in landscapes as coupled social and ecological systems is a contemporary challenge for implementation of policies about SD as a process and sustainability as a goal (Andersson et al., 2012). Reasons include that use and management of landscapes are often unsustainable, both stakeholder participation and collaboration is poorly developed, and there are gaps between the aim of policies and practices on the ground. Transparent information about states and trends and adaptive governance at multiple levels also over larger scales are issues that need to be dealt with in order to bridge these gaps (Angelstam et al., 2013b). To understand the three dimensions of SD and the governance system it is important to consider all stakeholders involved in the use and management of the landscape, on all levels, from local to global (Andersson et al., 2012, Angelstam et al., 2007, Angelstam et al., 2013b, Axelsson et al., 2009, Axelsson et al., 2013).

Bergslagen is an informal region in south-central Sweden, and has a long history of top-down governance connected to past mining companies and industries located in the area in the past (Angelstam et al., 2013a). Ore, forest and water in Bergslagen were for a long time the base for economic development in Sweden (Angelstam et al., 2010, Axelsson & Angelstam, 2014, Isacsson, 2004, ITPS, 2004). Today, however, Bergslagen suffers from a declining economy. Additionally it has been identified as an economically vulnerable region with a declining economy because the business sector is not diversified and relies on only one or a few industries (Andersson et al., 2012, Tillväxtverket, 2011). Due to its present state and the history of the region Bergslagen is interesting as a case study of how to develop collaboration among stakeholders and actors based on knowledge about the states and trends of sustainability.

A first step to understand stakeholders' views on rural landscapes and their benefits is to learn about their thoughts, opinions and interests related to their place and space, and map the values of most interest according to them (Angelstam et al., 2013b). This can be aided by the use of a SWOT analysis (Pershing, 2006) where Strength, Weaknesses, Opportunities and Threats are interpreted.

The aim of this study is to map stakeholders' interests and opinions about their places by mapping sustainability dimensions and ES to support SD processes, such in municipal comprehensive planning processes, in the rural Bergslagen region. Better understanding of stakeholders' different use, values of and interests in ES can increase knowledge about the importance of sustainability (SOU 2013:68). To capture variation within and among landscapes in Bergslagen I arranged a series of focus group discussions with stakeholders representing different interests in two river basins in Bergslagen (Hedströmmen and Svartälven). Participants included stakeholders from the public, civil and private sectors using and affecting the landscape. The result may contribute to planning for sustainability and can be used in a knowledge based dialogue among stakeholders in Bergslagen, including decision makers, planners, researchers and other interested stakeholders.

3. METHODOLOGY

3.1. Terms and terminology

Sustainability and Sustainable Development

Sustainability is about the endurance of ecological, economical, social and cultural systems and processes. Sustainability can be explained as a goal expressed in a policy (Axelsson et al., 2011). When it comes to economic and biological issues, a lot has been done (Norgaard, 2010). The importance of social and cultural sustainability is more of a grey zone, but is becoming more and more a focus (Axelsson et al. 2013). An important part of social sustainability is stakeholder participation (Johannisson & Ancarstig, 2007). Almost all SD policy describe stakeholder participation on different levels, local, regional, national and international as both a part of the process and a part of the wished result. Examples include but is not limited to the Water Frame Directive (WFD), Convention on Biological Diversity (CBD), Habitat directive, European Landscape Convention (ELC), Rural Development Programme (RDP), Millennium Ecosystem Assessment (MA), Agenda 21 and the Aarhus Convention (European Commission, 2000, CBD, 1992, European Economic Community, 1992, European Council, 2000, European Council, 2006, MA, 2005, UNCED, 1992, Aarhus Convention, 1998).

Despite concerns of limited sustainability of natural resource use already during nineteenth-century, it was not until 1960-70s that critiques to conventional development's ability to maintain natural capital evolved to a wider audience (Baker, 2006). Around ten years later the International Union for the Conservation of Nature and Natural Resources presented the World Conservation Strategy, which identified the term "Sustainable Development" (Baker, 2006, IUCN, 1980). Initially, ecological sustainability was the main focus (Stockholm Declaration, 1972). The first document that addressed the links between social, economic and ecological dimensions of development was the report Our Common Future, also known as the Brundtland Report published by the World Commission on Environment and Development (WCED) in 1987 (Baker, 2006, WCED, 1987). The Brundtland report confirmed that environmental and economic problems are linked with social and political factors. Since the Brundtland report, SD is considered as having three equal dimensions of development; ecological, economical and social (Baker, 2006, UNCED, 1992, WCED, 1987). Later also cultural sustainability has been stressed (Axelsson et al., 2013b).

The SD approach is a challenge to the conventional form of development, which is a modernization of the globe in a Western perspective (Baker, 2006). It is a dynamic concept and way of connecting ecological, social and economical dimensions of sustainability in different administrative levels such as local, regional, national and international (global) (Baker, 2006). The aim of SD is not fair treatment of each dimension, but rather decisions that strengthen the whole

for long-term sustainability (Kemp et al., 2005). The Brundtland Report defines SD as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987:43). However, there are many versions of the definition of SD and not all of them are fully compatible with each other (Baker, 2006, Kemp et al., 2005, Redclift & Woodgate, 1997). World summit declarations and several internationally binding environmental agreements have advanced the understanding of what SD means (Baker, 2006). Kemp et al. (2005) list some basics including both sustainability and SD processes that gradually have evolved:

- Current paths of development are not sustainable.
- Sustainability is about protection and creation.
- Requirements of sustainability are multiple and interconnected.
- Pursuit of sustainability hinges on integration.
- Core requirements and general rules must be accompanied by context specific elaborations.
- Diversity is necessary.
- Surprise is inevitable.
- Transparency and public engagement are key characteristics of decision making for sustainability.
- Explicit rules and processes are needed for decisions about trade-offs and compromises.
- The end is open, it is ongoing.

SD is a process aiming to combine stakeholders´ interest, opinions and knowledge through collaborative social learning about different dimensions of sustainability. This requires knowledge about the state and trends of sustainability dimensions.

Stakeholder participation

SD stresses the need for civil society engagement, representation and transparency in policy processes which gives stakeholder participation and openness crucial roles (Bäckstrand, 2006). To include stakeholders is also connected to a shift in governance from a top-down steering to more bottom-up, or at least a combination of the two. Hence, informal and voluntary governance were multiple stakeholder dialogues and partnership agreements, are key concepts (Axelsson et al., 2009). This allows more collaboration among different both governmental and non-governmental stakeholders (Bache & Flinders, 2004, Bäckstrand, 2006, Hedlund & Montin, 2009, Stoker, 1998,). Increased stakeholder dialogue and participation by different stakeholders is important for several reasons and positive in conflict management. Dialogue and participation among stakeholders can develop participatory processes, enhances the legitimacy of policy, helps to reduce the risk of conflict, and offers an additional source of ideas and information; and through their involvement, people and organizations learn about environmental problems (Coenen, 2002, Young et al., 2010).

What is stakeholder participation? A simple answer is that stakeholder participation is a categorical term for citizen power (Arnstein, 1969). However,

participation can occur at different levels with a huge difference between an empty ritual of participation one the one hand, and having the real power to actually affect the outcome on the other. Arnstein created a model, an eight-step ladder, for different levels of collaboration and participation (Figure 3.1). The model includes interchange of information as a way of participation and the steps correspond to level the stakeholder's power to affect the end product. The first two steps (Manipulation and Facipulation[1]) describe levels of non-participation where the objective for decision makers is to cure or educate the stakeholders. In step 3 (Information) stakeholders get one-way information and in step 4 (Consultation) gives two-way information opportunities to participate, but stakeholders lack the power to influence others and state their opinions. Step 5 (Right to vote) allows stakeholders to advise but decision makers still have the power to decide, first in step 6 (Partnership) stakeholders can negotiate and actually influence decisions. At the higher steps 7 and 8 (Delegated power and Stakeholder control) stakeholders have majority in decision-making and can take part in management (Arnstein, 1969). The level partnership describes when stakeholders have learned how to collaborate well. Gray (1989) describes collaboration "as a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible" and "constructive management of differences" which fits well with both the process and the aim for a result.

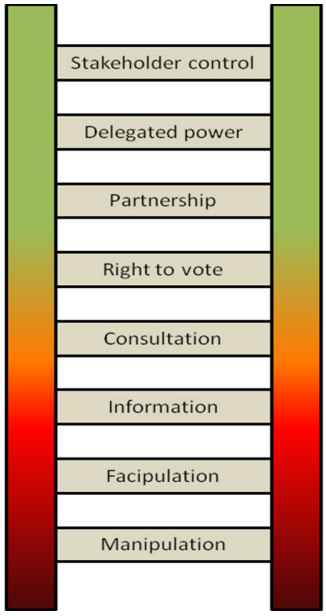

Figure.3.1. Ladder of stakeholder participation (Arnstein, 1969) shows different degrees of stakeholder participation and collaboration (Figure from Axelsson & Angelstam, 2014).

Ecosystem services

The benefits ecosystems provide to humans are called ecosystem services (ES) and are a common used concept (MA, 2005). The ES idea started in the 1970s

[1] A combination of facilitation and manipulation, influential and manipulative inputs made by the facilitator done so well so stakeholders do not understand that they are manipulated.

and is also described in the Convention for Biological Diversity (CBD, 1992). In Sweden ES are mentioned in the Swedish Environmental Objectives, but Sweden is also members of EU that has several policies that include ES (Miljödepartementet, 2009, European Commission, 2011 & 2013). Ecosystems provide "ecological services" to humans, and include products like drinking water, clean air, bioenergy from forests and processes like pollination, decomposition and biological control of harmful agents. There are several definitions of ES. The Millennium Ecosystem Assessment (MA) divides ES into four groups, (1) provisioning services that cover the material, (2) services that regulate environmental media and processes, (3) cultural services including spiritual needs and (4) supporting services that include habitat and underpin the other three (Haines-Young & Potschin, 2009, MA, 2005, TEEB, 2010). TEEB (2010) defines ES as "the direct and indirect contributions of ecosystems to human well-being". This definition is consistent with the MA-definition but has more focus on economics and separate services and benefits. ES can benefit human well-being in many direct and indirect ways; there are visible ES as production of food and fibres that are affected and dependent on others as soil formation and water regulation.

Biodiversity, i.e. the species, habitats and processes in ecosystems (Noss, 1990), represents another effort to communicate the crucial of the planet's health for human well-being. However, the biodiversity concept was insufficient to communicate the importance of natural capital among decision-makers. Later, the ES was thus adopted as an attempt towards a more understandable concept oriented towards the needs of humans (Norton, 2005). A better understanding of the different values (e.g., ecological, social, economical and cultural) will contribute to an increased awareness of the importance of biodiversity (SOU 2013:68). An aim of the ES concept is to improve the understanding among policy-makers, governors, planners and managers, of how much society can benefits from ecosystems (Angelstam et al., 2013d, SOU 2013:68). Ecosystems are complex and ES contain many products and processes that affect each other in different ways. For example increasing the production of one provisioning service (such as a crop), can at the same time have negative effects on biodiversity, and thus with negative effects on regulating services (Elmqvist et al., 2010). But there are also opportunities for win-win situations. For example can inclusion of ES in planning generate both climate adaptation and attractive living environments (SOU 2013:68). However it is important to look at entire ecosystems in planning to be able to investigate trade-offs and the value ES can provide.

Social and ecological systems

An ecosystem approach is a way to include the whole ecosystem and its ES in decision-making. This requires inclusion of both ecosystems at multiple spatial scales, as well as of the people that are supplied and benefitted by the ESs (UK NEA, 2011). The ecosystem approach is a strategy for integrated management of the land, water and living resources that promotes conservation and sustainable use in an equitable way (CBD 1992, 1998). Ecosystem service assessment is

another term used to describe efforts to identify, map and evaluate ES when making ES visible in different decision processes (SOU 2013:68). The ecosystem approach emerged as a result of arguments about needs for a new focus of sustainable management and policy developments. The aim was to have more integrated policy and management, and that these would be used at a landscape-scale. The approach also considers ES decision in a wide, social and economic context and promotes a 'humans-in-the-environment' perspective (Haines-Young & Potschin, 2009). Social and ecological systems exist in different levels and resources, resource users and governance systems are highly related to each other (Anderies et al., 2004, Haines-Young & Potschin, 2009). According to TEEB (2010) all ecosystems are, direct or indirectly shaped by people, and everyone, no matter if poor or rich, rural or urban, depend on ecosystems and their capacity to generate ES and in this sense people and ecosystems are interdependent social and ecological systems. Scientists have developed different terms for this. One example is coupled social-ecological system. This shows that traditional boundaries might have to change. New process-oriented collaborative learning approaches in places are needed and the ecosystem approach is consistent with that and has a potential ability to be a policy analysis tool (Andersson et al., 2012, Wilkinson et al., 2013).

3.2. Study area

The Bergslagen region has a long history of large industrial use of natural resources with a focus on water, forests and ore and have been intensively done (Angelstam et al., 2013a). The area is strongly influenced by former top-down steering because the big industries controlled almost everything, from jobs to many social functions (Angelstam et al., 2013a). The limited need and space for individual entrepreneurship has during generations shaped people and communities to a mental status with less social capital, lower levels of entrepreneurship and often low levels of education as people became used to getting a job at the local large industry with little efforts (Andersson et al., 2012). This is captured by the Swedish word "bruksanda" and shares many similarities with the terms "mill town" and "company town" (Byington, 1909). Economic globalization, energy production, climate change and renewed interest in mining operations have affected landscape management and governance in Bergslagen. For example to make mining sustainable there is a need to create collaboration among actors from the prospecting phase to the establishment of a new mine to its closing and it includes societal infrastructures as well (Angelstam et al., 2013a). Today there is a lack of knowledge in landscape planning and collaboration among stakeholders (Andersson et al., 2012). To encourage development of adaptive management and governance at relevant levels is a challenge and a collaboration model that includes stakeholders from different levels to work together is required (Angelstam et al., 2013a).

This study explores the opportunity of using river basins' social and ecological systems as a means of applying a landscape approach. Two river basins in the Bergslagen region were included in the study, Hedströmmen in Västmanland and Svartälven in southern Dalarna (Figure 3.2). The catchments are large enough for

sustainable management of ES and small enough to be relevant and interesting for local stakeholders. They also have different land owner categories and history.

Figure 3.2. Map showing the two catchments, Hedströmmen and Svartälven, included in the study.

Mapping of landscape stakeholders

I mapped actors and stakeholders from the public, civic and private sectors (Table 3.1). Stakeholders were identified by searching on municipal web pages, where businesses and associations are listed. Contact was made with key persons in the study area. They were asked about other stakeholders in each study area. I also used snowball sampling (Atkinson & Flint, 2001) by ending all focus groups by asking if the group could recommend any additional parties to meet.

Table 3.1. Categories of actors and stakeholders included in the study representing different sectors, public, civic and private.

Public	Civic	Private
-Small municipalities -Large municipality -EU Leader initiative	-Local heritage group -Local conservation group -Village councils -Youth group -Fisheries Management Association -Sport fishing stakeholders -Hunting Association	-Large Forest Company -Large Tourism Operator -Small Tourism Operators -Theatre group -Small entrepreneurs/Immigrants

Drawing on the approach used by Mingione (1991) and Elbakidze et al. (2010), I defined three groups of stakeholders according to the sector that they represent, i.e., (i) the civic sector, comprising a broad range of organizations outside of government, including civil associations, non-profit organizations, churches, and neighbourhood clubs that contribute to public wellbeing (Kingsley et al., 1997), (ii) the private sector, made up of businesses controlled or owned by private

individuals, directly or through stock ownership, and (iii) the public sector, which is formed by stakeholders representing public interests through governmental agencies and local government units.

Focus group discussions

Focus groups have traditionally been used as a research method in market investigations, and in social science (Barbour, 2007, Kvale & Brinkmann, 2009). Focus group discussions are used to collect information about humans, in my case stakeholders, their opinions, knowledge, attitudes, thoughts and values. To use focus group discussions in research requires that many views are collected and opinions about the topic in focus yields a saturated dataset (Barbour, 2007, Kvale & Brinkmann, 2009, Wibeck, 2010). A meeting is arranged with a smaller group of people, whose aim is to discuss a given topic decided by the researcher. The discussion is moderated and has more or less structure depending on how much the moderator participates. The discussion is documented by audio- or video-recording, and then analyzed after the meeting (Wibeck, 2010).

An objective of this study was to map opinions and interests of stakeholders representing different social sectors regarding ES as a knowledge base for planning towards sustainable landscapes in the region. To identify different stakeholders' views about their place, I organized focus group discussions with stakeholder groups and facilitated discussions based on place and space as human habitat (Kvale et al., 2009, Wibeck, 2010). Each focus group discussion was arranged as a round-table conversation with 3-10 people, who began by a presentation of the aim of the study and a very short introduction of the project that funded this research. An entry point to stimulate initial conversation was the question "why do you live here?" Follow-up questions and a list of participants were used to classify stakeholders according to sector (private, public, civic). Follow-up questions were also used to classify benefits from ecosystems and natural resources such as water, mining, forestry and wind power, by each focus group stakeholder category (Appendix 1). The focus group discussions were open ended and an extended "SWOT" analysis was used as a framework, to be able to identify strengths, weaknesses, opportunities and threats (SWOT) in the past, present and future. The table with the headings: past, now, future, plus and minus was presented on a whiteboard/big paper; and during the discussion this table was filled in with all main points sorted according to the relevant heading. After each focus group discussion this was complimented with additional issues from the recorded session.

In total 17 focus group discussions, including 109 people were conducted from February to August, 2013. All focus group discussions were carried out in Swedish and then translated. The discussions were recorded digitally and analyzed. I extracted all data about ES and sustainability dimensions and sorted them into groups representing provisioning, regulating, supporting and cultural ES (Table 3.2) (MA, 2005; TEEB, 2010) as well as ecological, economical and social/cultural dimensions of SD. I also included the category 'other' to the list for opinions that did not fit with any ES.

Table 3.2. Ecosystem Services according to the MA (2005) and TEEB (2010).

	MA	TEEB
Supporting **Habitat**	•Nutrient dispersal and cycling • Seed dispersal • Primary production • Habitat	• Maintenance of life cycles of migratory species (incl. nursery service) • Maintenance of genetic diversity (especially in gene pool protection)
Provisioning	• Food (including seafood and game), crops, wild foods, and spices • Water • Minerals (including diatomite) pharmaceuticals, biochemical's, and industrial products • Energy (hydropower, biomass fuels)	• Food • Water • Raw materials • Genetic resources • Medicinal resources • Ornamental resources
Regulating	• Carbon sequestration and climate regulation • Waste decomposition and detoxification • Purification of water and air • Crop pollination • Pest and disease control	• Air quality regulation • Climate regulation • Moderation of extreme events • Regulation of water flows • Waste treatment • Erosion prevention • Maintenance of soil fertility • Pollination • Biological Control
Cultural	• Cultural, intellectual and spiritual inspiration • Recreational experiences (including ecotourism) • Scientific discovery	• Aesthetic information • Opportunities for recreation and tourism • Inspiration for culture, art and design • Spiritual experience • Information for cognitive development

The data was organized by extracting topics from data collected during focus group discussions and grouping them according to the different ES categories and other. Connections between ES and sustainability dimensions were identified based on the context in which a certain ES was mentioned during the focus group discussion. For example, fish does not belong only to provisioning ES, it also carries a strong cultural dimension related to harvesting techniques, preparation and symbolism (TEEB, 2010), and therefore, it is also a cultural ES. Topics can therefore be grouped in different ways, under one or several ES categories and SD dimensions depending on the context during the discussion.

Sometimes certain ES was discussed very often, and sometimes quite seldom. I have not put any value in how often ES were discussed or mentioned. The presence of a topic connected to an ES only means that it was mentioned by a

participant during the focus group discussion. I have thus tried to avoid using my own pre-understanding of the words and how they influence. If a certain topic connect with any ES directly, it was grouped according to relevant ES, if it was hard to connect with any ES it was categorized in the category “other” (Appendix 3). It is important to note that ecosystems include humans and for that reason what humans produce could be seen as ES. In this study I have however seen and treated ES as services needed by humans and thus excluded man made parts of landscapes, such as roads, railways and other infrastructures in line with MA (2005) and TEEB (2010). Therefore I sorted all human, society and infrastructure terms under the category other, if these could not be connected to any ES or described as affecting those (Appendix 3).

4. RESULTS

4.1. Emerging topics

Generally, the focus group discussions revealed very a broad spectrum of perceived ES benefits that represented all sustainability dimensions. While some topics were mentioned in almost every stakeholder group, some were more unique for specific stakeholders' interest. For example fish, crayfish and fishing were a commonly mentioned topic, and were discussed every time with respect both to provisioning ES and supporting ES as well as regarding all sustainability dimensions. Fish and fishing activity was important in cultural aspects, recreational activity, a variable representing environmental status and for both export and tourism economy. Few discussions explicitly referred to supporting services although they are necessary for the production of all other ES, and are part of often complex mechanisms and processes that generate them. As an answer to the question "why do you live here?" nature and the beauty of the landscape were mentioned in every group. Collection of berries and hunting were always important aspects both in the past, in the present and for the future; from the beginning as a food source or an income to becoming a recreational activity and then a way to attract tourists and develop rural areas. Mining's long history in the area meant it was also a frequently mentioned topic both in a positive sense in form of new job opportunities with establishment of new mines, better communication, new roads and a prosperous society, as well as in a more negative or sceptical sense with fear of what will happen when the raw material run out and how mining will affect the environment, both ecologically and socially, with contamination and traffic noise as examples.

Forestry has also been present for a long time and is still an important business sector in the region. Some groups were very positive towards forestry and related job opportunities and income (e.g. from private forestry or tourist activities) that forests can provide. However, other groups were more negative and pointed out the environmental effects of forestry on water quality, damage of logging on the ground as well as negative effects on nature conservation, recreation and tourism. Almost every group mentioned overgrowing in abandoned or no longer used agricultural land, change in forestry methods and thus the change in landscape use and loss of natural and cultural values. A shift from small farms with cattle grazing fields and forests to fewer permanent housing and more summerhouses as well as modernization of forestry, from a small-scale forestry adjusted to seasons to forestry during the whole year and the use of forest machines. Many were concerned that people move from the area due to few jobs and poor infrastructure access, leaving empty houses with degraded service establishments as a result.

Conflicts between different stakeholders, for example between wind power companies and tourist companies, were frequently discussed and a lack of communication between stakeholders was often mentioned as a problem. Cultural aspects like mentality, identity and cultural landscapes were a part of

every discussion. Some people were proud of their area and identity while others have just stayed, because they were born and raised there, have relatives in the area or exploit all possibilities that the place can offer in form of fishing, hunting, nice nature, recreation etc. The focus groups expressed both hopes and concerns about the future. Some hopes were to establish mining and wind power, development and expansion of different tourism activities like fishing, hunting, ecotourism and other outdoor activities. Concerns were that young people move away, fewer jobs, climate change and a lack of services like mobile and internet access as well as limited shops and postal service.

In addition to improving the understanding of ES and sustainability in Bergslagen, another important aspect that arose in the focus groups were the needs for different activities that build social capital and connect people to each other and to the place. Focus group discussions appeared as a means to support the increase of social capital by connecting different stakeholders and create networks between them and minimize conflicts by communication.

4.2. Topics by sustainability dimensions and ES

The topics brought up in the focus group discussions are divided into categories with the dimensions of SD horizontal and ES vertical. Representing the past (Table 4.1), the present (Table 4.2) and the future (Table 4.3). The complete table, showing the context of each topic can be found in Appendix 2. The past represent how it used to be, a few or several years ago. Present represents the state today and future represent possibilities, desired outcomes and predictions (positive or negative). Topics discussed during focus group discussions were divided into main groups and placed in the context they were discussed. For example, environmental toxins were mentioned in relation to supporting ES and are negative for ecological sustainability dimensions. Topics presented in the table show perceived opinions and subjects mentioned by participants.

Table 4.1. Emerging topics discussed in the focus groups concerning the past (a few or several years ago), sorted in dimensions of Sustainable Development (SD) horizontally and Ecosystem Services (ES) vertically.

Past	Ecological Sustainability		Economical Sustainability		Social Sustainability		Cultural Sustainability	
	positive	negative	positive	negative	positive	negative	positive	negative
Supporting ES		• Sustainability policies •Environmental toxins	• Forestry			• Motocross area		
Provisioning ES	• Fish and crayfish • Water quality • Forestry • Moose • Nature	• Pollution, emissions and ditching • Fish • Water quality • Crop-spraying • Display areas • Moose • Forestry • Companies •Contamination • Sustainability policies	• Mines and blast furnaces • Flotation of timber,forestry •Lingonberry supplier	• Companies leaving • Mining • Economy	• Water knowledge • Fishing, hunting • Self-supplying •Lingonberry supplier	• Wolves •Companies leaving • Economy	• Mining history	
Regulating ES	• Water quality	• Water quality • Acidification • Sustainability policies •Environmental toxins						
Cultural ES	• Nature • Landscape • Forests •Haymaking	• Forests • Sustainability policies •Environmental toxins			• Nature • Landscape	• Feeling	• Identity •Mentality •Enviousness • Work • Foreign people	• Mentality

Table 4.2. Emerging topics discussed in the focus groups concerning present time, sorted in dimensions of Sustainable Development (SD) horizontally and Ecosystem Services (ES) vertically.

Present	Ecological Sustainability		Economical Sustainability		Social Sustainability		Cultural Sustainability	
	positive	negative	positive	negative	Positive	negative	positive	negative
Supporting ES	•Nature conservation	•Habitats • Sustainability policies •Driving damages •Conflicts		•Land shortage	•Houses	•Forestry •Overgrowing		
Provisioning ES	•Agriculture •Water quality •Water •Air quality •Water- and hydropower •Fish •Hunting and fishing •Berries and mushrooms •Wild animals •Forestry •Iron •Nature conservation	•Fish/fishing •Forestry •Water regulation •Water • Berries and mushrooms •Conflict •Agriculture •Nature •Wild animals •Hunting •Sustainability policies •Driving damages •Food transport	•Local products •Wild animals •Mining •Wind power •Fishing •Hunting	•Power distribution •Forestry •Agriculture •Sawmill •Weather	•Water quality •Forestry •Wind power •Hunting •Fishing •Local products •Berry picker	•Wind power •Forestry •Conflicts •Hunting •Wolves •Mining •Agriculture	•Agriculture	
Regulating ES	•Water quality •Nature conservation	•Acidification •Pests •Invasive species •Landscape • Sustainability policies •Conflict		•Pest	•Water quality	•Global warming		
Cultural ES	•NATURE! •Recreation •Landscape •Forests, lakes, mires •Nature conservation	•Development •Landscape •Forest •Affection on nature •Forestry •Agriculture •Overgrowing due to abandonment •Sustainability policies •Conflict	• (Eco)Tourism	•Tourism •Financial support	•Jack of all trades •Landscape •Outdoor activities/experience •Hunting •Tourism •Forestry	•Vehicles • Outdoor activities /experience •Interests •Definitions •Tourism •Lack of knowledge •Concurrence and conflicts	•Identity •Quality of life •Enviousness •Cultural landscape •Culture •Anonymity	•Identity •Agriculture • Outdoor activities •Anonymity • Mentality •Travels

Table 4.3. Emerging topics discussed in the focus groups representing the future (possibilities, desired outcomes and predictions (positive or negative)), sorted in dimensions of Sustainable Development (SD) horizontally and Ecosystem Services (ES) vertically.

Future	Ecological Sustainability		Economical Sustainability		Social Sustainability		Cultural Sustainability	
	positive	negative	positive	negative	Positive	negative	positive	negative
Supporting ES		•Houses •Ground destruction				•Ground destruction		
Provisioning ES	•Fish, crayfish, fishing •Agriculture •Wind power •Water •Forestry	•Wind power •Mining •Fish •Water regulation •Forestry •Moose •Berry picking •Ground destruction	•Quarry •Hydro- and wind power •Mining •Tourism •Hunting •Weather	•Hunting •Tourism •Forestry •Wind power	•Fishing •Hunting •Mining	•Mining •Forestry •Wind power •Wolf • Hunting •Ground destruction		
Regulating ES		•Pests •Invasive species •Weather •Ground destruction				•Global warming •Ground destruction		
Cultural ES	•Nature •Landscape	•Affection on nature •Hunting •Vehicle	•(Eco) Tourism •Forest •Outdoor activities /experience	•Financial support •Tourism •Hunting •Vehicle	•Outdoor activities/experience •Landscape •Ecotourism •Nature school •Hunting •Tourism	•Conflict •Ground destruction • Outdoor activities		• Outdoor activities •Culture

Figure 4.1 is an example of how the focus group data can be used to support learning about the states and trends of rural landscapes. Here I have matched the landscape objectives in the strategic plan of Sustainable Bergslagen (Axelsson and Angelstam 2014, Figure 4.2), a NGO that works at regional-level for collaboration, participation, landscape and learning towards sustainability among stakeholders representing different organizations and networks in Bergslagen, with data from focus group discussions. By matching goals and aims with opinions from stakeholders we can get an overview of where efforts are and where required work towards reaching those goals is needed (Appendix 4).

Dimensions of sustainable development (Baker 2006, Axelsson et al. 2013)	Economy		Ecology / Environment	Social	Cultural
Landscape objectives for Sustainable Bergslagen	Small/local entrepreneurs	Sustainable Forest Management	Functional Green Infrastructures	Community and Rural Development	
	Sustainable Mining	Sustainable Water Management			
Focus groups Bergslagen: Municipalities Village councils Society for conservation of Nature and Environment Local theatre group Fishing associations Forest company Ski and outdoor company Tourist companies Hunting association	Expensive power distribution Sawmill hit by recession Hydro- and wind power - review power distribution Many small businesses - Entrepreneurs Berry picker shop locally Laundry located here Demand and distribution of pike – an opportunity Job control opportunity to live here Investment in water and sewer Berry picker shop locally Laundry located here Demand and distribution of pike – an opportunity Job control opportunity to live here Investment in water and sewer Berry picker shop locally Laundry located here Demand and distribution of pike – an opportunity Job control opportunity to live here Investment in water and sewer Berry picker shop locally		Acidification was more common.Used to be lack of consideration in forestry. Land shortage Large area of farmland - Agriculture Pure water Pure air Nature! Hunting and fishing Outdoor recreation Proximity to forest and nature Hunting Restoration of river result in more trout and more interest occur among fishermen Less fish now, small fish, hard to fish Pike and roach (instead of trout) No mowing left Nature!	Used to be more service, schools, industries, jobs, railroad Used to be more jobs here Social control Everyone could get a job during summer You could go straight from school to work – no unemployment Prosperously place- it had everything Mail was delivered to the house Lingonberry buyer in the village Large influx due to railroad and sawmill in the past. Financing of new housing estate Concern to invest in properties etc. Low unemployment	Former trade route Cultural landscape - Iron culture Floatation of timber was present Traditional salmon trout and cray fish fishing – machines instead of people in the forest The nature used to be nice Open culture landscape used to be common Open landscape and a lot of gardening was common Used to be more open land More enjoyable old-grown forest You had identity – Bergslagen –

Figure 4.1. An example of how to use data from focus group meetings, here by matching the objectives from the NGO Sustainable Bergslagen with opinions from different stakeholders in Bergslagen, divided into four sustainability dimensions. The table is not complete; it shows a small part from the table in Appendix 4.

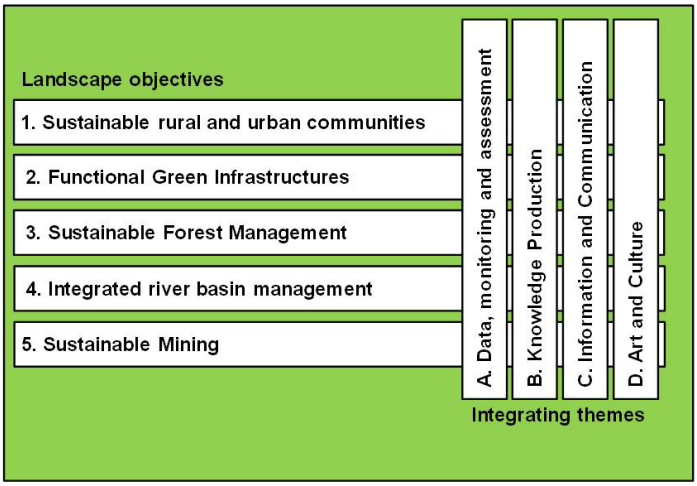

Figure 4.2. Landscape objectives and integrating themes for the NGO Sustainable Bergslagen (Axelsson & Angelstam, 2014).

4.3. Threats and opportunities for a sustainable Bergslagen

This is a summary of the result with the topics discussed in Bergslagen expressed in SWOT-analyse, identifying Strengths, Weaknesses, Opportunities and Threats. Focus is on present time and the future, with the past affecting them. As we can see all four categories is present, although weaknesses took a lot of space in the discussions. However by visualise them we know where efforts is needed, it is also important to visualise the strengths and opportunities to be able to advance them.

Strengths

- Nature conservation and a rich nature
- Large area of available farmland makes agriculture possible
- Pure water, air, streams and lakes
- A lot of water in the area benefit fishing and tourism
- Lakes are stocked with farmed brown trout
- Different energy options like water and hydropower, it is green power and gives job opportunities
- Investment in water and sewer systems like fish ladder for fishes in streams benefits several species
- Increase of wild game animals makes for example hunting (both as recreation and as a business) possible
- Increased biodiversity makes ecotourism a great opportunity and a great export value
- Berries and mushrooms as recreation and food source, many berry pickers shop locally, you can sell local products on market days
- Forestry is renewable and a long term cycle, nature consideration like smaller clear cuts with more retention trees is present, increased acceptance for final felling, social consideration is taken by forest company

- Nature is important for several reasons like outdoor recreation, lot of space, views, it has forests, lakes, mires, it is a beautiful place, you can see stars and black nights, forest gives a feeling of safety, it is calm and quiet
- Proximity to forest and nature, silence, beauty and a close to wilderness makes the place nice to live in
- Mining provides an opportunity to work and a living village
- There is many available cottages in the area, nice houses close to nature
- Good communication between different stakeholders like the resort, forest company and municipality about for example wind power
- Increase of social facilities and tourism lead to building of purification work and waterworks
- Jack of all trades – farming and forestry makes it possible to live here
- Possibility to do outdoor activities in the nature (paddling, skiing, hiking, biking etc.)
- To be born here gives identity and pride, everyone knows each other – no anonymity
- Reasons to stay is that you grown up here, comfort, relatives, close to home, the place gives quality of life
- A strong cultural (iron) landscape with several museums and historical places in the area, haymaking and other cultural activities can be a experience for tourists

Weaknesses

- Poor habitats, less fish now, small fish, hard to fish, it is pike and roach (instead of trout), affected forests, lack of fire in landscape, lack of grazing cattle
- Ancient jealousy is still present in the background
- Policies about sustainability were created but is not used in decision-making e.g. Agenda 21
- Damages to ground and water from forest machines is a big problem, forestry creates clear cut areas, today it is smaller clear cuts but lower felling age, forestry affect opportunity to pick berries and mushrooms, forestry can destroy and affect a lot, forestry during the whole year even during spring when animals breed, forestry cut a lot and fast which creates a quick change of the landscape picture, forestry in areas with (eco tourism) is negative for tourist companies
- There is a conflict between economy and ecology: economy controls ecology/nature
- Streams with fewer trees and less dead wood creates simplified structure and calmer pools
- Acidification of waters and water regulation affect several species and the environment

- Wells are overgrowing and destroyed by forestry
- Increased berry picking can increase littering in nature and might be a potential conflict
- Vehicle damage and noise in forest
- Lack of agriculture, land is unused or hay making is made to early and makes birds disappear, few larches due to not enough protected areas, EU benefits tread
- Nature may not function properly in cycles, prey and predators regulate themselves
- Foreign hunters want full service and pay the same money as local hunters, but do not take care about the area/animals the rest of the year
- Hunting and fishing occur in nature reserves
- Food is transported long ways which creates need of import
- Increased attacks by pine weevil in some areas, more ticks in some areas, invasive species, fly on moose has increased and destroy skin and you cannot sell it
- Development of the area might be a threat to ecotourism
- Forest and black nights can also be scary
- Demand on bike roads etc. increase and gives more affection on nature, wear on nature increase by tourism
- People care only about the own yard, the rest is overgrowing
- Nature reserve increase at the expense of disappearance of old forest
- Expensive power distribution, wind power disturb, destruction of view and loss of intactness (wild feeling)
- Low salary for farmers is a problem
- Few industries or companies lead to vulnerability for example to recession and dependence on winter and snow, there is a lack of complement activity to tourism
- Less support and money for back country, landscape conservation etc.
- Lack of discussion about forestry, scepticism before final felling, conflicts between stakeholders like forest company and hunters about moose level, conflict between calmness and vehicles in nature
- Hunting is changing, local hunters want to be alone as a group, without other hunters, wolves in the area change the behaviour of moose and that confuses the dogs and they don’t work as they should, wolf and dog is a problem, wolf is a infected subject, local people must be a part of decisions, wolves used to be afraid of man but not anymore
- Big faith to re-opening of mines, but mines have a short life expectancy of 10-15 years
- Machines instead of people in industries and forestry lead to fewer jobs

- A lot of opinions about forestry because of interest in nature can create conflicts
- Hard to understand global warming and its effects
- Youths have other interests than nature, low interest from municipality to support activities/create places for youths, little time is spent in the nature – lost of knowledge about nature etc. from the past
- Lack of knowledge about tourism in the municipality, among politicians
- More recreation activities are needed, need to be focused on
- Concurrence and conflicts about forest roads, everyone wants to use them
- No anonymity, problem with identity, "Bruksmentalitet", no pride

Opportunities

- Cray fishing, local fishing permits and limited fishing on selected places, develop fishing tourism, restoration of rivers result in more trout and more interest occur among fishermen, demand and distribution of pike can be an opportunity
- Grow your own crop and buy locally produced food
- More knowledge about groundwater level in the future because of laser scanning gives better/more effective consideration in forestry, adopted forestry for moose ex. cleaning height, new technical machines in forestry minimize damages
- Keep "free space" in landscape
- Quarry - for roads etc.
- Hydro- and wind power - review power distribution, job opportunities, green power
- Hunting – as a business, for rich people and foreigners
- More efficient snow cannon to decrease dependence of long and cold winters
- (Eco)Tourism a great export value, also during winter season, increasing interest for ecotourism from municipality
- Little time is spent in the nature which makes forest as experience, wilderness experience, searching for adrenaline, foreign tourists, bike, ride and hiking paths to opportunities for tourism, nature school to increase knowledge about nature
- Mining can improve infrastructure by building/improve roads

Threats

- Houses close to water – a threat to the water and the species there and for recreation areas
- Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel), hunting and all-terrain vehicle in nature reserves – who is responsible for control? Conflict between calmness and vehicles in nature

- Large expansion of wind power, wind power create few local jobs and a negative job chain (no forestry – no forester – no planner etc.), wind power disturb, destruction of view and loss of intactness (wild feeling)
- Water regulation and fish farming destroy water and water quality
- Clear cuts is a problem for biodiversity, it is risk for forest plantations, forestry/clear cutting might be a problem for (eco) tourism companies, will it be harder to use the forests in future?
- Less moose than before, expensive to hunt- hard to attract youths, private landowners makes it hard to develop hunting, wolf is an infected subject, local people must be a part of decisions, hunters are black listed among many people, is local hunting dying?
- Increased berry picking gives a risk for increased littering in nature and might be a potential conflict
- Forestry during the whole year, even during spring when animals breed
- Increased attacks by pine weevil in some areas, more ticks in some areas, invasive species might be a risk
- Extreme weather can be more frequent
- Wear on nature by tourism, demand on bike roads etc. increase, more affection on nature, wear on nature increase
- Financial support is needed for small (eco)tourism companies
- There is a lack of complement activity to tourism
- Mining as a problem according to transports, a lot of traffic on the roads
- Little time is spent in the nature, lost of knowledge about nature etc. from the past

5. DISCUSSION

5.1. The focus group method as a means of deliberation

Focus group discussion is a method to collect multiple views and opinions on any topic, and yields a great amount of information. Compared to interviews with a single persons it take less time to collect a wide range of opinions from multiple people, although the analysis regarded is as comprehensive as for any interview. The focus group method requires a considerable time and effort during the planning stage to realise the full potential (Barbour, 2007). In this study I have chosen to pick out information that is related to ES and sustainability dimensions. All discussions also included information connected to transport infrastructure such as roads, railroads, and public communications including internet access and connection speed, phone coverage, immigration, emigration, service and job opportunities. The collected data provides opportunities to study several views from different dimensions, interests and opinions among stakeholders and actors in Bergslagen and could therefore be valuable in a range of political discussions, development and assessments of the area.

I chose an open-ended approach with minimal participation by the moderator to promote free discussion on topics that participants felt were important. This can of course result in narrow discussions and there is a risk that many topics will not be mentioned at all, although they are important for the participants. Despite that a wide range of topics were discussed. Some topics emerged in every focus group discussion indicating why people choose to live and stay in Bergslagen. Many were born and raised in the area and every group mentioned nature as a strong influencing factor affecting the sense of place.

The study included stakeholders from different sectors and had both male and female representation, but no group consisted of only women. This could be an interesting theme to study in future research, are there any differences in opinions and interests among men and women? Different age structures were also included in the study however there is no focus on that in the analysis. It could be included in future research to provide additional dimensions. Result tables and appendixes show perceived opinions; it is like people think it is. I have not analyzed if it is correct or not, this can of course be misunderstood. It is important to see the tables for what they are – the informants expressed interests and opinions about the area, based on fact or fiction, categorized in the context they were discussed. It is also important to note that “past” has different meaning for different participants, for some youths the time aspect could be three years ago, for older people it was fifty years or more ago and for some it was more than two hundred years ago, which means that some headings contradict themselves. The focus group discussions were carried out in Swedish and then translated into English; this can have an effect on the outcome as you may lose meaning in the translation.

As with all methods focus group discussion has pros and cons, important for any participation study is to be aware of which focus the study has and understand the limitations of the collected data. Focus on only benefits can result in limited opportunities for alternative uses, for example the establishment of wind power. However, it might also be interesting to analyze what was not mentioned, is it because it is not important for that stakeholder group or is it too obvious? It is important with a well made research design to be able to stimulate discussion in the direction of the focal topic without manipulation from the moderator (Barbour, 2007).

5.2. The challenge of knowledge-based SD

This study demonstrates that provisioning and cultural ES as well as ecological and social sustainability dimensions were the main focus in almost every focus group. In addition nature was mentioned in every focus group as an important factor for human well-being. Fishing and hunting were important positive aspects for many participants, while abandonment of the agricultural landscape was mentioned as a problem. Forestry aiming a wood production was mentioned in both positive and negative ways, and concerned several ES and sustainability dimensions. Conflicts and lack of communication among actors were a problem according to several stakeholder groups.

This broad portfolio of benefits from landscapes in Bergslagen clearly expresses the need to provide planning processes that take into account knowledge about states and trends of all sustainability dimensions (Andersson et al., 2012, Axelsson et al., 2013a). Additionally, this knowledge needs to be shared among stakeholders.
Landscape approach is a general term for including both human and natural science research approaches to produce knowledge about sustainability, and to support SD processes (Axelsson et al., 2011). To implement sustainability policies by applying landscape approach it is important to include all sectors at multiple levels, from local to global and monitor all dimensions of sustainability. Stakeholder participation is a necessary part of conceptualization, implementation and evaluation of SD policies (Baker, 2006). Collaboration and social learning demand basic data about what ES and sustainability dimensions actors and stakeholders find important as collected in this study.

However to include stakeholders in decision-making processes is not without its problems. There are many wills and it is a challenge for stakeholders to widen their perspective from their own to also include others, i.e. enhance a “we” perspective (Doppelt, 2012). Another and related potential problem might be Nimbyism (Not in my back yard-ism) a term that describe people participating in decision-making protecting their own, often narrow, interest. Peoples understanding of ecological issues for example, might not include more than their own interest at the moment (Baker, 2006). Dialogue is absolutely necessary, but it raises the question about how much stakeholders need to be involved and the amount of information exchange required between all interested parties (Young et al., 2010). This highlights the need for knowledge-

based collaboration, communication and participation of stakeholders from all societal sectors and multiple levels, including researchers, decision makers and local citizens. However, additionally empirical data about states and trends are needed. Here researchers can play an important role both by long-term monitoring of social and ecological systems (Singh et al., 2010), and by systematically identifying stakeholders and their interests and help to improve the dialogue between them by providing objective data about the issue and highlight the role of evidence-based knowledge. It is important to clarify that the researcher's role is to provide information about stakeholders and different possible scenarios, and not to present ready solutions (Young et al., 2010).

As I noticed during the focus group discussions, conflicts between different participating groups exist, thus making understanding of relevant policy important as a frame for collaboration. Participation has to be grounded in a democratic system of government and legal authorities have to endorse decisions (Baker, 2006). In the end decisions are made by municipalities, forest companies and other powerful players. Is then participation a part of the decision itself, or is it information before a decision with the opportunity to influence the decision? It is important to note that stakeholder participation can occur in several different steps from no power to affect the end product to total control of the end product (Arnstein, 1969). The desired scenario is equal power among actors and stakeholders, in other words to reach the partnership level on the Arnstein ladder (Figure 3.1), for meaningful participation. Adoption of SD policies stresses the requirement of new governance practices. In a global perspective other influences might be the problem, not all countries are developed or are democratic societies like Sweden. They might be more developed or less developed and the ability for citizens to participate thus differs among countries (Baker, 2006).

Stakeholder participation in decision-making processes can help local communities to clarify their interests and develop a society in that direction. Conflicts and different interests are not always negative, as they require handling and thus can be the start of a new positive influence. Forest landscapes are important for energy production, biomass production and considered as an important part in climate change at the same time as cultural, ecological and health values are important to stakeholders which have created a demand for adaptation of forest management including a sustainable thinking, both considering economical, social and cultural values (Angelstam et al., 2011, Selhub & Logan, 2012). Participation deal with the fact that people disagree about ideas and values, when society makes decisions on what is to be sustained and for whom, a struggling issue, it require agreements about the common good, not individual interests (Baker, 2006, WCED, 1987). Conflicts can therefore give opportunities for increased dialogue, and influence EU and national-level governance (Young et al., 2010). Implementation of policies on SD might also be a way to maintain and highlight ES, due to the close connection and co-evolution between them.

Ecosystem approach is one way to make ES visible in decision-making and could be done in steps by framing key policy issues, identifying ES and user groups, mapping and assessing status, valuating and finally assessing different policy options including distributional impacts. All steps include participation of actors as well as learning and providing feedback (SOU 2013:68). The ecosystem approach wants to remove borders between the different dimensions of sustainability and the fact that humans are strongly affecting and affected by nature and ecosystems, it does not want to exclude humans from the ecosystem, and therefore integration is a central part (CBD, 2003). This means that the term landscape approach is clearer in terms of explicitly stressing the role of integrating social and ecological systems.

5.3. Ecosystem Services as a tool for supporting sustainable development processes

ES are a concept which can help to concretize biodiversity as natural capital and thereby the ecological dimension of sustainability as pronounced in the Swedish Environmental Objectives (Miljödepartementet, 2009). Nevertheless, ES is a complicated issue. Many ES is more or less invisible to us, despite the fact that we use them all the time, just think about pure air. Several ES might be so obvious that we do not think of them. For example, discussions did not explicitly refer to supporting services, although they are necessary for the production of all other ES, and are part of often complex mechanisms and processes that generate them. Regulating ES like purification of water and air was mentioned but was not in focus during focus group discussions. Provisioning and cultural ES were on the other hand mentioned in every discussion as well as ecological and social dimensions of sustainability. This knowledge of the relationship between provisioning and regulating services can be a tool for sustainable land use management by identifying the tradeoffs and thus management options (Elmqvist et al., 2010). Minor focus on supporting ES might be explained due to different relationships between human well-being than the other three types of services; they do not directly benefit people and are hard to see in our every-day life (Haines-Young & Potschin, 2009). The importance of cultural ES was illustrated during every discussion; examples like the beautiful landscape and forests, lakes and mires were emphasized. It is thus clear that citizens appreciate their landscape and that cultural ES contribute to our wellbeing through the opportunities they provide for recreation or the enjoyment of nature (Haines-Young & Potschin, 2009).

6. CONCLUSIONS

There are many strengths and opportunities as well as weaknesses and threats for both SD and sustainability in Bergslagen. There is a challenge to focus on the positive aspects on the way towards sustainability. Despite the fact that almost all policies include SD, there are still questions about how to successfully implement them and how to translate the vision of the policy to practical targets. I identify five key steps needed to plan and make decisions that might lead Bergslagen forward in a sustainable way, ecologically, economically and socially;

- Mapping of stakeholders and their interests as a basis for collaboration, thus highlighting what is important for different stakeholders in the area.
- Mapping and visualize ecosystem services (ES) and their use, including for people less obvious ES. To include ES in planning and decision making.
- Stakeholder participation in the planning processes has a crucial role in the development of areas in a sustainable way. Knowledge of stakeholders and stakeholder's needs increases understanding among different groups of actors and stakeholders.
- Collaboration among stakeholders is needed for long-term sustainable management and the use of ES.
- Collaboration need to build on transparent evidence-based knowledge about the sustainability status and trends of ES from empirical studies. In addition there is a need for a combination of sciences and tools to visualize this data and to get a wider perspective and understanding, both in place and space.

However collaboration and stakeholder participation is a diversified and tricky question with a lot of aspects and views to consider, not just in Bergslagen. By analyzing economic development to social and ecological footprints and back again in Bergslagen we can learn about the place and space and enhance a holistic view for future planning and development in line with stakeholder’s opinions about what is important for them and their area. This study represents the kind of approach that could assist a collaborative learning process and allow actors to steer towards sustainability in Bergslagen and other areas.

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9. APPENDIX

Appendix 1 46
Manual for holding standardized focus group discussions and subsequent analysis (role of facilitator).
In Swedish
Appendix 2 48
Full tables Ecosystem Services and Sustainable Development dimensions
Appendix 3 56
Full table category “Other”
Appendix 4 61
Table with opinions connected to the landscape objectives and integrating themes for the NGO Sustainable Bergslagen

Manual for holding standardized focus group discussions and subsequent analysis (role of facilitator)

1. Introduction

Hello, my name is xx and I work for the Foundation Säfsen Forests which aims at promote entrepreneurship, information, research and education in Fredriksberg and surrounding areas in ecology, management of wildlife, natural and cultural history and in addition related activities. Together with yy from the research group Forest-Landscape-Society at SLU in Skinnskatteberg/Sweden we want to understand the opportunities and challenges for local development today and in the future in villages, communities, watersheds in different parts of the Bergslagen region. A first step is to learn about the benefits which people and businesses have from the landscape in your place, both directly in the form of jobs linked to products or services, and indirectly in the form of other reasons why you live here. Ultimately our meetings with people in Bergslagen aim at supporting knowledge-based dialogue between actors towards Sustainable Bergslagen. We want to learn from you by gathering and analyzing your experience of being/living in this area. What is important?

2. Sit around a (round) table and show paper map of the study region (Bergslagen) (and if necessary the local village/valley/catchment).

3. I will take notes during the discussion, and list headings about what we are talking about as a 2x3 table with pros and cons as columns and past, present and future as columns. (This is called SWOT-analyze after the words strengths, weaknesses, opportunities, threats – not mentioned to the participants).

4. Checkpoints for analyses (role of assistant)

Facilitate the group's conversation about

- Why do you live here?
- What do people work with here?
- What do you do in your spare time?
- What is good today here?
- Not so good today?
- Opportunities in the future?
- Threats in the future?
- How is the area affected by the surrounding? (How are rural areas affected positively or negatively by the regional and central government? Talk about global change, economy, weather, and climate.
- How has everything changed? Talk about trends over time – past to present, and scenarios for the future.
- How decides/plans here? Who makes decisions about the area, how does the management of the landscape work?

In Swedish

1. Hej, jag heter xx och arbetar för stiftelsen Säfsenskogarna som driver olika projekt med syftet att stötta en hållbar utveckling lokalt i Säfsen och i hela Bergslagen (främja företagande, information, forskning och utbildning i Fredriksberg med omnejd inom kompetensområdena ekologi, rovvilts-förvaltning, natur- och kulturhistoria samt därtill närliggande verksamheter). Tillsammans med xx från forskargruppen Skog-Landskap-Samhälle vid SLU i Skinnskatteberg vill vi förstå hinder och möjligheter för utveckling idag, och i framtiden inom byar, samhällen och avrinningsområden i olika delar av Bergslagen. Ett första steg är lära om på vilka sätt människor och företag har nytta av bygden, både direkt i form av jobb och indirekt i form av andra anledning till att man bor här. I slutändan handlar våra möten med människor i Bergslagen om att bidra till att ta fram ett underlag för en kunskapsbaserad dialog mellan aktörer i området för ett hållbart Bergslagen. Vi vill gärna lära oss av er genom att få ta del av era erfarenheter av att bo och vara i området. Vad är viktigt?
2. Mötesdeltagarna sitter vid ett runt bord. Kartor delas ut som översiktligt visar aktuellt avrinningsområde med kommungränser och samhällen samt eventuellt en mer detaljerad karta över specifikt område.
3. Under diskussionen kommer jag att föra anteckningar - ta fram blädderblock. Förenklat listar vi det som tagits upp som en tabell med plus och minus som rader, och förr, nu och framtid som kolumner. (Detta kallas ibland för SWOT-analys efter engelskan strengths, weaknesses, opportunities, threats).
4. För att underlätta diskussionen ställs frågorna (vid behov);

- Varför bor du här?
- Vad arbetar människor med här?
- Vad gör du på fritiden? Hur är fisket?
- Vad är bra med den här platsen idag? Vad finns här?
- Vad är mindre bra idag? Vad har funnits vad borde finnas?
- Vad finns det för möjligheter i framtiden? Hur ska samhället leva, vad gör man/bör man göra?
- Finns det några svårigheter för framtiden?
- Hur påverkas platsen av omvärlden? Samtala om globala förändringar (ekonomi, väder, klimat) för varje cell.
- Hur påverkas (positivt eller negativt) platsen (landsbygden) av regering, myndigheter och andra styrande organ samt regler och beslut fattade av dessa?
- Hur har platsen förändrats? Samtala om trenden/hur det har sett ut fram till idag, och vad som är troligt/kan hända i framtiden.
- Hur tas beslut/planerar man här? Vem bestämmer hur det ser ut här, hur sköts landskapet?

Full tables Ecosystem Services and Sustainable Development dimensions

Topics discussed during focus group discussions sorted by Ecosystem Services and dimensions of Sustainable Development. Topics presented in the table do not represent fact or my opinions, it highlight the opinions and subjects mentioned by participants. The table is divided into three parts, past, present and future. Past represent how it used to be, a few or several years ago. Present represent the state today and future represent possibilities, desired outcomes and prediction (positive or negative).

Past	Ecological		Economical		Social		Cultural	
	+	-	+	-	+	-	+	-
Supporting		• Policies about sustainability was created but not used in decision-making e.g. Agenda 21 • Poor knowledge about environmental toxins	• Less grass on clear cuts			• Motocross area closed due to environmental reasons		
Provisioning	• Crayfish was common in streams • Salmon trout was common • Fish was food • Good water quality in lakes and streams on the countryside • Forestry adopted to time of year – management during fall and winter • High felling age on trees • Lot of moose • Floatation of timber • Nature decide	• Poor water due to industries • Pollution, emissions and ditching affected water quality negative •Implantation of pike, mainly for food during 1940´s • No consideration to water in forestry • Crop-spraying against deciduous trees in forests • Display area for Great Grouse destroyed • Lot of moose • Less consideration in forestry • Companies leaving when	• Mines and blast furnaces in the area •Floatation of timber •Lingonberry supplier was located in the village	• Companies leaving when raw material end • Mining end • Economical extraction	• Good knowledge about water in the area (streams, lakes) • Everyone had a small boat for fishing • Self-supplying by fishing, hunting and crops • Local fishing permit •Lingonberry supplier was located in the village	• Wolves became more common • Companies leaving when raw material end and leave behind contamination •Economical extraction	• Mining history as tourist attraction in the area	

	over economy	raw material end and leave behind contamination • Forestry machines used to be washed in streams • Policies about sustainability was created but not used in decision-making e.g. Agenda 21 • Poor knowledge about environmental toxins						
Regulating	• More dispensers for limestone	•"Dead" lake – dead fish due to pollution •Acidification • Policies about sustainability was created but not used in decision-making e.g. Agenda 21 • Poor knowledge about environmental toxins						
Cultural	• The nature used to be nice • Open culture landscape • Open landscape and a lot of gardening was common • More old-grown forest •Haymaking later during summer benefits birds • Green and wild surrounding area	•Monoculture in the forests • Policies about sustainability was created but not used in decision-making e.g. Agenda 21 • Poor knowledge about environmental toxins			•Prosperously place- it had everything • More time was spent in nature • Many public beaches around the lakes	• Feeling of doom	• Characterized by growth environment • You had identity – Bergslagen – •"bruksmentalitet" • Enviousness • Work gave pride • Many Finnish people	• Sharp mentality – hard for new people

Present	Ecological		Economical		Social		Cultural	
	+	-	+	-	+	-	+	-
Supporting	•Nature conservation	•Poor habitats •Policies about sustainability was created bus not used in decision-making e.g. Agenda 21 •Driving damages (from forest machines) is the biggest interrupter •Conflict between economy and ecology: Economy controls ecology/nature		•Land shortage	•Many available cottages in the area •Nice houses close to nature	•Smaller clear cuts but clear cuts close to village •Care only about the own yard – the rest is •**Overgrowing**		
Provisioning	•Large area of farmland •Agriculture •Pure water •Pure air •A lot of water in the area •Pure streams and lakes •Water- and hydropower •Planted trout in lakes •Leap spring for fishes in streams •**Hunting and fishing** •Berries and mushrooms •Wild animals Increased amount of beers – no problem •Smaller clear cuts with more retention trees •Iron	•Less fish now, small fish, hard to fish •Pike and roach (instead of trout) •Is fish affected by machines in forestry? •Clear cut areas •Fishing is a hobby •Water regulation •Ponds without branches create empty grooves •Overgrowing of wells •Clear cut areas Smaller clear cuts but low felling age •Forested area have to be planted right after clear cut •Forestry can destroy and affect a lot •Wells destroyed by forestry •Affected forests	•Local products on market days •Wild animals makes ecotourism an great opportunity •Mining as an opportunity to work and a living village •Wind power = green power, job opportunity •Put and take also on pike •Hunting – as a business, for rich people and foreigners	•Expensive power distribution •Forestry in areas with (eco)tourism •Low salary for farmers •Sawmill hit by recession •Dependence on winter and snow	•Good water quality – water projects important •Forest company owns forest and control – makes hunting easy •Good communication between resort, forest company and municipality about wind power •Hunting •Fishing •Local products •Increased acceptance for final fellings •Berry picker shop locally •A lot of opinions about forestry because of interest in nature	•Wind power disturb, destruction of view and loss of intactness (Wild feeling) •Lack of discussion about forestry •Scepticism before final felling •Forestry cut a lot and fast – a quick change of landscape picture •Conflicts between forest company and hunters about moose level •Local hunters want to be alone as a group, without other hunters •Hunting is changing •Wolves in	•Haymaking and other cultural activities as experience	

Present	Ecological		Economical		Social		Cultural	
	+	-	+	-	+	-	+	-
	•Forestry is a long term cycle •Forest is renewable •Beaver increase •Otter increase •Nature conservation	•Forestry affect opportunity to pick berries and mushrooms •Increased berry picking = increased littering in nature? •Might be a potential conflict. •Vehicle damage in forest •Lack of agriculture – land is unused •Hay making to early – birds disappear •Nature may not function properly, in cycles, prey and predators regulate themselves •Wild animals e.g. •Roe deer, fox, hare •Foreign hunters want full service and pay the same money as local hunters, but do not take care about the area/animals the rest of the year. •Hunting and fishing in nature reserves •Forestry during the whole year – even during spring when animals breed •Policies about				the area change the behaviour of moose and that confuses the dogs and they don't work as they should •Wolf – dog, a problem •Wolf is a infected subject, local people must be a part of decisions •Skip wolf hunting and use protective hunting, 28 §[2] •Wolves used to be afraid of man •Big faith to reopening of mines •EU benefits tread •Machines instead of people •Mine – just a short perspective 10-15 years •A lot of opinions about forestry because of interest in nature •Problem with low acceptance for forest companies because of small and few other landowner		

[2] Jaktförordning (1987:905) 28 § (Hunting law)
http://www.notisum.se/rnp/sls/lag/19870905.HTM Acessed: 2013-11-08

Present	Ecological		Economical		Social		Cultural	
	+	-	+	-	+	-	+	-
		sustainability was created bus not used in decision-making e.g. Agenda 21 •Driving damages (from forest machines) is the biggest interrupter •Food is transported long ways – need of import •Conflict between economy and ecology: Economy controls ecology/nature				s and people with small income (workers and low income earner lives here)		
Regulating	•Investment in water and sewer systems •Nature conservation	•Acidification of waters •Increased attacks by pine weevil in some areas. •More ticks in some areas. •Invasive species – a threat? •Lack of fire in landscape •Policies about sustainability was created bus not used in decision-making e.g. Agenda 21 •Poor pH-level in waters? •Conflict between economy and ecology: Economy controls ecology/nature		•Fly on moose has increased and destroy skin – cannot sell it	•Laundry service and tourism lead to building of purification work and waterworks	•Hard to understand global warming		
Cultural	•**NATURE!** •Outdoor recreation •Area and space •Forests, lakes,	•Development a threat to ecotourism •Black nights •Forest can also be scary •Forest	•(Eco)Tourism a great export value •Local company/resort nominated	•Lack of complement activity to tourism •Less support and money for	•Jack of all trades – farming, forestry •Appreciate the contrast city-forest	•Noise from vehicles in nature •Bike, ride, hiking and culture	•Born here – identity and pride •Everyone knows each other – no	•Born here •No mowing as it used to be •Little time is

Present	Ecological		Economical		Social		Cultural	
	+	-	+	-	+	-	+	-
	mires •Beautiful place •Forest – safety •Stars and black nights •Calm and quiet •Rich nature •Lot of space •Proximity to forest and nature •View •Nature conservation •Close wilderness	disappear •Demand on bike roads etc increase, more affection on nature, wear on nature increase •Forestry cut a lot and fast – a quick change of landscape picture •Lack of grazing cattle •Care only about the own yard – the rest is •**Overgrowing** •Few larches, not enough protected areas •Nature reserve increase at the expense of disappearance of old forest •Wear on nature by tourism •Policies about sustainability was created bus not used in decision-making e.g. Agenda 21 •Driving damages (from forest machines) is the biggest interrupter •Conflict between economy and ecology: Economy controls ecology/nature	to the best experience in Sweden	back country, landscape conservation etc.	•Nice, central place •Beautiful place •Outdoor activities (in nature) •Outdoor experiences/ activities (Paddling, skiing, hiking, biking etc.) •Silence – new experience for many people •Close to forest/nature = more activity •Horseback riding in forest •Sport possibilities •Ski resort •Hunting and tourism need to respect each other •Bike race •Social consideration taken by forest company	inspired paths is needed •Conflict between calmness and vehicles in nature? •Youths have other interests than nature •Hard to define "living close to shore" •Lack of complement activity to tourism •Low interest from municipality to support activities/create places for youths •Lack of knowledge about tourism in the municipality, among politicians •More recreation activities are needed, need to be focused on •Concurrence and conflicts about forest roads, everyone wants to use them.	anonymity •Roots give pride and strong identity •Grown up here, comfort, relatives, close to home •Quality of life •Enviousness still present in the background •Cultural landscape - Iron culture •Museums •Historical places in the area •Culture – music, film	spent in the nature – lost of knowledge about nature etc. from the past •No anonymity •Problem with identity •"Bruksmentalitet" •No pride •Travels to other countries instead of summer houses in the area

Future	Ecological		Economical		Social		Cultural	
	+	-	+	-	+	-	+	-
Supporting		•Houses close to water – a threat •Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel)				•Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel)		
Provisioning	•Cray fishing •Local fishing permits •Limit fishing on selected places •Grow your own crop •Locally produced food •Wind power – green power •More knowledge about groundwater level in the future because of laser scanning = better/more effective consideration? •Adopt forestry for moose ex. cleaning height •Edge zones in forestry hasn't changed very much •New technical – machines in forestry •Nature consideration in	•Large expansion of wind power •Mining •Fish farming destroy water? •Water regulation •Clear cuts •Risk for forest plantations? •Less moose than before •Increased berry picking = increased littering in nature? Might be a potential conflict. •Forestry during the whole year – even during spring when animals breed •Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel)	•Quarry - for roads etc. •Hydro- and wind power - review power distribution, job opportunities •Mining •Develop fishing tourism •Hunting – as a business, for rich people and foreigners •More efficient snow cannon to decrease dependence of long and cold winter	•Private landowners – hard to develop hunting •Forestry / Clear cutting might be a problem for (eco)tourism companies •Wind power create few local jobs and a negative job chain (no forestry – no forester – no planner etc). •Expensive to hunt- hard to attract youths	•Restoration of river result in more trout and more interest occur among fishermen •Hunting •Demand and distribution of pike – an opportunity •Mining can improve infrastructure by building/improve roads	•Mining as a problem according to transports – a lot of traffic on the roads •Harder to use forests in future? •Wind power disturb, destruction of view and loss of intactness (Wild feeling) •Wolf is a infected subject, local people must be a part of decisions •Skip wolf hunting and use protective hunting, 28 §[2] • "Jägarkår" Swedish hunting association is black listed among many people – local hunting is dying? •No interest by youths. •Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel)		

Future	Ecological		Economical		Social		Cultural	
	+	-	+	-	+	-	+	-
	forestry							
Regulating		•Increased attacks by pine weevil in some areas. •More ticks in some areas. Invasive species •Extreme weather •Bad knowledge about ground destruction, laws and disturbance among vehicle drivers (4-wheel)				•Hard to understand global warming •Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel)		
Cultural	•Nature •Keep "free space" in landscape	•Wear on nature by tourism Demand on bike roads etc increase, more affection on nature, wear on nature increase •Hunting and all-terrain vehicle in nature reserves – who is responsible for control? •Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel)	•(Eco)Tourism a great export value •Winter season an opportunity for (eco)tourism •Little time is spent in the nature – opportunity for tourism •Forest as experience •Attractive forests •Wilderness experience •Moose/Wild animal tourism •Searching for adrenaline •Tourism •Foreign tourists •Need of activities also during summer	•Financial support is needed for small (eco)tourism companies •Tourism connected to wild animals is not popular •Lack of complement activity to tourism •Hunting and all-terrain vehicle in nature reserves – who is responsible for control?	•Bike, ride and hiking paths •Keep "free space" in landscape •Increasing interest for ecotourism from municipality •Nature school •Hunting and tourism need to respect each other	•Conflict between calmness and vehicles in nature? •Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel) •Little time is spent in the nature – lost of knowledge about nature etc. from the past		•Little time is spent in the nature – lost of knowledge about nature etc. from the past •Hard with culture

Full table category "Other"

All human, society and infrastructure terms are sorted under the category other, if these could not be connected to any ecosystem service or described as affecting those. Topics sorted by dimensions of sustainable development. Topics presented in the table do not represent fact or my opinions, it highlight the opinions and subjects mentioned by participants. The table is divided into three parts, past, present and future. Past represent how it used to be, a few or several years ago. Present represent the state today and future represent possibilities, desired outcomes and prediction (positive or negative).

Past			
Ecological	+	• Larches during spring	
	-	• Ecologically negative development in forests??	
Economical	+	• Large trade route • Railroad • Factories	
	-	• Factories closed	
Social	+	• Large in-migration due to railroad and sawmill in the past • Mail was delivered to the house • You could go straight from school to work – no unemployment • Lack of workforces – immigration of Finnish and Dutch's • More "life" in the area • Markets and other collective activities every year • Everyone could get a job during summer – and thereby learn • Industrial vacation • Better telephone communication due to landlines • Restaurants in the area • Bus for workers • Summerhouses instead of travelling to other countries	• Social control (connected to the large company) • Lot of associations • Local engagement • Many public beaches around the lakes • Local bakery • All service you needed, doctor, shops etc. • Golf used to be popular • Jobs on factory and sawmill • Factories • More jobs available • You used to bike everywhere • Heavy work could be good for the body
	-	• Change of owner – forest machines instead of people, job lost • Collective belonging? • Bigger local population? • Smell from the factory • Increased living standard? • Heavy work could be bad for the body • Motocross club closed down • Floor ball team decreased	• Local schools closed • Decrease in population • Social control • Bullshit • Railroad disappeared • Factories closed • Low salaries due to exchange of employees
Cultural	+		
	-	• Dependence on one large company/industry • Many old buildings were destroyed instead of renovated	

Present			
Ecological	+		
	-	• A problem with snowmobiles and other vehicles – drivers go everywhere	
Economical	+	• Local entrepreneur with initiatives • Many small businesses – entrepreneurs • People with their own companies move to the area • Dutch are entrepreneurs • Laundry located in the village	• Big companies are located here • Low price on properties • Not affected by financial crisis • Business world
	-	• Many is dependent on one or few large companies – risky • Less time on companies for trainees • Company owners have demands on profit and few employees • Lack of diversity in trade • Small companies are connected to high costs • Small companies are moving to other cities • Dutch are entrepreneurs – but too few • Few self-employed • Big companies inhibit small entrepreneurs • Many companies have a short economical perspective, for example berry companies	• Financing of new housing estate • Concern to invest in properties etc. • Too few houses/apartments - lack of money • Bad forest roads – lack of money • "white spot on the map" – place unknown • Dependence of broadband – hard without, only wireless connection available • Low education level
Social	+	• Commute to work is an opportunity to live here • Good school transport • Good train connection • Railroad important for communication • Infrastructure • No traffic jams • Low unemployment • Restorations of summerhouses – brings people to the area • Cooperation in villages • Strong collective activities in many villages - important • Calm place where everyone says hello • Growth on the place – knows where everything is • Lot of voluntary groups • Local engagement – strong community • Project for local use • Politic from villages • Different cultures are accepted • A safe place for children • Cohesiveness in the village • Time for your customers • Good child care • Good care of old people • Take care of each other • Many friends in the area • Close and fast to things	• Safety • Big enough • We believe in a good future • Increase in population • Small-scale • Cheap to live here • Focus on opportunities • Increased support from municipality • Cooperation with municipality important • Good contact with municipality • School for Forest Management • Many schools left • Increased interest about the place among out-migrants • Easier to find job in a smaller place compared to Stockholm • Jobs in forestry • Job and private interest is connected and create comfort and a lifestyle • Library available • Freedom to drive motocross and tractor • Need of connecting resort with community • Good service for guests – you see each other, fellowship with colleagues and guests • Avatar = needed= good contact = know people • New demands from guests – good internet connections • Possible to communicate with forest companies

	-	• "white spot on the map" – place unknown • Low or bad coverage for mobile phones • A need of better internet – broadband • Dependence of broadband – hard without, only wireless connection available • Many have to commute to school and work – long days • Need better train and bus connections – bad communication • Long way to school • Dependence on car • Bad roads • Empty villages – mostly summerhouses • Few citizens in the village – and all retired • Lack of immigration • Few new housing estates • Cheap apartments • attract "wrong" people • Few apartments/houses • Decrease of job opportunities, few jobs, make people move out • Young people and families with children move out • Outmigration a problem • Low education level • Skew age distribution • Bullshit exist • Feeling of insecurity • Hard to meet a partner • Social coldness • Cohesiveness in the village • Low population growth • Scepticism against new ideas • Poor service ex. mail, hard to influence	• Few shops • Bath house far away • Schools closed • Lack of high school (year 16-19) • Healthcare far away • Hard to get permissions from authorities • Lack of sympathy from municipality • Municipality is "slow", long decision processes • A lot of decisions etc. have a Stockholm perspective and isn't adopted to back country • Lack of cooperation between school for forest management and local forest company • Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel) • Increased amount of foreign workers in forestry can lead to less local knowledge • Need of more cooperation • Hard to get people involved in collective activities • Hard to get youths involved in societies • A need of more activities for youths • Hard to understand the aim with LEADER – it's not a project – it´s processes • Why LEADER isn't adopted by municipality • Lack of networking – change of knowledge • Easy to forget small opportunities in the shadow of big thoughts • Many companies have a short economical perspective, for example berry companies • Shops shut down or move to larger cities • Expensive food
Cultural	+	• Local theatre group • Cooperation in villages • Strong collective activities in many villages-important • Calm place where everyone says hello • Growth on the place – knows where everything is • Lot of voluntary groups	• Local engagement – strong community • Different cultures are accepted • Cohesiveness in the village • Take care of each other • Honesty • We believe in a good future
	-	• Need of connecting resort with community	

Future			
Ecological	+	• Integrated planning – need and opportunity • Processes that anchor documents = plans that is used • Projects in the area financed by EU. • Change trend and attitude to realistic ideas • Keep projects to go from projects to process – a challenge • Projects as a long process	• Compare equal groups (companies and organisations) and analyse weaknesses and strengths • Find the right role for every group = strength • Don't focus on too many projects, time for networking is important • PBL doesn't fit – limiting
	-	• Increased amount of foreign workers in forestry can lead to less local knowledge	

Economical	**+**	• Want railroad to the area again • National economical view is needed • Innovative local industries • Potential for more companies in the area • Society for entrepreneurs? • Shop locally • Build apartment close to water in already existing large buildings in harbours and industrial areas • Potential in value for location of houses • Remove disadvantages for investments in rural areas • Need of new system for tripled livelihoods (combined system – job – unemployment fund – own company, to enable life in rural areas)	• Integrated planning – need and opportunity • Processes that anchor documents = plans that is used • Projects in the area financed by EU. • Change trend and attitude to realistic ideas • Keep projects to go from projects to process – a challenge • Projects as a long process • Compare equal groups (companies and organisations) and analyse weaknesses and strengths • Find the right role for every group = strength • Don't focus on too many projects, time for networking is important • PBL doesn't fit – limiting
	-	• Dependence on one industrial firm is risky • Few shops • Company owners have demands on profit and few employees • Municipalities have to follow legislations	• Lack of knowledge about tourism in the municipality, among politicians • No strategic thinking
Social	**+**	• Need for immigration • Potential immigration of old people • Youths stays • Tenacity and willingness • Belief in the future • Minority of inhabitants negative • Small companies need commitment from locals – network and cooperation • Children are important • Keep and expand railroad connections • Possibility to commute to work • "free" jobs • Working at home – telecommuting • Opportunity to work less than 100 % • Need of new entrepreneurs • Developed communication • Broadband by fibre • New rules about shore protection in some parts • Near lake lots • Faster building permits	• Think in a long term • More restaurants • Need of local doctor • Good schools, local schools • Bath house • Urbanisation decline • Attractive area • Need strong village councils • A need of both regional and central perspective • Cooperation among actors/stakeholders = new solutions • Integrated planning – need and opportunity • Processes that anchor documents = plans that is used • Projects in the area financed by EU. • Change trend and attitude to realistic ideas • Keep projects to go from projects to process – a challenge • Projects as a long process • Compare equal groups (companies and organisations) and analyse weaknesses and strengths • Find the right role for every group = strength • Don't focus on too many projects, time for networking is important

	-	• Skew sex distribution • Number of citizens to low? • Small communities are vulnerable depends on very few people • Immigrants • Low level of education • Lack of education and competence • "Someone else"-should do it • Job control opportunity to live here • Job opportunities • Limited opportunities to commute • Dependence on internet among both private people and companies • Lack of active planning • PBL doesn't fit – limiting • Municipalities have to follow legislations • Hard environmental rules can obstruct hobbies as motocross • Rural politic is weakened	• No strategic thinking • Hard to affect decisions • A lot of decisions etc. have a Stockholm perspective and isn't adopted to back country • Projects in the area financed by EU, when money ends, project end • Few new housing estates • Local companies/schools/shops moving • No time for children, youths • Increased amount of foreign workers in forestry can lead to less local knowledge • Concern to invest in houses/properties • Price development on houses • Few shops • Aim in projects (LEADER) is often forgotten and money become more important
Cultural	+	• Integrated planning – need and opportunity • Processes that anchor documents = plans that is used • Projects in the area financed by EU. • Change trend and attitude to realistic ideas • Keep projects to go from projects to process – a challenge • Projects as a long process	• Compare equal groups (companies and organisations) and analyse weaknesses and strengths • Find the right role for every group = strength • Don't focus on too many projects, time for networking is important • PBL doesn't fit – limiting
	-		

Table with opinions connected to the goals of the NGO Sustainable Bergslagen

An example of how to use data collected during focus group discussions. Data are sorted after the landscape objectives and integrating themes for the NGO Sustainable Bergslagen.

Dimensions of sustainable development (Baker 2006, Axelsson et al. 2013)	Economy		Ecology / Environment	Social	Cultural
Landscape objectives for Sustainable Bergslagen	Small/local entrepreneurs	Sustainable Forest Management	Functional Green Infrastructures	Community and Rural Development	
	Sustainable Mining	Sustainable Water Management			
Focus groups Bergslagen: Municipalities Village councils Society for conservation of Nature and Environment Local theatre group Fishing associations Forest company Ski and outdoor company Tourist companies Hunting association	Expensive power distribution Sawmill hit by recession Hydro- and wind power - review power distribution Many small businesses - Entrepreneurs Berry picker shop locally Laundry located here Demand and distribution of pike – an opportunity Job control opportunity to live here Investment in water and sewer Berry picker shop locally Laundry located here Demand and distribution of pike – an opportunity Job control opportunity to live here Investment in water and sewer Berry picker shop locally Laundry located here Demand and distribution of pike – an opportunity Job control opportunity to live here Investment in water and sewer Berry picker shop locally Laundry located here Demand and distribution of pike – an opportunity Job control opportunity to live here Investment in water and sewer Tourism a great export value Forestry / Clear cutting might be a problem for tourist companies Financial support is needed for small tourist companies Small companies with enterprise Mining as opportunity to work and a living village Mining as a problem according to transports – a lot of traffic on the roads		Used to be lack of consideration in forestry. Acidification was more common.Land shortage Large area of farmland - Agriculture Pure water Pure air Nature! Hunting and fishing Outdoor recreation Proximity to forest and nature Hunting Restoration of river result in more trout and more interest occur among fishermen Less fish now, small fish, hard to fish Pike and roach (instead of trout) No mowing left Nature! Space is important Appreciate the contrast city-forest Wild animals – ecotourism an great opportunity Winter season an opportunity Close to nature Picking berries and mushrooms Pure water in rivers and lakes Forests, lakes – nature! Mushrooms and berries Fishing Fishing, hunting,	Used to be more service, schools, industries, jobs, railroad Used to be more jobs here Work gave pride Everyone could get a job during summer You could go straight from school to work – no unemployment Prosperously place- it had everything Mail was delivered to the house Lingonberry buyer in the village Large influx due to railroad and sawmill in the past. Financing of new housing estate Concern to invest in properties etc. Low unemployment Born and raised here - identity and pride Jack of all trades – farming, forestry Commute to work Immigration Tenacity and willingness Belief in the future “white spot on the map” – place unknown Lack of active planning Skew sex distribution among out-migrants Minority of	Former trade route Cultural landscape - Iron culture Floatation of timber was present Traditional salmon trout and cray fish fishing – machines instead of people in the forest The nature used to be nice Open culture landscape used to be common Open landscape and a lot of gardening was common Used to be more open land More enjoyable old-grown forest You had identity – Bergslagen – “bruksmentalitet” Social control Lot of associations Local engagement Many public bathing places “Bruksanda”, jealously is in the background since the past

	Small companies are moving to other cities Few jobs Mining as an opportunity Nature conservation Forestry can destroy and affect a lot Shops shut down Low salary for farmers Hard with jobs Mining as opportunity Development a threat to ecotourism Mining lead to job opportunities Smaller clear cuts but clear cuts close to village and low felling age Conflict between economy and ecology Economy controls ecology/nature Wear on nature by tourism Businesses move to larger shopping centre (Erikslund) Need of new entrepreneurs Opportunity to work less than 100 % Low prices on properties Cheap properties Mining – bad for environment? But also good? Cheap apartments temp "wrong" people Wind power disturb Tourism – opportunity in future Säfsen Resort is good Only one supermarket (Konsum) No jobs Cheap houses Not affected by financial crisis Big companies are located here ex. ABB, Spendrups Mine – just a short perspective 10-15 years Lack of diversity in trade Too few houses/apartments Lack of discussion about forestry Risk for forest plantations? Harder to use forests in future? Laundry service and tourism lead to building of purification work and waterworks Säfsen Resort is an entrance Immigrants with their own companies Tourism is an opportunity in the future Need of "free space" Wind power = green power, job opportunity but also destruction of view and loss of intactness (Wild feeling) Machines instead of people Forest company owns forest and control – makes hunting easy	forest – nature! Good water quality – water projects important Lack of grazing cattle Invasive species – a threat? Overgrowing Fishing Mushrooms Wild animals Hunting Fishing Mushrooms Wild animals Hunting Fishing Wild animals, predators Lack of grazing cattle Lack of agriculture – land is unused Hard to understand global warming Invasive species – a threat? Forest, nature Berries, mushrooms, fishing and hunting Seaside grounds Beautiful place Forest – safety Iron Stars and black nights Calm and quiet Rich nature Lot of space Animals Nature, beautiful place Mushrooms and berries Calm Forest – view Hunting Fishing camp as opportunity Water regulation bad for fish etc. Forest disappear Vehicle damage in forest Bad fishing Nice houses close to nature Close to forest/nature = more activity Bad fishing Overgrowing Nice place – nature, calm Hunting, fishing A lot of water in the area Forest can also be scary Poison left from factory – low priority by municipality Hunting and fishing	inhabitants negative Low level of education Lack of education and competence "Someone else" PBL doesn't fit – limiting Dependence on one industrial firm is risky Want railroad again Many available cottages in the area Empty villages – summerhouses Few residents in the village – all retired Dependence of broadband – hard without, only wireless connection available Poor service ex. Mail, hard to influence Care only about the own yard – the rest is overgrowing Lack of immigration Private landowners – hard to develop hunting Increasing interest from municipality Little time is spent in the nature – lost of knowledge Small companies need commitment from locals – network and cooperation Lack of knowledge about tourism in the municipality, among politicians Important with strong collective activities Hard to get youths involved in societies Low price on properties Many is dependent on one large company – risky Railroad important for communication Municipality is "slow", long decision processes Low education level Calm place where everyone says hello A safe place for children Time for your customers Different cultures are accepted	

	Job in forestry Increased acceptance for final fellings Social consideration taken by forest company A lot of opinions about forestry because of interest in nature – good and bad More knowledge about groundwater level in the future because of laser scanning = better/more effective consideration? Few self-employed Problem with low acceptance for forest companies because of small and few other landowners and people with small income (workers and low income earner lives here) Scientism before final felling Driving damages is the biggest interrupter Säfsen Resort nominated to the best experience in Sweden Forestry is a long term cycle Shops and service dependent on Säfsen Resort Good communication between resort, forest company and municipality about wind power Need of connecting resort with community New perspective on venture capital etc. for rural landscape/back country is needed A need of both regional and central perspective Hunting – as a business, for rich people and foreigners Many companies have a short perspective for example berry companies Lack of complement activity to tourism Increased amount of foreign workers in forestry can lead to less local knowledge Wind power a risk for tourism, bad views. Wind power create few local jobs and a negative job chain (no forestry – no forester – no planner etc). Tourism Forest is renewable Forestry cut a lot and fast – a quick change of landscape picture	Nature Many lakes Overgrowing of wells Increased berry picking = increased littering in nature? Might be a potential conflict. Increased attacks by pine weevil in some areas. More ticks in some areas. Bad knowledge about ground destruction, laws and disturbance among vehicle drives (4-wheel) Is fish affected by machines in forestry? Nature Forest landscape, lakes, mires Close to forest Outdoor activities (in nature) Outdoor experiences Berry picking and fishing – the richness of forests Demand on bike roads etc increase, more affection on nature, wear on nature increase Hunting – for rich people Wolf is a infected subject, local people must be a part of decisions Increased berry picking = increased littering in nature Hunting and fishing Nature Skiing Silence – new experience for many people Increased amount of bears – no problem Increased amount of wolfs – problem Skip wolf hunting and use protective hunting, §28 Wolves should be afraid of man Wolves in the area change the behaviour of moose and that confuses the dogs and they don't work as they should Wolf – dog, a problem Nature may not function properly, in	Few job opportunities A need of more activities for youths Cooperation with municipality important Lack of immigration Born and raised here - identity Many friends in the area Low or bad coverage for mobile phones A need of better internet - broadband Need better train and bus connections – bad communication Food is transported long ways – need of import Need of better broadband – fibre Born and raised here - identity and pride Long way to school Low interest from municipality - lack of money More recreation activities are needed, need to be focused on You don't use documents ex. Agenda 21 when planning Low interest from municipality Food is transported long ways – need of import Outmigration a problem A need of immigration Need of better communications to cities Lack of educated people No anonymity No strategic thinking Problem with identity Need of sport and culture Skew age structure Lot of associations Local engagement – strong community Project for local use Roots give pride and strong identity Politic from villages	

		cycles, prey and predators regulate themselves Hunting is changing A problem with snowmobiles and other vehicles – drivers go everywhere Foreign hunters want full service and pay the same money as local hunters, but do not take care about the area the rest of the year. Fly on moose has increased and destroy skin – cannot sell it	Urbanization decline Immigration of old people Sharp mentality – hard for new people Lack of high school Commutation necessary Malarkey occur Hard with culture Quality of life Take care of each other Need of broadband, better internet Need of collaboration Health care far away Lack of communications Young people move Atmosphere Bike race (Finnmarksturen) Dutch are entrepreneurs – but too few Population growth Integrated planning – need and opportunity Hard to affect Need strong village councils Feeling of doom Unsafe No pride as Ludvika habitant Hard to meet a partner Lack of engagement Social cooling Dependence on car Good infrastructure, but need of more communication Good internet No tailbacks Close and fast to things Safety Culture – music, film etc. Many schools left Big enough Ski resort Good future Born and raised here = identity Need of/ opportunity to commute Unity in the village – “everyone says hello” Need of activities also during summer – dependence on winter and snow Cooperation = new	

			solutions Lack of jobs Less moose Need of more service Young people move Bad road Grown up here, comfort, relatives, close to home Dutch and Germans as tourists and immigrants Restorations of summerhouses Bad forest roads – lack of money Conflict between calmness and vehicles in nature? Job and private interest is connected and create comfort and a lifestyle Good service for guests – you see each other Good contact with municipality Avatar = needed= good contact = know people Associations that is connected with nature and culture Fellowship with colleagues and guests Need of local doctor Need of a combined system – job – unemployment fund – own company, to enable life in back country New demands from guests – good internet connections A lot of decisions etc. have a Stockholm perspective and isn't adopted to back country Less support and money for back country, landscape conservation etc. Concurrence and conflicts about forest roads, everyone wants to use them. Low population growth "Jägarkår" Swedish hunting association is black listed among many people	

			– local Hunting is dying? No interest by youths. Expensive to hunt- hard to attract youths Conflicts between forest company and hunters about moose level Hunting and tourism need to respect each other	