Desire, cows and resilience

Investigating motivations to steward a bio-cultural refuge in Northern Sweden

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Thank you.

I could not have asked for better supervision during the thesis writing. Both Wijnand Boonstra and Simon West provided excellent and balanced feedback and guidance which made me step up my game. And both cheered me to go on (but to clarify!) even when I might have had some pretty long-shot ideas. Thank you Wijnand and Simon!

Without the support of Lukas Granberg, head of the Lacan seminar *Stockholms Kliniska Seminarium*, this particular thesis would not have been made. The discussions on how in the world I should interpret Lacanian thought have been invaluable both for this thesis and for my general understanding of human thought and behaviour. Thank you Lukas!

Lisa Jacobsson, Märta Sternäng, Diana Kaliff, Vivika Mäkelä, Vera Telemo and the whole class of 2016/18. You have provided me with comfort and cheers when things have been hard. Thank you all!

Last but not least I would like to give heartfelt thank you to all the informants to this study, for your openhearted sharing of stories and thoughts. You are an inspiration. Thank you!
Sweden is forced to look after the native species. 
Conserving Fjällko rest heavy on few enthusiasts that 
all have a very vulnerable economic situation 
and have a hell of a lot to do.

- Robert Nilsson

What is this fire? 
Burning slowly 
My one and only 
Desire

- Ryan Adams
ABSTRACT

In Sweden, centuries of agricultural modernization have marginalized locally adapted food cultures and food production systems. Yet in some places these practices and cultures survive, even in areas that lack conducive circumstances for agricultural production. These places are called bio-cultural refugia.

Dominant agricultural practices are based on the production of only a few species which reduce biodiversity and the resilience of landscapes. Bio-cultural refugia provide important alternatives and pathways toward sustainable agricultural development, but are currently conceived of as living museums and are not well-connected to markets. This study investigates a re-emerging bio-cultural refuge in Northern Sweden, which revolves around an endangered native cattle breed, traditional recipes and an open landscape.

It is unclear how bio-cultural refugia emerge or can persist. Recent literature on human adaptive capacity in social-ecological systems explains how sustainability outcomes depend on the dynamic interrelations of opportunities, abilities and desires. In this thesis I empirically investigate the role of desires to stewardship practices through a discourse analysis with roots in psychoanalytic theory. The aim of the thesis is to add to the understanding of how and why a bio-cultural refuge can emerge and persist in the Global North.

I find that desires expressed by stewards in the bio-cultural refuge is mostly directed to people, and not to achieve ecological sustainability for its own sake. The most commonly articulated motivation is to care for people in the village by developing the local economy, contradicting a general conception of stewardship originating in pro-environmental values. Nevertheless, the informants do steward a bio-cultural refuge. This is explained by the coincidental opportunity to buy the native cattle and existing subsidies to keep them, and by abilities such as farming- and cooperation skills, creativity and entrepreneurial thinking.

Stewardship of bio-cultural refugia is crucial for biosphere resilience. In order to maintain and develop existing bio-cultural refugia we must start to re-imagine what they can mean not only for ecologies but also for society and people, as they hold important knowledge on energy efficient food production. By creating opportunities that resonate with people’s needs and desires in particular places it may be possible to attract new stewards for bio-cultural refugia, and to (re)produce the ecological knowledge that is necessary for a sustainable and resilient future.
### Contents

Thank you ........................................................................................................................................ 2
ABSTRACT .......................................................................................................................................... 4
INTRODUCTION ................................................................................................................................. 6
THE CASE OF THE NOVEL BIO-CULTURAL REFUGE .................................................................... 8
  Two collaborating companies stewarding a native cattle breed .................................................. 8
  The context of the bio-cultural refuge .................................................................................... 10
BACKGROUND ..................................................................................................................................... 11
  Native cattle as source of bio-cultural diversity ....................................................................... 11
  The vanishing bio-cultural refugia ......................................................................................... 12
  Conceptions of people in bio-cultural refugia ......................................................................... 13
THEORETICAL FRAMEWORK ......................................................................................................... 16
  Human adaptive capacity in social-ecological systems ........................................................... 16
  Desire is part of human adaptive capacity ............................................................................. 17
METHODS .......................................................................................................................................... 20
  Interviews ....................................................................................................................................... 20
  Analysis ........................................................................................................................................ 23
RESULTS .............................................................................................................................................. 24
  Summary of results ..................................................................................................................... 24
  1. Desire was mostly directed towards people and not towards ecology ................................. 26
     1.1 Desire directed towards people ..................................................................................... 26
     1.2 Desire directed towards ecological sustainability .......................................................... 31
     1.3 Desire directed towards food .......................................................................................... 35
  2. Creating opportunities and covering for lack of abilities ..................................................... 37
DISCUSSION ....................................................................................................................................... 40
CONCLUSION .................................................................................................................................... 44
LITERATURE CITED .......................................................................................................................... 45
Appendix A: Identifications. Theory and results ......................................................................... 51
Appendix B: Interview guides ......................................................................................................... 54
Appendix C: Coding and analysis ................................................................................................... 59
Appendix D: Critical reflections and limitations of data collection ............................................. 64
Appendix E: Ethical review – final review .................................................................................... 65
INTRODUCTION

Centuries of agricultural modernization have effectively marginalized locally adapted food cultures and food production systems in Sweden. Distinctive local food systems that have co-developed with ecosystems over millennia (Widegren 1983) are now rapidly vanishing, and with them, valuable knowledge, user practices and ecology (Berkes et al. 1995; Dahlström et al. 2006; Andersson and Barthel 2016). Simply put, current industrialized agriculture poses the single largest threat to the biodiversity and resilience of landscapes (Baillie et al. 2004; Foley et al. 2005; Rockström et al. 2017), which undermines food security and ultimately human existence (Cardinale et al. 2012; West et al. 2014; Gordon et al. 2017).

Yet, despite this general trend some rural places in Sweden still contain rich and diverse sets of bio-cultural practices, so called bio-cultural refugia. Bio-cultural refugia are places where local and traditional knowledge about how to produce food in ways that maintains biodiversity, food security and the resilience of landscapes is still vivid (Barthel et al. 2013b). The aim of this study is to contribute to the understanding of how bio-cultural refugia can persist in the Global North.

The literature explains how bio-cultural refugia are often remote places with difficult climatic conditions that are not optimal for large-scale food production, and they might have been economically and politically interesting only in terms of natural resource extraction (Barthel et al. 2013a; 2013b). As these places were not part of the industrialization and modernization of food production, they were able to maintain the distinct and resilient landscapes where domestic and wild species have co-evolved over millennia (ibid).

In Sweden, bio-cultural refugia are today foremost located in Arctic and boreal regions (Chapin III et al. 2004; Eriksson 2011; Arctic Council 2016). A bio-cultural refuge can also emerge in new forms and places if the knowledge, practices and species are maintained, developed or generated afresh (Andersson and Barthel 2016).

However, as profitability of small-scale and/or traditional food production is usually low, and as depopulation more and more empties rural areas of people with food production skills, there are no longer any guarantees that bio-cultural refugia will emerge or persist. This means that bio-cultural refugia can only be sustained if they are purposefully and effectively maintained. More specifically, a primary producer needs to have the capacity to maintain a farm that is not part of modernized agrifood industrialization, and to transfer these skills to future generations.
We already know what bio-cultural refugia mean to the biosphere. What bio-cultural refugia mean to the people that steward them is less known. Some people do have the capacity to be stewards, to maintain and develop bio-cultural refugia, and by investigating this capacity, valuable insights to policy and research can be gained. This study is guided by the overarching question:

• Why do people engage in stewardship of bio-cultural refugia?

To answer this general question I adopt a social-ecological systems (SES) approach, where human (adaptive) capacity is understood as a dynamic outcome of the interactions between opportunities, abilities and desires (Boonstra et al. 2016). Of these three aspects, opportunities, such as institutional arrangements, coincidences or geographic setting, and abilities, such as mental and physical functions, are often considered to explain social action in relation to sustainability (Ostrom 1990; Westley et al. 2013; Schultz et al. 2015).

Much less is known about the importance of desire – what people want, wish and hope for – as a motivation to act in SES (Boonstra et al. 2016), or to steward bio-cultural refugia. In psychoanalytic theory, desire is seen as central to the psyche, and a strong motivational factor for habitual action and thoughts (Lacan 2006).

Because of the apparent lack of attention to desire as cause of this stewardship, I add to my main research question the following sub-question:

• What role does desire play in the creation of stewardship and the (re)production of bio-cultural refugia?

The study of how stewardship has helped to establish a novel bio-cultural refuge in Sweden, can produce valuable insights on how to purposefully and effectively create, maintain and even develop bio-cultural diversity.
THE CASE OF THE NOVEL BIO-CULTURAL REFUGE

Two collaborating companies stewarding a native cattle breed

The specific bio-cultural refuge selected for this study is located by the Arctic Circle in Sweden, in and around a small rural village called Vuollerim. The village is situated at the intersection of two rivers, in a boreal region now dominated by production forest. Two relatively new small nature reserves are located in the landscape, of which one has Natura2000 status, keeping high biodiversity values (Länsstyrelsen Norrbotten 2017).

![Figure 1](https://example.com/image1.png)

*Figure 1: The arrow points to the bio-cultural refuge, located in the Swedish inland by the Arctic Circle. In Swedish Arctic and sub-Arctic regions there have been a mix of cultures over time, where indigenous Sami peoples and Swedish settlers have been the most dominant during the last few hundred years. The location of the bio-cultural refuge has been populated periodically since 6000 years back, and a small village called Vuollerim that has roots from the 17th century is situated here. Image: [CC BY-SA 3.0] Thesevenseas (Wikimedia Commons 2018)*

The location of the village has been populated at least periodically for 6000 years and records of workers’ settlements are dated late to mid 18th century (Hagström Yamamoto 2010). Maps from late 19th century (Lantmäteriet 2018) indicate that free ranging cattle have been kept in the village surroundings, a practice that was the national norm until new forest laws were implemented around 1920 (Dahlström et al. 2006; Enander 2007).

One cattle farm is still located in the village, which for a few decades kept a modern cattle breed. After it had closed down in the beginning of the 2000’s there was a gap of a couple of years when no cows were held in the village. The open landscape was overgrowing by bush wood until an external entrepreneur hired the farm and placed his stock of the native cattle breed called Fjällko.
there. A few years later, locals bought the cows, took over the farm and created a company named Arctic Circle Products (ACP).

ACP runs the farm and a small-scale production of cheese and other dairy, from local and traditional recipes. ACP is run as a cooperative with many supporting members that occasionally volunteer on both the farm and in the dairy production. The official purpose of ACP is to conserve the endangered breed Fjällko, to conserve an open landscape and to produce local food (Arctic Circle Products 2018). ACP just started a collaboration with another village company called Mathantverkshuset (translated as House of Food Handicraft and abbreviated as HFH). HFH provides space for the dairy production of ACP, and makes its own handcrafted food with ingredients from ACP (Mathantverkshuset 2018). Together, ACP and HFH aim for village economic development.

Through these two companies, a novel bio-cultural refuge is (re)emerging. The bio-cultural refuge shelter about 8% of the total global genetic base for Fjällko and ACP is doing active breeding work to broaden the intra-specific genetic variation. People engaged in ACP or HFH are also actively searching for, and developing local recipes of traditional food based on Fjällko. When described together I will hereby call ACP, HFH, their food production, the associated landscape and their stock of Fjällko, 'the bio-cultural refuge'.

Fjällko is a particularly interesting breed to study in relation to food security and resilience of landscapes. The breed has been shaped by countless generations of selection and local climate, producing unique traits that have been essential for peoples’ sustenance. Furthermore, gracing animals produce high levels of biodiversity in forested regions (Wramner and Nygård 2013; Cousins et al. 2015), and Fjällko has thus been key for biodiversity in Northern Sweden.

**BOX 1**

'Steward' (or 'stewardship') is a word used in many disciplines, commonly used to describe someone that is responsible for or takes care of something. In the social-ecological systems literature the terms Biosphere- and Earth Stewardship (Chapin et al. 2011; Enqvist 2017) are study objects in themselves with a range of distinctive meanings, but in this study the word steward is used in the common sense of a caretaker.
The context of the bio-cultural refuge

The village of Vuollerim is located in the region that has the lowest density of people and employers in Sweden (Regionfakta 2018), and the region has historically been politically interesting mostly in terms of natural resource extraction (Hagström Yamamoto 2010; Ejdemo et al. 2014). Regional migration patterns have followed the large corporations of natural resource extraction – hydroelectricity, mining and forestry – and Vuollerim is no exception. Due to the mid 20th century automation of the hydroelectric power plants nearby, the village suffered strong depopulation and shutdowns of local services (Broms 2016). In the 1990’s however, villagers started the first village cooperative company to save one of their central services. This act created a path for social innovation and collective action; six other village companies followed since, including a school, a museum and a hotel. The companies collaborative ways of working facilitates the replacement of financial capital with social- and human capital through self-organization and sharing of assets and knowledge (ibid).

There are three primary reasons why Sweden is an interesting context in which to investigate the motivations for stewarding bio-cultural refugia, focusing in particular on the role of desires. Firstly, Swedish agricultural production is highly industrialized and mechanized; it is based on only a few species and few modes of production (Statistics Sweden 2013), leaving Sweden with comparably low levels of bio-cultural diversity (Loh and Harmon 2005). Secondly, Sweden is also a globalized nation, where small-scale food producers are not able to compete in the free market-economy (Milestad et al. 2011), making it harder for bio-cultural refugia to persist. Lastly, Sweden has had a long history of urbanization, and is today experiencing a rate of urbanization that is faster than the global average (Elmhagen et al. 2015). Because urbanization implies rural depopulation, it becomes harder for rural business and communities to sustain themselves, as customers and skilled employees and entrepreneurs move away.

These three characteristics are common across many developed/industrialized countries, and thus the case may be useful for drawing more general conclusions about the emergence and persistence of bio-cultural refugia across the Global North.

The remaining thesis is structured as follows. First I present the literature and theoretical background that support investigation of desire in SES. Then I introduce theory on desire in more detail. The methodology is followed by the presentation of results. In the discussion section I will present the analysis of the findings, discuss their implications for policy development and SES research, and end with a short conclusion.
BACKGROUND

Native cattle as source of bio-cultural diversity

Until the industrialization of agriculture, species and food production practices have to a high degree had to adapt to climatic and geographic stressors, disease outbreaks and changes in societal institutions. Throughout human history a survival strategy has been to buffer against these changes, through keeping a diversity of crops, breeds and agricultural practices. A useful concept that captures this strategy is ‘response diversity’ (Elmqvist et al. 2003), which is still practiced in bio-cultural refugia today. Bio-cultural refugia are described as “living laboratories for innovation” (Barthel et al. 2013a), as they have been put to the test through time and created resilient food production systems and landscapes (ibid).

BOX 2

Social-ecological resilience is defined as the capacity of a social-ecological system to adapt or transform when facing for having the capacity to slow pressure or sudden shocks (Folke 2016).

Native cattle such as Fjällko is considered a source of resilience for Swedish food production landscapes (Belfrage 2014). The breed has been exposed generally to a cold climate and meagre grazing grounds, but also periods of warmer climate. Natural selection processes together with constant breeding work of farmers have resulted in a breed with a productive and resilient sets of traits. One Fjällko produces about 20 kg milk per day, which is almost half the amount compared to a cow from one of the breeds that are commonly used on modern farms, such as Swedish Red. Yet the Fjällko milk shows a nutrient profile which has superior qualities for making cheese compared to the commercial milk breeds (Lien et al. 1999; Poulsen et al. 2017). In fact, 31% of the milk from Swedish Red have been found to have a difficulty to coagulate, or cannot coagulate at all, into cheese (Gustavsson et al. 2014), and farmers report that cheese yields per kg Fjällko milk are almost double compared to cheese yield per kg milk from commercial breeds (Jonsson 2014; Szente 2016:27; Nilsson 2018). Fjällko performs well on a low calorie diet, as it has been selected for effective conversion of fodder to milk throughout history. It is suggested that these energy
efficient traits have enhanced the food security situation in pre-industrial rural Sweden and that they could do so also in the future (Kantanen et al. 2000, Belfrage 2014; Nilsson 2018; NordGen 2018).

Another difference to commercial breeds is that the *Fjällko* tend to graze in more inaccessible places such as the forest (Hessle et al. 2014). Small-scale grazing and trampling has been proven to enhance biodiversity by opening up space for small herbs that are otherwise out-competed by large broadleaved plants (Cousins et al. 2015). These herbs are associated with a variety of pollinators, which are in turn crucial for food production such as fruit, nut and berry plantations (Cardinale et al. 2012).

Today, at least one small-holder of *Fjällko* make a profitable living by keeping them as milk cows (Nilsson 2018), and the overarching goal for the breeding associations is to increase profitability for *Fjällko* farmers by selecting animals with the right milk profile, as detailed above, in the breeding work. However, *Fjällko* is currently not considered suitable for food production by Swedish authorities due to the low milk yields (Gustafsson and Nord 2010), but typically presented as a living cultural heritage (Szente 2016), and represented at a few open air museums and culture reserves.

The breed is endangered and protected by the 1992 Rio Convention on Biodiversity Conservation and the recommendation is first of all *in situ* conservation (FAO 2013). Breeding associations stress that *in situ* conservation of *Fjällko* should mean keeping them as milking cows with close human contact, as it is under that condition that the traits of the breed have evolved and can continue to evolve (Eklundh 2016).

**The vanishing bio-cultural refugia**

There are few farms that keep *Fjällko* as milking cows today and most of them have only a few cows each. There are EU funds that facilitate keeping native breeds, but profitability is very low and both farmers and breeding associations work more or less *pro bono*. The farm ACP shelters a comparably large part of the total genetic base of the *Fjällko* population. There are today about 2500 animals (cows, heifers, bulls and calves) in total, but numbers of milk cows are only about 450, and these individuals constitutes the whole base for breeding. The *Fjällko* population is currently considered to be *genetically* stable (Eklundh 2016), but concerns have been raised about what could best be described as a misconception of stability; that without regeneration of skilled farmers and breeders, eventually no one will be left to keep *Fjällko*, and the breed will go extinct.
This highlights the truly entangled nature of social-ecological landscapes and points to the importance of understanding the motivations to stewardship of bio-cultural refugia.

_Fjällko_ produces many values and benefits, but these are not possible to transfer to future generations without people that have the desire, abilities and opportunities to steward them. In various Swedish political plans for reaching sustainability goals, volunteerism is highlighted as very important (Gustafsson and Nord 2010; SOU 2017:1; Sametinget and Naturvårdsverket 2018), but these plans do not include nor develop well-developed targets for getting more, or new people to volunteer. And herein lie two problems.

The first problem is that the opportunities for people to live full, meaningful lives in many rural areas in Sweden are perceived as limited (Stockholms Handelskammare 2018), especially among young people (Svensson 2006; SOU 2017:1). Moreover, this lack of opportunities has worsened the social conditions for many Swedish farmers, often creating feelings of loneliness and vulnerability, and has drained desire to continue farming (Källström Nordström 2008:104).

Sweden has seen a dramatic drop in number of pastoral peasants from about 20,000 down to 250 since the late nineteenth century (Eriksson 2011). The situation for more modern small-scale farms is essentially the same. Small farms are usually not profitable and the number of milk farms in Sweden have decreased by more than 90% since 1976 (Karlsson 2016).

A few published studies on strategies for (re)producing potential bio-cultural refugia in Sweden have been found. Milestad et al. (2010) investigated local food markets in Sweden and found that these places increase the adaptability of local food systems, as economic opportunities arose through the socialisation between producers and between producers and consumers. Other economic, and political, opportunities for renewal have also been discussed (Eriksson 2011; Arctic Council 2016), but even still, little attention is directed to this problem.

**Conceptions of people in bio-cultural refugia**

The other problem, that this study seeks to address, is the general conceptions of people that work with conservation or small-scale primary production. Overall, there is a lack of attention directed to stewards of bio-cultural refugia, and when they are mentioned, it is often in terms of volunteers, old-fashioned or inefficient.

Both academic literature (Barthel et al. 2013) and Swedish governance institutions (Sametinget and Naturvårdsverket 2018) describe people in bio-cultural as instrumental carriers of local ecological knowledge, but they do not ask the question if and why people desire to do so. Both
however question the common conception of smallholders as inefficient and reluctant to development. Barthel et al. (2013) recount a case of a bio-cultural refuge that has been reinvented by local stewards throughout the years, located in the municipality of Štitar in Croatia. The refuge is stewarded by family farmers, both purposefully and effectively in concordance with ecological sustainability, who are at the same time highly productive and market oriented. The practices of the Štitar farmers have, contrary to the above mentioned conception, proven to be resilient and competitive in the face of stressors such as globalization, political turbulence and war (ibid).

The tendency of imagining small-scale primary producers as driven by environmental values is discussed by environmental historian Payne (2013), as he points to possible biases within the fisheries history research. Payne analyze how fishers in North America were represented in fisheries history and found that historians overemphasized both ecological and ideological motivations for stewardship among fishermen. Payne argues that the image of fishermen as intentional stewards of bio-cultural diversity in the face of industrial capitalism is false, and uses a case to illustrate how artisan fishers had the abilities to be “both capitalist producers and resource stewards” (41), as they took on the opportunities that industrial capitalism brought, and shaped these to suit their agenda for local economic stewardship.

A few Swedish studies also challenge the idea of solely deliberate or moral motivations to stewardship. Discourses of Swedish farmers in relation to nature or organic farming have been investigated (Boonstra et al. 2011; Ortman 2015; Strandberg 2015), but none of these have taken a resilience perspective nor investigate desires.

Others that investigate motivations to sustainable food production have on the contrary found environmental values to be important motivators (Duff et al. 2017), and this seems to be particularly true for people that explicitly work towards ecological sustainability (Chapin et al. 2011; Resilience Alliance 2010; Hatton MacDonald et al. 2013; Enqvist 2017). These studies do not target bio-cultural refugia, but rather voluntary participation in environmental schemes or civic groups. However, as contemporary bio-cultural refugia in Sweden are, in fact, often stewarded in part without payment, insights on environmental values in relation to bio-cultural refugia could nevertheless be valuable.

The difficulty of attracting new farmers to the Swedish agricultural sector has also been explored through a coupled social-ecological resilience and gendered lens (Grubbström et al. 2014). The authors found that young farming students (abilities) are aware of different obstacles and possibilities that monetary, family and societal institutions (opportunities) can pose. Furthermore, these future farmers expressed how their desire to stay on the family farm and to exchange
knowledge with other farmers, was affected by these perceived opportunities. These results are relevant for the understanding of desire in SES. However, as Grubbström et al. (2014) point out, the informants were all situated at farms nearby large cities in the southern parts of Sweden, where there are good possibilities for economic development of their farms (compared to Northern Sweden). Although a better understanding of the desire to keep industrialized farms is useful, this study focuses instead on desires to expand bio-cultural diversity.
THEORETICAL FRAMEWORK

To investigate why people effectively and purposefully engage in bio-cultural refugia in the Global North, I draw on two strands of work rooted in different traditions. The first strand focuses on human adaptive capacity in SES, and is currently broadening from a pure ecological understanding of adaptation (Levin 1998), to an understanding that includes sociological, philosophical and psychological analytical frameworks and tools (i.e. Cote and Nightingale 2012; Berkes and Ross 2013; Cooke et al. 2016; West et al. 2016; Masterson et al. 2017). Here adaptation is seen as the outcome of an interplay between biophysical phenomena and social structures (opportunities) and agency (abilities and desires). I seek to extend the understanding of human adaptive capacity in SES by using theory on desire, rooted in psychoanalysis.

Human adaptive capacity in social-ecological systems

Human adaptive capacity, or agency, is defined as the capacity to learn, cope, innovate, and adapt to complexity and change (Folke 2016). Recently, there has been increasing interest in the SES literature in how this capacity is produced. In this study, I draw on Boonstra et al.’s (2016) model of human adaptive capacity in SES.

The model comprises adaptive capacity of people as the dynamic interplay of opportunities, abilities and desires. It is based on insights from sociology and includes feedbacks, which means that the outcomes, in this case the practice of stewarding, are not only affected by opportunities, abilities and desires, but that the stewarding in turn affect consequent opportunities, abilities and desires (Figure 2).

Figure 2: Human adaptive capacity is comprised as the dynamic outcomes (in this case stewarding) of interrelated opportunities, abilities and desires. The model is adopted and interpreted from the work of Boonstra et al. (2016).
Opportunities can be viewed as the setting in which a bio-cultural refuge emerges. It consists of
the geographic setting, including landscape features, place-specific species or soil quality, and the
climatic setting including, for instance, the length of growing season. Opportunities can occur
coincidentally, such as people with the relevant abilities in the right time and place, or perhaps
the coincidental sale of gear, property or land. Opportunities in form of supporting institutional
arrangements such as financial support and subsidies, type of economy, laws, norms, ideology or
knowledge have also been found crucial for biodiversity and sustainable use of natural resources
(Anderies et al. 2004; Tengö et al. 2007; Schultz 2009).

Abilities are the mental and physical capacities that are needed for undertaking action, and is
sometimes referred to as human- and social capital. In the context of natural resource stewardship
it can be ecological knowledge (Schill et al. 2016), flexibility and experimenting (Folke 2016),
communicative- or social skills (Lindahl et al. 2016; West et al. 2016), rational thinking and
technical skills (Strandberg 2015:54–69) and relevant physical functioning.

Last but not least there has to be a certain level of desire for (re)producing the bio-cultural refuge.
Someone has to want to engage in the establishment or in the everyday practice that constitutes a
bio-cultural refuge.

To this day, desire in SES is the least studied out of the three factors (opportunities, abilities and
desires). Boonstra and colleagues (2016) highlight desire as an important factor for action in SES,
but leave its detailed elaboration to others. I have not found any paper that explicitly investigate
desire as factor for action in SES, however it can be read in between the lines as part of
environmental volunteerism (Bramston et al. 2011).

The usage of the word desire in SES literature is commonly in the context of the term desirable
paths of development (Folke 2016:12). This terminology resonates well with my understanding of
desire, as it puts focus on a prospective movement, e.g. how people wish it to be like in the future,
and not on a snapshot of how things are, or how people perceive their stewardship at the current
time. However, to avoid getting caught in normative assumptions of what is a desirable
development (Hahn and Nykvist 2017), desires of people need to be spelled out.

**Desire is part of human adaptive capacity**

To understand human capacity in SES one has to consider the individual as a social being,
constantly shaping and being shaped by its human and non-human surroundings.
Desire has throughout history been a captivating subject. In SES literature it is has until now been presented as what “counts as best” for an agent (Elster 2007 in Boonstra et al. 2016:878), which I interpret as a conscious rationalized decision of what is “best”. I take another and more detailed perspective on desire.

I draw on the theory of desire as developed by Jaques Lacan, a clinical psychoanalyst whose interdisciplinary work made major contributions to psychoanalysis and who placed desire in the centre of his theory of the unconscious. General scientific interest in the unconscious aspects of the psyche has increased in recent decades, and is also considered important in, for instance, cognitive psychology which study conscious thinking (Reisberg 2007:510-529).

Desire, according to Lacan, is a universal part of the psyche, and central to our actions, thoughts, fantasies and speech. The theory explains how we, as subjects, are not autonomous or self-sufficient, but social by necessity, and desire is thus nothing innate nor something imposed. Desire is seen as a strong unconscious and constantly driving force in our thinking and behaviour, caused by a fundamental unconscious “feeling” that something is constantly missing for a satisfactory life. This “feeling” is considered an inevitable product from normal childhood development, however I will not go into further detail on the psychological mechanisms that are thought to produce this, as it is outside the scope of this study (for the interested reader I refer to Fink 1995; 2007a; 2007b).

Desire is described to not be about the things we want or strive for, but about trying to cover up the lack to create a sense of recognition and wholeness (Lacan 2006; Fink 1995; Evans 1996:35-39). Desire that is directed to for example native cattle will be, according to Lacan, associated to a possibility to create a sense of wholeness or recognition. This means that if we want to understand desire, a narrow focus on physical objects such as cattle, will have to be broadened and understood in a social context.

How people strive for the possibility of recognition will differ from person to person and depend on individual early childhood experiences with their caretakers, and what the small child unconsciously imagine his or her caretakers to want from him or her (Evans 1996:38). The theory describes how actions can never fully reach what is unconsciously desired, and this can be manifested in repetitive behaviour such as habits.

Another key aspect of Lacan’s theory explores the relationship between desire and identifications, and is useful for conducting discourse analyses. Lacan, who was very inspired by linguistics, described how the unconscious is structured like a language, and that speech is an aspect of the
unconscious. In other words, the unconscious consists of thoughts – not feelings – and it is not
hidden but ‘out there’, fully visible in the speech. *Desire* is no exception, is therefor expressed in
the speech as *wishes* and *wants* (Parker 2005; Fink 2007).

In turn, language affects desire (Lacan 2006) and therefore we do not choose the things we desire,
but it is not fixed throughout life either. The objects of our desire normally shift as life progresses
and new opportunities and abilities appear. Simply put, language in Lacanian theory is seen as a
personally tailored, but flexible to some extent, discourse. This discourse is unique for each person
because the kernel of it emerges in a unique situation during early childhood. This discourse is
seen as a structure that frames desire, through so called identifications (how we see ourselves in
the world). In the *Methods* chapter below (Table 2), I present how desire and identifications are
connected and how they relate to this study. In Appendix A I describe why identifications matter
to desire.
METHODS

This study is based on two rounds of semi-structured interviews with three key individuals and one focus group (Table 1). I also include the official statements of the two companies found on their websites and leaflets. The strong linguistic influences in Lacan’s theories make them serve not only as a lens for understanding desire but also as a useful tool for analyzing discourse (Parker 2005). In an interpretative methodology such as discourse analysis, text or speech is treated as a strong medium in itself, and not as a source of objective, factual information to things out in the “real world” (Kvale and Brinkmann 2009:243-248).

Triangulation is a way to get different types of information on the same particular topic from different types of sources and to triangulate background information related to the study I interviewed the previous owner of the farm and a board member of the Swedish breeding association for Fjällko. I also conducted an unstructured literature review on academic and grey literature and I made unstructured observations in the village.

Interviews

ACP is run mainly by four people, while about 10 people run HFH. There are some overlaps of people between the two companies. Informants were selected based on the criteria that they were 18 years or older and worked in ACP or its collaborating partner HFH, or both. As a discourse analysis is time consuming I limited the invitation to participate in the study to three to five people who fulfilled the criteria. Altogether, I interviewed three individuals and moderated one focus group interview with six participants. All individuals, and five out of six in the focus group, were women in their fifties, which reflect the basic demography of the two companies well. The level of involvement and overlap of people between the companies is also reflected upon in the sample: the three individuals were all central to the everyday operations of either company; two of these individuals participated in the focus group; and about half of the focus group could be considered to represent occasional volunteers, a very important function for both companies. However, as the informants are representations of a larger community that regularly helps out in the bio-cultural refuge, other voices are necessarily left out by the sampling itself.

The informants, their relation to the bio-cultural refuge, and interview methods used are presented in Table 1. I use figurative names for the interviewees to keep focus on their motivations and not on the persons per se, even though they all gave me permission to use their
real names. All informants were self-reported as actively engaged in the overall village development.

Given the research question in relation to the understanding of discourse as an aspect of the unconscious, the overarching task was to try to design the interviews to facilitate free associations within the theme of the study. Free associations are a way of opening up speech for desire (Fink, 2007:42-44) and can be encouraged through open-ended and/or ambiguous questions. The purpose was to get a rich narrative (Bryman 2012:392) to facilitate the discourse analysis. For this purpose I developed an interview guide with certain themes that I wanted to explore with the informants (Appendix B). The guide was tailored for people that work in ACP, and certain adjustments were made during the interviews concerning HFH. The questions asked circled around themes such as the cows, the products, politics, regulations, landscape, village development and social relations. I wanted to explore how the informants made sense of the world, as opposite of for example descriptions or yes/no answers. For this purpose I asked mostly structural questions, such as “What do these cows mean to you?” (Willig 2008:26), and these types of questions generate answers that fits a discourse analysis. All interviews were audio recorded.

I made two rounds of interviews with the three individual informants, with two months apart. The first round was explorative and the second round was to validate my preliminary interpretations.

After each interview I wrote down a few reflections, including both the informants’ and my own reactions, to keep track of shifting baselines of my understanding. These notes were included in the later overall analyses of the interviews.

As in any study, there are critical reflections on the methodology to be made. I did already mention a few, but for the sake of methodological robustness, more are presented in Appendix D. All interviews were conducted in accordance with an ethics review, which was approved by the ethics committee at Stockholm Resilience Centre. Reflections on how I followed the ethics review are presented in Appendix E.
Table 1. Informants and their role in Arctic Circle Products (ACP) or House of Food Handicraft (HFH), the two companies that are stewarding the bio-cultural refuge. The interviewees are given figurative names to keep focus on their motivations and not on the persons per se.

<table>
<thead>
<tr>
<th>Role in the bio-cultural refuge</th>
<th>Interview methods (all were audio recorded)</th>
</tr>
</thead>
</table>
| "Anne" Founding member of ACP. Responsible for the farm and the cows. Involved in HFH. | 1) Walking interview at the farm, semi-structured (90 minutes)  
2) Telephone, semi-structured (60 minutes) |
| "Beth" Founding member of ACP. Makes the dairy products. Involved in HFH. | 1) Nearby HFH, semi-structured (90 minutes)  
2) Telephone, semi-structured interview (20 minutes) |
| "Chris" CEO of HFH. Not involved in ACP. | 1) Walking interview at HFH, semi-structured (45 minutes)  
2) Telephone interview, semi-structured (20 minutes) |
| Focus Group (FG) (n=6) All* are involved, at different levels, in HFH and/or ACP.  
*To separate the participants in the following quotes I use numbers 1-6, and “All” when everyone is speaking. However, the numbers differ for each person in each quote, so no number represents a specific person throughout the thesis. | Focus group interview at the local hub for enterprise collaborations (90 minutes) |
Analysis

In total I had seven transcripts from four sources and a total of nearly seven hours of interviews. The interviews were transcribed verbatim, and pauses and sounds such as sighs, slips and laughter, were noted (Wreally 2017). As punctuation and other forms markers for rhythm in speech decide where meaning is created (Parker 2005), I was particularly careful with this to ensure quality for the upcoming analyses.

The analyses of the transcripts were guided by a discourse analysis methodology developed by Ian Parker (2005). Parker’s considerations on how to approach the texts are based on a Lacanian understanding of how language structures the subject and vice versa. This method was chosen as it aligns with the general ontological underpinning of this study, and details about the particular thinking and how I operationalized it in the analysis, are presented in Appendices A and C.

The analysis was facilitated by NVivo software and the coding of found themes in the transcripts was both deductive and inductive. Deductively I looked for expressions of: wishes and wants (desires); strong emotion (here called drives); and statements of how things are or how they should be (identifications), as I had identified these types of expressions as important in the theoretical literature on desire. In Table 2 I present an overview and explanations of the themes I coded for in the deductive approach.

Interpretation of desire was supported by found identifications (Appendix A), by how many times they mentioned the desirable (Appendix C) and if strong emotions were expressed in concert with the desirable.

Table 2. Deductively I coded for expressions of wishes and wants (desire), lust, joy and anger (drives) and of how things are or how they should be (two different types of identifications), as these were expressions that I had identified as important in the theoretical literature on desire.

<table>
<thead>
<tr>
<th>Expressions of</th>
<th>Explanation relevant for this study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire</td>
<td>Wishes, wants, hopes, “would be's”, possibilities</td>
</tr>
<tr>
<td>Drive</td>
<td>Lust, joy, anger</td>
</tr>
<tr>
<td>Imaginary identification</td>
<td>Statements of what one belief is</td>
</tr>
<tr>
<td>Symbolic identification</td>
<td>Statements of what one think should be</td>
</tr>
<tr>
<td></td>
<td>Directed to things, people, situations, states of mind, animals, etc.</td>
</tr>
<tr>
<td></td>
<td>Mark the presence of desire</td>
</tr>
<tr>
<td></td>
<td>Frames desire by the means imagination. Give a sense of the worldview.</td>
</tr>
<tr>
<td></td>
<td>Frames desire by the means of morals. Give a sense of the values.</td>
</tr>
</tbody>
</table>
RESULTS

The results are presented as follows. First, I present a short summary of the results, followed by a list of the found desirable “objects” and “processes” (Table 3). Then I present an overview of the headings that describe each major finding (Table 4), which I elaborate in the following text body. In Appendix A I present a list of generalizations of found identifications.

Summary of results

On the one hand there was a common reasoning of all informants that resonates well with the official websites and leaflets of the two companies. Their active engagement in the bio-cultural refuge was spoken of as working for village economic development, keeping the landscape open, maintaining Fjällko and to produce traditional food handicrafts, and to do it in collaborative ways. On the other hand, none of these reasons were found to be enough as motivations to actively engage in the bio-cultural refuge; all informants also spoke of other reasons that were much more personal and individual.

When zooming in on desire as motivating factor to actively engage in the bio-cultural refuge, I surprisingly found that ecological sustainability, nature and even the cows, could not measure up to what the informants mostly desired: other people. To be more precise, desire directed to people was expressed in terms of desire for care-taking, to be recognized, for exchanging knowledge and skills and for being in development together. However, looking at each interview separately, I started to notice a palette of desires. One informant indeed talked of ecological sustainability as desirable; another talked of creation as desirable; and a third of bio-cultural expertise as desirable. And in the group setting things were different again. Talking with each other, they directed desired first and foremost towards being in a continuous development. There were also some similarities in how the informants identified themselves, each other, and their work. Most saw themselves as cooperators and entrepreneurs, which have made them to have found common ground, and trust in each other’s’ abilities for (re)creating this bio-cultural refuge. Furthermore, listening to their stories about what they liked and wished for, I also noticed subtle changes. From these stories, it appeared that their desires clarified and became more focused as new opportunities and abilities arose along their path of development.
Table 3. The most salient, in terms emphasis and number of times spoken of, “objects” and “processes” of desire are different between the four sources. However, some similarities of desirable objects and processes appear, here marked in italics. The findings are divided into “desirable objects” and “desirable processes”, as I found them to be of different character. “Objects” are more about well-defined things, foods, animals or states of mind, while “processes” were more about doing and about processes. The division is made for the sake of analytical clarity; in the speech of the informants these categories often overlap. All desires that are presented in this table are related only to the bio-cultural refuge, and the table does not claim to represent the informants as full and complex subjects. The desires are here presented in an estimated ranking order, from most salient first and least salient last.

<table>
<thead>
<tr>
<th>'ANNE'</th>
<th>'BETH'</th>
<th>'CHRIS'</th>
<th>FOCUS GROUP (FG)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MOST SALIENT DESIRABLE &quot;PROCESS&quot;:</strong></td>
<td></td>
<td></td>
<td>Village economic development</td>
</tr>
<tr>
<td>Fix system flaws</td>
<td>Transfer knowledge</td>
<td>Creation</td>
<td></td>
</tr>
<tr>
<td><strong>MOST SALIENT DESIRABLE &quot;OBJECT&quot;:</strong></td>
<td></td>
<td></td>
<td>Other villagers*</td>
</tr>
<tr>
<td>Wholeness</td>
<td>Bio-cultural expertise</td>
<td>Design and beauty</td>
<td></td>
</tr>
<tr>
<td><strong>DESIRABLE &quot; PROCESSES&quot;:</strong></td>
<td></td>
<td></td>
<td>Village economic development</td>
</tr>
<tr>
<td>Learn</td>
<td>To be appreciated</td>
<td>Create</td>
<td></td>
</tr>
<tr>
<td>Influence others</td>
<td>Transfer knowledge</td>
<td>Innovation</td>
<td></td>
</tr>
<tr>
<td>Fix system flaws</td>
<td>Create</td>
<td>Growth</td>
<td>Dedication</td>
</tr>
<tr>
<td>To be appreciated</td>
<td>To get help</td>
<td>Dedicated</td>
<td>Inspire others</td>
</tr>
<tr>
<td>Innovate</td>
<td>Inspire others</td>
<td>To care for others</td>
<td>To care for others</td>
</tr>
<tr>
<td>Create</td>
<td></td>
<td></td>
<td>To be recognized</td>
</tr>
<tr>
<td>To get help</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DESIRABLE &quot;OBJECTS&quot;:</strong></td>
<td></td>
<td></td>
<td>Other people and to be the object of desire*</td>
</tr>
<tr>
<td>Wholeness</td>
<td>Bio-cultural expertise</td>
<td>Design and beauty</td>
<td>Their own products</td>
</tr>
<tr>
<td>General knowledge</td>
<td>Other people and to be</td>
<td>Fine gastronomy</td>
<td>Economic autonomy</td>
</tr>
<tr>
<td>Cows</td>
<td>the object of desire*</td>
<td>Village</td>
<td></td>
</tr>
<tr>
<td>Open landscape features</td>
<td>Fine gastronomy</td>
<td>Security and calmness</td>
<td></td>
</tr>
<tr>
<td>Sustainable food</td>
<td>Openness</td>
<td>Other people and to be</td>
<td></td>
</tr>
<tr>
<td>Other people and to be</td>
<td>Economic autonomy</td>
<td>the object of desire*</td>
<td></td>
</tr>
<tr>
<td>the object of desire*</td>
<td>Open landscape features</td>
<td>Fun</td>
<td></td>
</tr>
<tr>
<td>Livelihood</td>
<td>Fun</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social justice</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Annotation:** *Desires directed to people were connected to other things such as care, recognition and development.*
Table 4. Each major finding is presented here as the headings and subheadings. These are elaborated in the following text body.

1. Desire was mostly directed towards people and not towards ecology
   1.1 Desire directed towards people
   1.2 Desire directed towards ecological sustainability
   1.3 Desire directed towards food
2. Creating opportunities and covering for lack of abilities

## 1. Desire was mostly directed towards people and not towards ecology

There is a qualitative difference between how the focus group and the individuals spoke about ecology and sustainability. Ecological sustainability, nature and the *Fjällko* were nearly invisible in the speech of the focus group (FG) interview. In the few times mentioned they were not talked about as desirable objects for their own sake, but rather as means to care for people in the village through village economic development and selflessness:

FG: It [HFH] ties together... work opportunities in the village, it ties together an open landscape, it ties together the survival of *Fjällko.* [...] It creates growth an opportunities and... there is nothing that holds us back. There are no, how I see it, no competition, no selfish agendas or anyone that wants to win on behalf of another.

### 1.1 Desire directed towards people

Desire was mostly connected to people, including each other, other villagers, other people they know, but even also to people they have not met and may not know: often a fuzzy group of people that seem to represent society at large. To be more precise, desire for people was always connected to something else than the physical people: as a desire for being appreciated, to care for others, or for others to contribute to their work in the bio-cultural refuge.

In the focus group, the talk of people as motivating factor was particularly prominent. Here they describe a life together, where everyone contribute to each other like cogwheels in the development machinery. This was expressed both as hints of a worldview (imaginary
identifications), and as desirable; they want to pursue the realization of this worldview where collaboration gives development. I asked what they think is “best” about engaging in HFH:

FG1: The dedication is the first answer to me. What is the best thing [about HFH]? It is the dedication! I mean, that it becomes a joint dedication about it. [...] The possibility to collaborate. For me that is... the very point! Of living [laughter], somehow.

Hoping for the possibility to collaborate, and wishing that there will be a joint dedication about working with HFH are expressions of desire as motivations to engage in HFH. Another participant in the focus group filled in this conversation, and expressed desire for other people as a desire for creating something attractive that would be appreciated by visitors. If visitors appreciate their stay in the village, then their work in the bio-cultural refuge would also be appreciated and they would feel proud:

FG2: House of Food Handicraft is just one small piece [of the village development]. It is one piece that could make it even more attractive to be here and visit the village. I mean, the proud village and all that.

Discussions of processes filled up almost all the time of the focus group interview, and these discussions were often expressed with strong emotions (drives). The discussion on what is “best” about engaging in HFH continued, which clarified that they desired process before material things:

FG1: Then it comes back to this thing about a joint dedication. For me at least that is the key because I see that.. oh well the cheeses... I am not very interested in making cheese actually.

FG All: [laughter]

FG1: Not at all actually.

FG2: You don’t even like the taste!

FG1: No, sometimes not... But if I can get it grated and put it in food, I find that really fun. And... now I am advancing in getting to bake sourdough bread for
example, and that is one thing I vision to be a part of HFH. Along with all the other operations. One thing doesn't work without the other.

FG All: No.

FG1: We can't create a sourdough bakery in Vuollerim. And maybe not a clean-cut dairy company either. But together! All parts, that could be so damn good. And it is so fun. And we have the possibility to spend time together.

[...]

FG3: It is this openness in the project that makes one feel this... to engage and to do... do ones' part. Make my part at least. Constantly open! If there is a hatch that is closing then one would make sure to... open it.

From this dialogue you get the impression that the informants desire development in and of itself; to be in constant movement and creation, being open for new ideas, finding new paths to explore and to make the cogwheels fit and create something that runs. And to spend time together.

In trying to pinpoint what in the bio-cultural refuge sparked desire, I asked the focus group how they would feel, or what they would do if HFH would be threatened by shutdown. This scenario became almost real in the discussion:

FG All: [silent pause]

FG1: ...well, Danielle? [turns to the focus group participant 'Danielle', board member of both HFH and ACP]

FG2 ["Danielle”]: That doesn't exist! [nervous laughter] That doesn't exist... If it is threatened by shutdown? Ok... Well... I would find new... try to find new paths and new ways and... It is always possible to do something! [nervous laughter] I think it will always be possible to do even more to find ways to save... or...

FG1: It [the village development] is not locked in to be exactly this House of Food Handicrafts. It is something about this, to get new good ideas... Sustain...
sustainable projects! To work with development, more in that direction. But! I totally agree that it [shutdown] is an unthinkable thought! [nervous laughter]

[...]

FG3: Spontaneously it feels that in that case one would not be doing good enough products, and then one would do other products, better products.

FG All: Yes. Mm.

FG4: [...] this type of project is like a... It starts now but it is like... it's a constant development process! With this project.

FG5: Mm. Constantly living.

FG3: Yes, constantly living.

The initial silence and dismissing of the question, the nervous laughter and the final consensus formation around a solution (to get new ideas, to create new paths, to think entrepreneurial and make other types of products) to this proposed threat were all expressions of strong emotions (drives) connected to the threat of losing HFH, which emphasized the importance of the project. The proposed solutions also entail a large portion of flexibility in how to economically and emotionally deal with an eventual shutdown. Expressed in the hopeful terms of “would find new paths” and “it is possible to do even more”, their desire was directed to an ongoing progress where the products are secondary.

However, just as ecology was left out from the discussions in the focus group, so were natural threats to their business. The village has in the past suffered from flooding, and estimations predict that the risk for floods and landslides in the village will increase with the warmer and wetter climate (Länsstyrelsen Norrbotten 2013). The risk might not pose acute threats to human health, but floods can temporarily close off the two roads that lead to the village, and flood the grazing lands of ACP. Floods pose an economic threat to their pastoral production due to current regulation design of economic support for performing environmental services. Farmers can get economic support if they keep grazing animals which keep the landscape open and enhance biodiversity. However, if grazing land becomes flooded, no grazing occurs, and farmers miss out on the economic support. So, if the land is flooded and not grazed, the economic support is withdrawn until grazing is performed again (Hessle 2016). Furthermore, Swedish regulations
concerning risks on the spread of infection by waters can restrict near-water grazing, which would further decrease the amount of available grazing land, and economic support for grazing would be withdrawn according to the above stated logic (ibid).

So, the possibility to keep Fjällko in the village depended on economic opportunities but also on the ability to manage the bio-cultural refuge in the face of natural pressures and chocks. I started to notice that the cows and the physical place itself did not seem to be fully integrated in their village development discourse, and I eventually asked the focus group to imagine what would happen with their dedication if they, and all the other villagers, would move to a new place where they did not have their cows. They agreed that they would be dedicated no matter where they lived and that it was the people that resided in the place that mattered for their dedication:

Me: What if you did not have Fjällko at this [new] place, then?

FG1: Then something else would have appeared. [laughter] Then it would have been sausages and cookies! [laughter]

FG2: Sausages! Would we have pigs then? Sausages and cookies. Then we would have been [placed] in Skåne [the most southern part of Sweden].

FG1: Well, maybe we don´t have to be too focused on what we can produce here [at this new place].

FG3: No...

FG1: However, we could do what feels good. That is...

FG3: The dedication.

FG1: The dedication is like, everywhere!

FG2: Dedication follow [us] everywhere! Where ever it...

FG3: It is as “what resources do we have? What kind of place is this? What kind of people?” I mean, you could always have that as a starting point, where ever you are.

[...]
FG2: I remember that I had that reflexion at the time, that [Vuollerim] is a magical place! But really, what is it that makes it a place? I mean... Any mountain or any sandy beach become magical by the things you fill them with. And which people surround you.

FG All: Mm.

FG2: At least I am a person that want people around me.

This discussion highlights how the respondents perceived dedication as central to the work that they did. As long as they had dedication and people around them, they could produce whatever, wherever. Their cattle seemed almost fully replaceable, so the question remained why they nevertheless keep Fjällko as the particular means for village economic development.

1.2 Desire directed towards ecological sustainability

The farm ACP has a pesticide free hay production and their cattle can be considered enhancing biodiversity of the local and regional ecosystems through their grazing of various fields and forest patches in and around the village. The cooperative had recently sold its forage harvester as the cows now perform that work instead, and this further lower the total energy use of the farm.

![Figure 3: The fur of Fjällko grows thick in the winter, and the animals can be outdoors all year round. Historically, cattle was not retained in fenced pastures but graced in the farm surroundings, often in the forest. Traits of good food-searching abilities as well as returning back home at night were advantageous traits for farmers to breed on. In a Nordic environment with short growing season, the most important trait has been an energy efficient feed converter. Meticulous breeding and natural selection have made Fjällko a breed that produce large volumes and nutrient rich milk on a low calorie diet. Photo: Arctic Circle Products](image-url)
In these high latitudes of Sweden the average temperature is rising faster than in the south, and the growing season is estimated to increase by 30-60 days by late 21st century. A prolonged growing season is especially beneficial for hay production compared to other crops, and this will increase possibilities for pastoral production (e.g. keeping grazing animals) (Hessle 2016). Increases in temperature and carbon dioxide are also beneficial for bush wood, which means that costs for keeping the landscapes open will grow. Grazing animals has been suggested to provide a cost-efficient solution for keeping landscapes open (Kumm 2004), also because the relative competitiveness for Swedish pastoral production compared to stable based production is estimated to increase over time (Hessle 2016).

In the individual interviews, the informants talked a great deal about ecology. They talked about climate, cow traits, local food, the open landscape, organic production and sustainable consumption. Biodiversity (beyond the traits and genes of Fjällko) was not in focus though. However, most talk about ecology were not expressions of desire (but some were, I will get back to this). The expressions were mostly either symbolic identifications – of how they thought things should be – or imaginary identifications, such as how ‘Beth’ envisioned their mode of production in relation to the market:

Beth: I would love to transit to organic [production], at the same time [I] don’t feel that it is a must-must. It’s already very organic today, how we run it. But of course, it’s a stamp on the forehead, that’s good to have today. It makes it easier to sell the products.

As the speech was co-produced by each informant and myself, a representative from sustainability science, identifications with sustainability could have been more readily spoken of than others, and potentially holding back other important themes. The next quote from ‘Chris’ is an illustrative example how speech of sustainability was not usually present until my own discourse became more prominent. After the last interview, I told ‘Chris’ a bit more about my study and mentioned “environmental thinking”. ‘Chris’ then wanted to add to the interview how she thinks about the role of HFH to sustainability. She expressed concern about the environment and assumed that their work contributes to a better environment. But the speech on this subject does not entail expressions of desire, there are no wishes, hopes, wants, would be’s or possibilities:

Chris: The thing you said about environmental thinking and so on. We... This thing with House of Food Handicraft does have a contributing role, I mean when it comes to the environment! I don´t know if I said that before, but as you
mentioned it, it came to my mind! That it is crazy that we have the cows here and the dairy production over there [in another village]. Also... you know, local production as much as possible. Yeah, so that kind of thinking as well in... that is also one aspect of the whole thing with House of Food Handicraft, absolutely! Just an add-on!

Some themes related to sustainability were nevertheless talked of as objects of desire. One person, 'Anne', expressed clear desire to achieve sustainability outcomes; she wanted to produce and eat sustainable food (I will get back to food as a desirable object below) and to “fix system flaws” that she thought lead to unsustainable outcomes. Keeping *Fjällko* seemed to be one way to follow her desire for sustainability. Here she expresses desire for keeping one of the endangered lines of the breed on their farm as a hopeful finish in the end of this quote:

Anne: Yeah, so it’s almost like a grandmother feeling you know, it is so very special. [...] I have been here since the day they were born. It is so fantastic to see the development... This one is from ‘Old Juttan’ that... that is no longer with us, but was one of the ones that had... milked the very best, and it is the only heifer we have left after her, so it will be real... It was really fun that it was a girl! So maybe we can continue to keep this line here [at the farm].

I did not find any other expressions of desire directed to the particular breed *Fjällko*; desire for this breed was mostly associated to desire for making a change and to see the result. *Fjällko* was instead often talked about in terms of symbolic identifications, as a responsibility to the world, in for example “There are more tigers in the world than *Fjällko*'s [...] I feel like we have a genetic responsibility to transfer these [evolutionary] lines to next generation.” Desire was also directed to cows in general. Anne described how she had wanted to work with cows and agriculture since childhood when she regularly visited the farm where her mother grew up. The cows give her a sense of peace and harmony:

Anne: When a cow stands and watches me like that... Then I just feel a lot of love. Or when to... when one...co... And it is the biggest calmness and this feeling of satisfaction! Is when you... well it is now. When all is calm and finished. Or when you finish off a shift. All are full and content, standing and chewing like that, peaceful and is clean and content. They are standing and
chewing, they are full, and they want to... I mean all this harmony that a cow radiates. It makes me feel so good!

Along with the other native cattle breeds, Fjällko was nearly totally ousted mid 20th century due to the introduction of new highly productive cattle breeds. In the 1990’s the genetic diversity of both introduced and native cattle had declined to critical levels, causing infertility and low production yields (Kantanen et al. 2000; Eklundh 2016). This led World Wildlife Fund to campaign for saving the Fjällko breed, and the systematic breeding work of farmers has since then increased the variation within the breed to acceptable levels (Eklundh 2016).

‘Anne’s’ long experience of environmental and agricultural work- and education created opportunities to develop abilities and focus desire towards environmental issues. This overall interest is at many occasions expressed as identifications and values such as “The environmental questions was always put in the bottom of the pile!” and “My engagement is very much about fixing system flaws”. When it came to desire for sustainability outcomes it was closely related to a desire to learn how to be even more impactful in her actions to “fix system flaws”. In the following excerpt we talked about how cattle affect the climate:

Anne: But... think of the possibility! If it could be the other way around, that this is actually a [...] really big opportunity! To have more grazing animals. That build soils and that help us to... store coal. It was not something I thought of already before we started the association [ACP], but the more and more I learn, the more and more awesome it is. And that potential is so much fun, so if we could contribute to that... in this small context, that would be just awesome! [...] We still plough. And we are learning and looking for how we can do it differently in the future. And that day we have learned so much so that we ‘No, now we will try not to plough! [...] The vision is that we will be positive for the climate. And help out. [...] It sounds crazy but I think it is so awesome and I hope we get there.

The aesthetic value of the open landscape that their cows produce was highly valued and expressed as desirable for most informants, but did not seem to be related to sustainability as such. Both ‘Anne’ and ‘Beth’, who had moved into the village in adult age, talked of the forested landscape as new to them and emphasized the importance of open landscape features, both waters and fields, as it reminded them of landscapes from their previous homes.
1.3 Desire directed towards food

At the point of this study, ACP did not have the manpower to make as much dairy products that met the demand, as they had only one person, Beth, who normally made the products. By moving the production from a village miles away into the Vuollerim, they hoped to be able to produce more and get some economy in the company. Fjällko are small animals compared to commercial breeds and since meat, as well as milk, is valued by weight by the large markets, ACP cannot compete with meat farmers at these markets. The meat is considered a by-product and usually sold without middlemen on exclusive niche markets. It is the cheese that is profitable.

Each person emphasized the experience of eating food that is “good”. They all spoke of the good taste and of the fact that they know the ingredients of the products and how it is produced. On a couple of occasions 'Anne' expressed eating good food as something to desire:

Anne: What really makes me tick is to... to get the possibility to eat these... good foods that we produce.

'Chris', the CEO of the food hub HFH did not deal with the cows nor the farm. However, the cheese ACP produced contributed to her desire for engaging in the bio-cultural refuge. She expressed desire that was mostly revolving around design and beauty, for creation and innovation. 'Chris' had herself come up with the ideas of two innovative dishes. Both dishes contained the locally produced cheese as main ingredient and by the time of the interview, one of them had started to serve as a symbol for HFH. This dish, a type of roll with potatoes, souvas (smoked reindeer thick flank) and the locally produced cheese, embody a story of the intersections of Sami and Swedish cultures, as well, in a sense, the memory and culture of migrant workers. Let me explain. I was at several occasions told a story about the history of Vuollerim, and this story served for the informants as an explanation of why people in Vuollerim are so cooperative. The story goes: in the past, the village had been a place where migrant workers temporarily settled down when following the work opportunities that came with the many hydroelectricity plants in the region. The constant flow of people moving in and out created a culture of cooperation, as the workers and their families saw the value of helping each other out when in need.

Today, there are new types of migrants, or usually immigrant workers in Vuollerim. The majority of the informants in this study are themselves, if not immigrant workers, at least immigrant entrepreneurs from different parts of Scandinavia. The roll that 'Chris' created was inspired by the
Sami food culture but also by her former colleagues at the sewing shop where she used to work. Her colleagues came originally from Thailand and brought their rolls to work in their lunch boxes:

Chris: The... Asian meet the Sami. It is the looks on the roll [that is Thai], but the tastes are ours! And in this we [she and friends from the village] have worked together! And when I told [them] about my idea! And people: "Oh wow! Yes! Let’s create one..." And here we are now! With millions... [for the] construction [of HFH] I mean. And this trust and... Well it’s just amazing! I don't think I have understood it yet! [laughter] ...how fantastic this is.

‘Chris’ desire for creation of a new dish generated support by other people in the village and enticed her to further focus her desire for creation. In building and forming the food hub HFH there were all kinds of possibilities to design, create and innovate, and this served as a motivational factor for her to actively engage in the bio-cultural refuge.

As demonstrated in the example of ‘Chris’, food was mostly talked of as a means for pursuing other types of desires. For the focus group, the desirable was economic autonomy (Table 3); ownership of their products and work process. Desire for economic autonomy in relation to their production was also found to be prominent for the individual informants. Anne explained how she had since long wanted to produce food together with others, and the desires connected to this revolved around her desire to make change, or to “fix system flaws”. However, when talking about economic dependence on bank officials that deal with loans for HFH, she expressed how this drained her desire to work in the bio-cultural refuge:

Anne: Well, I just get tired! Luckily I am not the one that deals with that [apply for loans], but others that are engaged and competent. Yeah, that makes me really jaded! Really jaded. Those kind of things that can make one to lose the Geist for a while. When you see that this [HFH] has such a potential, I mean “hallo, how hard can it be?”. The risk tendency there [at the bank] is really minimal.

‘Beth’ expressed on many occasions a desire for a couple of manifestations of local bio-culture. She expressed desire for the art of traditional food production and fine gastronomy, and for the open landscape. The desire for gastronomy was often associated with a desire for appreciation through “getting a receipt on a work well done”, I will explain how below. Her lay interest in food made ‘Beth’ take a central role in a earlier village project – the restoration and running of a hotel
– where she developed her cooking skills. She became responsible for the kitchen where she learned modern cuisine from a hired chef. But in response to demand from customers for traditional food, 'Beth' started to develop her interest in local food. Taking a course on local food focused her desire towards local bio-culture:

Beth: At that point I had participated in a couple of courses, something that we had up here in Norrboten [the county]. It was called From Soil to Table. And then to see that, well alright! We have these cows here. Then you really get it all the way! From that you saw the grass to when the milk comes out of the cow and to when you then do...refines(!) this milk. So, that just felt like... f..it was totally like: "Yes! That would be super fun to join!"

She had since gotten support from villagers that contributed with local traditional recipes, knowledge and skills. All this knowledge input served as a means for following the desire for appreciation from others, for a work well done:

Beth: I find it really fun to have costumer contacts. [...] they call and I am a bit tense every time, and [the costumer says]: “Well, I just got a delivery”. And then it is like [makes a tense face and sound]... Yes.

Me: What about it?

Beth: Well, a bit like "what will they say?" and they: “...and it was delicious!”. And that makes me so happy!

[...]

Me: Why do you want [the cheese] to turn out well?

Beth: What a good question. It is... I want to say... well there are many reasons. One is an egoistic reason! I want the cheese to turn out well so [one can say that] I have done a good job!

2. Creating opportunities and covering for lack of abilities

Trust was earlier explained as key for the stewards' dedication, and the focus group suggested this to be key for attracting new contributions and cooperators:
FG1: [Trust] is what makes one to really dive into this project [HFH] by 200 percent with engagement. Because you know that no one will come and nab [the project] for itself! I mean, it is really for everyone. And I think this is what makes people come with both money and time and everything because they have understood that no one will sit afterwards and count money... and put it in its own pocket.

[...]

FG2: Well, this is the seventh village company. [...] Since the first started in the 1990s, up until this House of Food Handicraft, then that is really the case, it builds trust. It builds trust. One can see that “oh, this is good for the village!”

Through shared experiences of successful collaborations and volunteer work in the past, the informants now trusted each other and each other’s’ abilities. This way of working, to not so clearly separate paid work and volunteer work, was seen as norm (in this particular village) by the informants. And this norm seemed to have fed back into their desires, and clarified and focused them. 'Anne' described how she would not have taken on the responsibility for the cows and the farm if she had not already experienced well-functioning cooperation with other villagers in the past. By keeping Fjällko she now had the opportunity to “fix system flaws” by doing breeding work on an endangered breed and keeping the landscape open. And by the upcoming collaboration with HFH, she had the possibility to additionally follow some of her other desires, i.e. eating good food and learning, as well as push the village economic development even further:

Anne: Since this... by-product, meat... has become more and more... interesting [for consumers] than at least I understood from the beginning... then... And [] is an interest of mine. Then it has become as “wow, what if... Maybe we could have a charcuterie of our own here in five years!”

As already mentioned in the section of how desire connects to food, ‘Chris’ told me about the trust that she felt from others when she wanted to develop those new dishes: her desire for innovation had created trust from others. But the causality also runs in the other direction: trust can create [objects of] desire. This becomes clear in the following example: the trust she felt for the board members of HFH had made her to take on the role of CEO for the company, even though she thought it to be a worrying challenge:
Me: What made you want to be CEO?

Chris: Well... that is also a challenge I guess. Mm.. A big worry, a challenge for me [laughter], but... at the same time very exciting. And I have a fantastic board and shareholders and other people around me so... Mm.

‘Chris’ also talked about the development of ACP/HFH as providing opportunity to focus her desire for creation and fun. I asked ‘Chris’ to fantasize freely about the future of HFH, and she imagined a well-designed meeting place for fun, food and tourism:

Chris: I would like to build one more floor! And have a... if you imagine a Sami hut, made of glass. Then you could sit up there [on the roof]. Eat, drink coffee, whatever you want. Just look at the sky, the Northern light, the stars... [...] If you imagine that we expand the building out on this so called parking lot, all of it. And build a conservatory where one could... oh well, sit and eat and... And open for other things, if someone wants to do events and those things and... tourists that come visiting... [...] And maybe a couple of reindeer furs on some benches [...]. And since we have [the cows], maybe a cow fur...

All informants talked of HFH as a necessary supporting structure – an opportunity – which not only enabled the them to clarify and focus their desires, but also enabled ACP to continue the production of dairy. By the time of this study, the dairy production, with its very small financial marginal, was still been located many miles away from the farm and the village. But with the new central placement, the production would be facilitated as ‘Beth’ could spend more time in the production and volunteers could help out much more easily. ‘Beth’ presented the development of ACP/HFH as a new hope for the village’s future. I noticed that this hope was expressed in terms of a desire for feeling proud of the they do. She also desired to inspire others, so they too would want to take on this type of challenge, this far north:

Beth: I didn't believe this in the beginning... But! It gives a... if I could say so, some hope! For the future. And it will become one more thing that the village can be proud of. I said village, but you could probably think bigger, the municipality. That it is... Well, it is an operation that kind of goes against the current, so it could probably inspire others [to say] "Oh, it is actually possible to do something like this. We are not too far out north". Or "It... it is possible!"
DISCUSSION

The aim of this study was to contribute to the understanding of why people in the Global North deliberately and purposely engage in stewardship of bio-cultural refugia. I investigated the role of desire in a network of stewards that maintain and develop a bio-cultural refuge in Northern Sweden, where they keep a native and endangered cattle breed, develop traditional recipes and keep the landscape open. Two major insights follow from interviewing the stewards, which shed a different light on common conceptions of stewardship of bio-cultural refugia.

First of all, the majority of the informants in this study did not desire ecological sustainability, nature or even their cows, in and of themselves. Only one informant clearly expressed a desire directed to sustainability outcomes, while the other informants’ desires were directed to things that equally could be found in ecologically unsustainable activities. The most prominent things that the informants considered desirable were always connected to other people. This desire was expressed in terms of: desire for care-taking of their families, friends and villagers in general; to be appreciated and recognized by each other, by villagers and by society at large for the work that they do; for exchanging knowledge and skills on local bio-culture; for influencing other people in general to work collaboratively; and for being in development together.

Desire for development can be thought of a self-sustaining process. As long as development continues, desire for development will continue. Think of the motivational ‘carrot’. The ‘carrot’ can be the paycheck that motivates you to go to work, or the appreciation you get from your boss when reaching sales targets. What if you do not desire the ‘carrot’? Instead you desire the development of the work that you do: to always learn or always reach new personal heights for example. Or perhaps you desire development of the organization you work for. Either way, development itself will always be one step ahead of you: it is not possible to catch and to keep development, as it by definition is moving. If you desire development and you work with development, you will be very close to the desirable, but you can never fully reach it, and this distance will keep desire going and the closeness will keep desire strong and action impactful. Theoretically, this is because the nature of desire itself is characterized by a constant movement: desire can never be fulfilled, and if, an object of desire is ever reached, desire will be temporarily drained and then move on to focus on another object (Fink 2007:50-56).

As a collaborating network (the focus group), the stewards did not express a rigid desire towards certain types of operations or objects. On the contrary, they expressed flexibility and resiliency in the face of changing opportunities. This points to the dynamic interplay between desires and
opportunities in the bio-cultural refuge: in having organized their ways of working as a constantly evolving process with focus on village development and openness to new collaborations and new products, there is an in-built closeness to what is desired and at the same time at a distance to it.

The second insight was that, through shared identifications, their stewardship actions, and the way they organized their work into different types of cooperatives and collaborations, a sense of trust had emerged among the stewards. They considered this trust to be key for their continuous stewardship and for attracting new contributors, but it also directed their desires to the bio-cultural refuge itself. Things that each person previously had as a distant vision or fuzzy dream, now started to crystallize as something that could be attained through the emerging bio-cultural refuge. Moreover, many had taken on responsibilities that help to maintain the bio-cultural refuge, because of the trust the that they felt for each other’s abilities and the ways in which they complement each other. This insight also points to the feedbacks and dynamic interplay between desires, abilities, opportunities and outcomes.

To take an example of how this interplay worked, I will turn to the desire for economic autonomy. As a collaborative network, the stewards had some shared and well-articulated ideas on what to pursue and how to pursue this, which were in line with the official websites and leaflets of the two companies. The core idea was about village economic development to make life in the village attractive enough for people to stay. The way to pursue this was through entrepreneurial thinking, collaboration, openness and selflessness, and there was also the belief that each small contribution can have a big impact, hence every person's contribution matters. These ideas were expressed on the level of identifications (Appendix A). But as identifications also structure desire, economic autonomy – to stick with the example – was also expressed as desirable for many informants. However, pursuing the desirable economic autonomy was sometimes hindered by the lack of opportunities such as difficulties of taking a bank loan. This was, for some, felt as desire being temporarily drained, which decreased the motivation to work in the bio-cultural refuge. Then again, the desire to develop, to work together and the particular things that the individuals desired, seemed to be strong enough to continue the work. In fact, the network of stewards created their own opportunities through replacing financial capital with social- and human capital.

What identifications are made by a person depends on what is available to identify with. And, as mentioned before, identifications frame desire. The story (however true it might be) about Fjällko being threatened by extinction and producing high quality milk, resonated well with stories of the
informants that display a desire for care-taking, for fixing system flaws, or for making and developing traditional foods. For others, Fjällko provided an opportunity for pursuing the desire for working together or for some level of economic autonomy. This might lead to the conclusion that their desires depend on the existence of Fjällko, but that would miss the point of the results. These stewards have desires that are not fixed on particular objects (i.e. the cows), but rather on development, care and recognition. They desire to live in a village where life is attractive enough for people to stay.

Development, care and recognition can be pursued in numerous ways, and not all lead to ecological sustainability. However, if there are opportunities for these stewards to pursue development, care and recognition in ecologically sustainable ways, this bio-cultural refuge can persist and develop. This insight highlights the importance opportunities and abilities as crucial for sustainability, as the large body of work on these topics already suggests (i.e. Ostrom 1990; Westley et al. 2013, Schultz et al. 2015).

As this study has progressed, so has development of the bio-cultural refuge in Vuollerim. Just before the final writings of this text, I got a phone call from ACP, saying that they have applied for bankruptcy. The cooperative did not have the economy to keep on running. The informants enthusiastically ensured me, however, that they are working on a solution to keep the farm and their stock of Fjällko, so that they can continue with their planned development. This is a good example of how opportunities, abilities and desires all play crucial parts for stewardship of bio-cultural refugia. Time will tell if the desires and abilities of these stewards will hold to overcome the obstacles of low profitability that small-holders in the Global North generally face today.

The native cattle breed Fjällko can be used as a means for producing energy efficient and nutritious food in accordance with social-ecological resilience. It can also be a cost-efficient way to keep forested landscapes open, which is important for keeping and enhancing biodiversity in Northern Sweden. To achieve this, the breed needs to be kept for producing dairy. This requires farmers that have a desire, the abilities and the necessary opportunities to keep Fjällko as milking cows.

The people that currently steward Fjällko are working in economic constrains, struggling to make a living and to follow conventions and plans for enhancing biodiversity and protecting traditional knowledge.

Today bio-cultural refugia are commonly thought of as living museums, but there need to be a re-imagining of what they can mean to people and society. If they are to persist and develop, they
need to present attractive opportunities for skilled stewards to stay, move there, work, have fun and to live ecologically sustainable and meaningful lives. They also need to feel appreciated and recognized for the work they do.

Newly suggested national political strategies for protecting local and traditional knowledge (Sametinget and Naturvårdsverket 2018) aim to strengthen both biodiversity and local economies in Sweden. Moreover, the new national plans for rural development (SOU 2017:1) aim to deal with the socio-economic problems that come with Swedish rural depopulation. These suggestions pose a promising platform for further investigation of bio-cultural refugia, as they include an understanding of how rural communities and traditional knowledge can play a crucial role in reaching several sustainability goals. These strategies repeatedly list opportunities and abilities as the underlying problems as well as the solutions of rural depopulation and ecological degradation. However, very little attention, if any at all, is directed towards what people wish for, what they hope or what they want; little is said about their desires.

I have empirically investigated desires in a bio-cultural refuge, and this has to my knowledge not been done before. Based on my findings I suggest to complete the model of social-ecological outcomes as the dynamic interplay of desires, abilities and opportunities (Boonstra et al. 2016). However, many more place-based studies on desire as an important cause for social action in SES need to be conducted in order to contribute to the scientific robustness of the model. This study has investigated a real-life situation where the desires of a singular stakeholder – a network of stewards – have been highlighted. Another way of operationalizing studies on desire in SES is through participatory scenario planning. In these settings, multiple futures are explored by different types of stakeholders. These settings are designed to elicit forward looking language and can provide excellent opportunities to investigate desires. And vice versa: discussing the desires of the stakeholders can be excellent ways to think about future scenarios.
CONCLUSION

The case in my study is an example of a collaborative stewardship based on a natural resource, located in a time and nation where small-scale agriculture is marginalized.

This study demonstrates that practices of stewarding, such as voluntarily breeding the endangered Fjällko, do not necessarily originate in a desire for sustainability outcomes. Fjällko was, along with local production and selling of the traditional cheese and novel dishes, the main empirical manifestations of the (re)production of this bio-cultural refuge. However, Fjällko and the place itself nevertheless seemed almost fully replaceable. This paradoxical finding unraveled when I discovered that the most desirable things were connected to people. The desire directed towards people was expressed in terms of desire for care-taking of others, to be recognized, to learn, to influence others, and for being in development together. The stewardship was also a means for pursuing desires of creation, ecological sustainability and economic autonomy.

Plans and strategies for enhancing biodiversity often fail to notice the desires that propel practices carrying essential social-ecological knowledge and skills. Today in Sweden, there are few incentives for a farmer to start or continue keeping Fjällko as milking cow, and few incentives to steward a bio-cultural refuge in general.

By promoting the (re)emergence and re-imagining of stewardship practices by speaking to peoples’ desires, this can provide opportunities for economic development of rural towns and villages, and ultimately provide new hope for both rural and urban residents. We all depend on the resiliency of landscapes, wherever we live.
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48

Appendix A: Identifications. Theory and results

Desire is structured by identifications. So what are identifications?

I will now pick out a few raisins from the cake that is Lacanian theory on identifications (Lacan, 2006), and only describe what is being directly used in the discourse analysis for this thesis.

Identifications are defined as the transformations of the self when a person “assumes an image”. In other words: when I identify with something or someone, it will affect me and my desire fundamentally, and this is how identifications structure desire.

Identifications pose images of reality, therefore reality is experienced different from person to person, reality is subjective. When I express identifications, others can get a sense of my values and worldview.

Some of my identifications are expressed as moral statements or values, as how I think that things should be, and these are called symbolic identifications. I could say things as: “I should take care of the environment”, or more implicit; “it is bad that they don’t take care of the environment”, and then others can get a sense of my values or morals.

Other identifications are expressed as how I believe things to be, and these are called imaginary identifications. If I say: “I am a mother” or “all living things are related”, those would be examples of imaginary identifications. All statements of my version of an absolute truth will be examples of central imaginary identifications, and others can get a sense of my worldview.

I wanted to know why the informants do what they do. Why do they actively engage in this biocultural refuge? The cooperative that keeps Fjällko write on their web page that they have a purpose: to be local stewards. Being a steward is an object of identification. What in their social reality makes them stewards? What parts of the stewardship are important? What other identifications can be found? Here are the found, most prominent identifications, and these are used to support the findings of desires:

| IMAGINARY IDENTIFICATIONS: what I believe things and myself to be (worldview) |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Anne                                           | Beth                                           | Chris                                          | Focus Group                                    |
| Small-scale farmer Caring                     | Interested in food and traditional bio-culture | Engaged                                        | Heroic                                         |
| Biosphere steward (planetskötare)             | Rational                                       | Autonomous                                     | Caring                                         |
| Cooperative                                    | Migrant                                        | Innovator                                      | Autonomous                                     |
| Emotionally driven Class conscious             | Autonomous                                     | Creative                                       | Cooperative                                     |
|                                               | Cooperative                                     | Caring                                         | Intersections of Sami peoples and past/present migrant workers |
|                                               | Risk taker                                     | Risk taker                                     | Entrepreneurs                                  |
|                                               |                                                | Villager                                       |                                                |

51
<table>
<thead>
<tr>
<th>Risk taker</th>
<th>Flexible</th>
<th>Worker</th>
<th>Reflexive</th>
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</thead>
<tbody>
<tr>
<td>Flexible</td>
<td>Entrepreneur</td>
<td>Sami culture</td>
<td>Exposed</td>
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<td>Exposed</td>
<td>Exposed</td>
<td>The northern inland</td>
<td>Cooperative</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>Insightful</td>
<td>Generous</td>
<td>Exposed</td>
</tr>
<tr>
<td>Systems thinker</td>
<td>Rebel</td>
<td>Generous</td>
<td>Engaged</td>
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<tr>
<td>Countryside</td>
<td>Countryside</td>
<td>Exposed</td>
<td>Mother</td>
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<tr>
<td>Engaged</td>
<td>Emotionally driven</td>
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<tr>
<td>Mother</td>
<td>Engineer</td>
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<td></td>
<td>Wife</td>
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<td></td>
<td>Mother</td>
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**SYMBOLIC IDENTIFICATIONS:** how I think things and myself should be (moral statements)

<table>
<thead>
<tr>
<th>Anne</th>
<th>Beth</th>
<th>Chris</th>
<th>Focus Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroic</td>
<td>Open-minded</td>
<td>Hard-working</td>
<td>Selflessness</td>
</tr>
<tr>
<td>Think for yourself</td>
<td>Accommodating</td>
<td>Humble</td>
<td>Inclusiveness</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>Do what one is supposed to</td>
<td>Caring</td>
<td>Open-minded</td>
</tr>
<tr>
<td>Responsible</td>
<td>Humble</td>
<td>Open-minded</td>
<td>A well-functioning village</td>
</tr>
<tr>
<td>A well-functioning system</td>
<td>Cooperative</td>
<td>Minding one’s own business</td>
<td></td>
</tr>
<tr>
<td>Quality before quantity</td>
<td>Tidy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-minded</td>
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**ANNOTATIONS**

1. All express imaginary identifications as being cooperative and being exposed. To be exposed was however not a prominent imaginary identification for any of the respondents.

2. All individuals express imaginary identifications as risk takers.

3. All sources express identifications related to rural areas and some are more explicitly place- and culture bound, such as the intersections of Sami and Swedish people in the inland, or intersections of Sami and Swedish migrant workers.

4. All sources think they and others should be open-minded.

5. A couple of identifications can be viewed as similarities in the value of responsibility. For example “hard working”, “to do what one is supposed to”, “think for yourself” and “knowledgeable”.

6. There are differences in how many imaginary and symbolic identifications are expressed to me. This can be interpreted as a qualitative difference between their self-images: with a higher number of possible identifications come a more flexible action outcome. “I can do what ever, wherever”.

7. Only one source express imaginary identifications directed directly to nature. She said the exact word “Planetskötare” (Biosphere Steward) without me having said that word before. She is also the only one that did not express autonomy as a clear imaginary identification, rather the opposite: a systems thinker.
8. Striving towards a caring, cooperative autonomy is seen as both ethical and as something that pays off in better economy for the village or individual meaningfulness by the focus group.

9. There are some things the focus group express they want to avoid (morals of how to not be): greediness, failure and selfishness.

10. There is a shared understanding of how small things can do great difference, hence they should start with themselves and then hopefully others will be inspired.

LITERATURE CITED

Appendix B: Interview guides

Interview guide for interview round 1

Legend of abbreviations (targets):
Desire (DE): a hunch about desire could be found in expressions of wishes and wants
Drive (DR): a hunch about drive could be found in expressions of lust and pleasure
Identification (ID): identifications could be found in expressions of opinions (imaginary identification) or in expressions of morals, what should be done/how things should be (symbolic identification).
Facts (FA): facts that later can be connected to for example sense of place/social resilience literature: continuity of ACP over time; knowledge sharing within ACP; social and/or ecological function of ACP etc.

THEME: Introduction to the person, to the place and to ACP. ca 15 min
Let´s begin.

Could you start by telling me a little about yourself? (possibly all targets)

We are standing on the farm/the dairy production place/X. Why did you choose this place to do the interview? (possibly all targets)

Let´s walk around a little and you can tell me about the place and your work here? And then we´ll stay at X and continue the interview. Why are you using this technique/method/x? (possibly all targets)

THEME: Self-reported engagement.
Now I will ask you some questions about your engagement in ACP.

What is the most meaningful about ACP? (ID)

How do you think ACP contributes? (DE, IDI)

What turns you on when it comes to ACP? (DR)

How much engagement do you put into ACP? How much would you like to put in? (IDS)

Why did you join ACP/started ACP? The previous owner Hanz, what role did he play, or does he play in ACP?(possibly all targets)

What would you do or how would you feel if ACP was threatened by shutdown (DR, ID)

THEME: The cows and the place.
Now I will ask you some questions concerning the cows and the farm.

What do the cows mean to you in you engagement in ACP? (possibly all targets)

Would you call yourself a farmer? Or something else? How was it before ACP? (ID)

Why are you keeping Fjällkor and not other breeds? (Could you think of other context where you get the same experience as you get with these cows?) (ID, DE, DR)

Can you “paint me a picture” of a normal meeting with the cows, and is it something in this meeting that makes you feel engaged? (DR, ID)

When it is time for slaughter, how does it feel then? (IDI, DR, DE)

How do you think ACP affects the environment? (locally, regionally, globally). (possibly all targets)

What would others say about how ACP affects the environment, you think? (possibly all targets)

How would you describe the place and the landscape where ACP is acting? Is this important to you? Do you have a favorite spot? Why is this your favorite spot? (DR, ID)

THEME: Social aspects of ACP

Now I will ask you some questions about the social aspects of ACP.

How come ACP is a coop? (possibly all targets)

What does the members mean for ACP?

What does the members of ACP mean to you in your engagement in ACP? (possibly all targets)

Do you spend time together outside ACP? What do you usually do then? (DE, DR, FA)

If conflicts arise in ACP, how do you handle them? (possibly all targets)

And how does ACP as a whole contribute to you? (possibly all targets)

How does ACP contribute to the bigger society? (ID, DR, AF)

How would others describe ACP? (possibly all targets)

THEME: The village and larger society (with interview support)

Now I will ask you some questions about ACP in the context of Vuollerim and society at large.

How does the society at large affect your engagement in ACP? (possibly all targets)

How would you describe Vuollerim as a place? (possibly all targets)
In 1991, Carl Bildt declared in his Government Declaration that “the time of collectivism is over”. It seems to me as collectivism just started in Vuollerim exactly at the same time...? (DE, DR, ID)

THEME: The products (with interview support)

Now I will ask you some questions about the products.

Could you tell me about your products? (possibly all targets)

In my last visit here you all joked about “putting a warning triangle on the milk” when we had a fika, because the milk is not pasteurized. What was that joke about? (DR, ID)

Do you yourself consume the products? Why/why not? (possibly all targets)

THEME: The future

Now I will ask you some questions about the future for ACP.

What would you really wish for the future of ACP? (DE, DR, FA)

And if there were no limitations, if you would allow yourself to fantasize? (DE, DR)

What obstacles are there to this desired development, realistic or not, and how could they be solved? (DE, DR, FA)

Reminders for me:

Never think you understand, take a naive role. Reflect words rather than interpret the meaning of them. Pay attention to and ask follow-up questions if appropriate (ethical) when:

Slips
Stories (myths)
Changes of formulations within a sentence
Negations
Pauses
Visible affects
Leaves out the last words in a sentence (or in a sentence)
Rhetorical constructs such as: a) the last entity in a list of entities is probably the most important; b) the entity in a list of entities which is constructed negatively is probably the most important (ex “he, she and not to mention she...”

56
Interview guides for round 2

Informant 1

1. You mentioned that ACP was a part of your vision. Could you please tell me about this vision and what it means to you?

2a. Why do you have an interest for sustainable development and the environment, you think?

(2b. Are there assimilates between your different engagements through life? Is it something in particular that usually gets you engagement going?)

3. When one of your animals will go to the slaughterhouse, how does that feel for you? Why? Do you feel the same for animals in general or is it mostly your own animals?

4. You described a few times that you feel a calmness at some particular times. What does calmness mean to you?

Next, the theme “doing things together”.

5. Can you describe how it feels to run ACP and the relating operations together with others?

6. What does HFH mean to you, personally?

7. Finally, you have mentioned leadership a couple of times. How do you relate leadership to doing things together?

Thank you! Would you like to add anything?

–

Informant 2

1. What is it about food that engage you?

2. What does “From Soil to Table” mean to you?

3. What does “doing a good job” mean to you?

4. You talked about that you wish it to be a bubbling life around HFH and that a lot of people would come by and be interested to learn and to watch the production. Could you please develop this a bit?

5. You are dealing with some rather unique stuff. You don’t have ordinary cows, you grow stuff all the way up in the Arctic, and you have learned how to make cheese from scratch even though you are educated in something completely different. You have been part of the running of a hotel that has over 100 owners, and you have even moved to a new country to work. And now HFH. Where does this drive to do all this stuff come from?

Thank you? Would you like to add anything?
Informant 3

I will start by asking some questions about yourself and your interests.

1. Could you please tell me what your biggest interests are?
   (if anything about environment/nature: please develop)
2. When we met I got an image of you that you are full of ideas! Where do these ideas come from, you think? Where does the inspiration come from?
3. When you have had an idea, what do you usually do with it?
Thank you. Now I will ask a few questions about HFH.
4. How are you doing now? How far have you come?
5. If I understand this correctly, you are CEO of HFH. What made you want to be that?
Thank you. Now I will ask a few questions about Vuollerim.
6. You are originally from XX but have lived in Vuollerim for a long time. Do you think that Vuollerim has changed in any way since you first moved there?
7. When we saw each other you told me you have a burning engagement for the village. Where does this engagement come from, you think?
Thank you! Would you like to add anything?
Appendix C: Coding and analysis

The Lacanian theories says that the subject cannot escape language, everything is filtered and distorted through the language. Therefore we can detect meaningful stories and interpret them. And by doing research on people in SES there is a need to take the language into account, and not fall into ideas about pre-given categories for humans.

This type of thinking makes it impossible to imagine one standardized way to analyze and interpret speech. This is how I did it.

Before being able to analyze the interviewees speech, I developed a pattern of coding that was both inductive and deductive.

First I read through all transcript as paper prints, and made a short annotation on each page that summed up what the speech on this page was about, so called meaning concentration (Kvale and Brinkmann 2009:221-223). Simultaneously, I did a first round of deductive and looked for expressions of desire (wishes and wants), drive (strong emotion) and identifications (what is, and what should be). The preliminary result from this analyses were used as base for tailoring the follow-up interviews.

Then I used NVivo software for Mac, version 11.4 (QSR International 2018), for a more detailed coding structure and analysis.

The transcripts were coded and analyzed discursively and I used the Parker (2005) considerations of a Lacanian reading of text. These considerations dealt with “(i) formal qualities of text; (ii) anchoring of representation; (iii) agency and determination; (iv) the role of knowledge; (v) positions in language; (vi) deadlocks of perspective; and (vii) interpretation of textual material”.

These considerations were not intended to be, and was not used as, a step-by-step technique but rather as a firm and concrete foundation to stand on when trying to understand the material.

The search for expressed objects of desire could look like this: I looked for punctuations to find retroactively created meaning (formal qualities of text), places where speech was non-nonsensical to find places in speech where something important is trying to be said, or places in the speech where there were absolutely no ambiguities (positions in language and deadlocks of perspectives), and for how the speech dealt with knowledge to find identifications (the role of knowledge).

What is desired is to a large extent framed by identifications. The expressed desire in the context of engagement in ACP/HFH are therefore interpreted with support of the identifications (a full list of found identifications is presented in Appendix A). The presence of drive indicates desire and was also used as support for interpreting desire.

Being able to handle all this text, I used coding as method for structuring the readings and analyses.

The resulting codes are more than a handful, but when presented as below as a coding matrix, one could get a sense of how much people talk about what. This was helpful, but not decisive in my interpretations. The qualitative analysis was also about seeing processes in the speech.
When looking at the speech of the focus group I noticed parts where people looked for recognition from the others and for places where people interrupted others. These events were interpreted as important for the group narrative forming process.

Coding

1. Deductive coding. Five main codes in two essentially separated nodes, in which I sorted references (pieces of speech) into:

   a) Desire (DE), drive (DR), imaginary identification (IMAG ID), symbolic identification (SYMB ID)
   b) Functions of the companies and other operations

2. Inductive coding. A large amount of codes emerged from the material. See Appendix D.

3. I went through all references again, rinsing out those that were clearly sorted under wrong code. I repeated this step a few times.

Analyses of the coded references

4. I ran coding queries on each individual and the group separately only picking out references coded for drive and desire, as the presence of expressed drive indicates strong presence of desire. Since desire was divided into many possible objects of desire I could get an overview of what objects caused the interviewees to express strong desire. Some references were only coded for drive and not desire, and this is because I could not find a clear object of desire in that reference, but needed instead look at the full text to get a more comprehensive understanding on the objects of desire.

5. I ran coding queries on all sources to see where imaginary and symbolic identifications overlapped to look for shared mental models.

6. Comparison diagrams and hierarchy charts on each source on all themes to get an overview on what they talked about, where they talk about the same things and where they differ.

7. Coding query on individual desire and manifest purpose to see overlaps.

8. Coding query on drive and other codes that do not include desire

9. Coding matrix on the interface of desires and drives.

10. Coding matrix on the interface of desire, drive, and all identifications.
These are the coded references, unsorted:

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**LITERATURE CITED**


QSR International, 2018. NVivo (Version 11.4) [qualitative data analysis software]
Appendix D: Critical reflections and limitations of data collection

Within the tradition of discourse analysis interview data is considered as co-created data, it is a social construct produced between the interviewer and the interviewee (Kvale and Brinkmann 2009:243-248). There is not one absolute and observable truth, meaning is rather thought of to emerge in the listener, in this case in me as researcher (Fink 2009:43). I state the questions, interpret the answers and ask the follow-up questions, it is therefore my subjective understanding that produce the results of this study.

In considering the likelihood for contrasting discourses and the creation of meaning as factors influencing both the product and the informant itself, I needed to make ethical negotiations along the interviews. This meant that on the one hand I needed to be sensitive to the interviewees explicit and implicit wishes, and on the other hand I needed to steer the process enough to produce data. One way of doing this was by encouraging the interviewee to “probe its own motivations of everyday statements more profoundly” to open up for a glimpse of desire (ibid).

By taking this naïve role and trying to not interpret meaning, to not understand during the interviews, the conversation was sometimes halted and the richness of textual material could have suffered because of this. On the other hand, this strategy should have been suitable for not closing off possible associations by confirming meaning.

The second round of interviews was performed over telephone. Since the analysis is focused on the speech, its particular wordings and rhetorics, I made the call that telephone interviews would be a good technique after having already established a face-to-face conversation. However, two months in between the interviews could have been a too long time period for interviewees to remember where we left off, and close possibilities for deep conversations. But there were advantages as well. By temporally dividing data collection I got rich narratives in a limited amount of interview time. After the first round I had time to do a first qualitative analysis of the interviews and to develop appropriate and individually tailored follow-up questions (Appendix B).

LITERATURE CITED


Appendix E: Ethical review – final review

This project have been carried out in an ethically manner. I have followed the ethical considerations that I developed for the first ethical review, which was approved by the ethics committee of Stockholm Resilience Centre 2017.

I did not make use of a third party contact to get in touch with the participants, as I suggested in the first ethical review. Instead I selected participants by emailing the leadership of the companies that are involved with the stewardship management of the bio-cultural refuge, and asked them to self-organize to who would participate.

Well before conducting the interviews I sent the participants a form of consent to be signed by them, and I brought extra copies to the sites of interviews. However, only one signed the consent, but all others accepted to take part in the study orally and/or by email.

Before visiting the village I read up on the village and the region, but mostly I read up on how to conduct interviews in an ethical but efficient way (from a data collecting point of view).

Just before conducting the interviews I explained what types of questions I will ask, and tried to communicate that the questions are explorative, and that they may speak as freely (or not) as they wish. This was done to try to ease possible discomfort.

I also tried to have as much of transparency as possible without placing certain words “in the mouths” of the participants, to not interfere to much with the data collection. The transparency consisted of a plain language statement that described the project, with the additions of explanations in emails and face-to-face meetings in the village. On the request of the participants, I also sent two thesis drafts to them, so that they could read their quotes in context. Moreover, I offered to send each participant its individual full transcript of their interviews, and invited them to participate at my examination seminar.

All data was handled highly confidential, as I had stated that I would in the first ethical review. For example, no data was attached with personal data, no data was sent by email and all data files were encrypted. I informed the participants of this. I also informed the participants that if they want to have the transcripts I could not guarantee security for these as they would be emailed by a non-encrypted mail website (however, no one wished to see the transcripts).

No illegal or ethically harmful activities have come across while conducting this project, and I believe that the participants and their context has not taken, and will not, take harm from the project. The study has not affected the environment in any harmful ways (I took the train and petted the cows).

The findings of the study are reported as accurately as can be with an interpretative approach within the given time frame. The findings are reported honestly and in accordance with current scientific reporting standards. No conflicts have arisen between myself and the supervisors.