

Faculty of Social Sciences, Humanities and Education /
Johnson Shoyama Graduate School of Public Policy

Fishing for fishers:

Recruitment of fishers in three communities in Nordland

—
Marit Swensen

Master thesis in Governance and Entrepreneurship in Northern and Indigenous Areas May 2018



**Fishing for Fishers:
Recruitment of fishers in three communities in Nordland**

A Master thesis submitted by Marit Swensen
Master in Governance and Entrepreneurship in Northern and indigenous Areas
Faculty of Humanities, Social Sciences and Education/
Johnson Shoyama Graduate School of Public Policy
UiT – the Arctic University of Norway/
University of Saskatchewan
Spring 2018

Supervised by
Professor Svein Jentoft
The Norwegian College of Fishery Science
UiT – the Arctic University of Norway

Cover page: A young fisher on the island of Bolga.
Photo by the author.

Acknowledgements

It has been a great journey along a winding road taking this Master's degree. How exciting and rewarding it has been! My gratitude goes to the Center of Sami Studies, Arctic University of Norway and to the University of Saskatchewan for this great opportunity. It has been rewarding to be part of a terrific cohort of students from the circumpolar North. The lessons learnt from being part of the GENI program, and from meeting so many truly inspiring people will stay with me forever. I would also like to thank my supervisor Svein Jentoft, at the College of Fishery Science, for his excellent guidance and support. Svein is a great source of inspiration, and I am so happy to have had the opportunity to work with him.

Finally, I wish to thank my family for their support as I have worked toward this degree. I hope I will be able to repay the service by using the knowledge I have gained along the way to promote small Northern coastal communities' way of life, which has been at the centre of my project.

Abstract

This thesis examines the development of recruitment within fisheries in recent years in three North Norwegian coastal communities. Recruitment of fishers is vital for the survival of coastal fishery communities, as well as for the cultural identity of the people living in them. Traditional fisheries have sustained coastal communities for centuries and were the reason the coast was inhabited in the first place. The riches of the sea will long be available to us if we manage them wisely. In an increasingly urbanized and specialized world, harvesting local fishery resources in a sustainable way is a sensible strategy, from both a resource perspective and from a community perspective.

In recent decades coastal communities have experienced a dramatic decline in the recruitment of fishers, partly caused by, and partly resulting in, social changes. Not only does a coastal fishery depend on continued recruitment, but coastal people are also at risk of being alienated from their cultural identity if this industry is not maintained. This becomes a kind of dialectic process, in which the effect of a particular cause becomes in turn the cause of further, similar effects. One community in this study has gone from catching wild fish to fish farming, whereas the other two have been able to continue catching wild fish. If we are going to be able to secure the future of recruitment in coastal fisheries, we must more thoroughly understand the causes and effects of recruitment. The future for fishing communities depends on it.

To explore these issues, during the winter of 2017–2018, several interviews with young fishers and other actors in these communities were conducted, as was a document study. A major goal was to examine what system of interaction were active in the communities, particularly as related to recruitment in the local fishery. This study also examines the local repercussions of centrally formulated fishing policies, and the room to maneuver they allow at the local level. This will help determine whether it is possible to steer recruitment processes through local involvement. The argument set forth here is that coastal fisheries cannot be viewed separately from the communities in which they are based. Policies based in overarching discourses should not be seen as all-determining factors for recruitment. More important are local social networks, local policies and alternative work options.

Table of Contents

Acknowledgements.....	IV
Abstract.....	VI
List of figures/tables.....	IX
1 Introduction.....	1
1.1 Background.....	1
2 Theory.....	4
2.1 Coastal Recruitment Systems.....	4
2.2 Discursive power.....	5
2.3 Policies and local repercussions.....	6
2.4 System Theory.....	7
2.5 Social Networks.....	8
3 Methods and Research Design.....	10
3.1 How to put together a good research strategy.....	10
3.2 Quantitative methods.....	11
3.3 Qualitative methods.....	12
3.4 The role of the researcher.....	12
3.5 Collecting and analysing the data.....	13
3.6 Generalizations, reliability and validity.....	15
4 A northern coast in change.....	16
4.1 Bolga –from fishing to fish farming.....	20
4.2 Reipå – from farming to fishing.....	24
4.3 Andenes- fisheries past and present.....	26
5 Analysis.....	28
5.1 A coast in rapid change.....	28
5.2 Profit or community – Discourses at work.....	28
5.3 An Interdependent system versus a functional system.....	32
5.4 Fewer and bigger – Centralization trends.....	34
6 Conclusion.....	36
Bibliography.....	39

List of figures/tables

Fig. 1 Map of Nordland.....	2
Fig. 2 Policy implementation model according to Matland.....	7
Fig. 3 Covering the topic's essentials, modified from Kleven.....	14
Fig. 4 Lofoten Fisheries 1856-2000.....	17
Fig. 5 The island of Bolga.....	21
Fig. 6 Bolga co-op Ice Depot.....	22
Fig. 7 Nova Sea Fish Farm off Bolga.....	23

1. Introduction

Societies change. Looking back on history, we see that coastal communities are no exception to this rule. One of many drivers of change is technology. Motorized boats dramatically changed the fishing industry and coastal communities. The rate of change has not slowed; new technologies are introduced constantly. Looking at the coastal communities that will be studied in this project, one finds that many small fishing communities have been dramatically altered during the last forty years, some have even ceased to be active fishing communities, having only a few or no fishers left. The development of these communities indicates that modernity in all its aspects leaves both good and bad in its wake. The recruitment of fishers in communities that have adapted to societal changes, and in a community that did not adapt successfully, will be studied in this thesis.

1.1 Background

The starting point of this project was curiosity about Bolga, the island where I grew up and still live, and the disappearance of its fishers. This is a small fishing community, that is, it used to be a small fishing community. Today there are no fulltime fishers left. What happened here, and what happened to an industry with century old traditions on the island? From that starting point, I ventured to examine why two other fishing communities, Reipå and Andenes have succeeded in recruiting young fishers and thereby remain active fishing communities. Through a theoretical lens I will examine societal and local factors influencing recruitment systems in these communities and address the research questions:

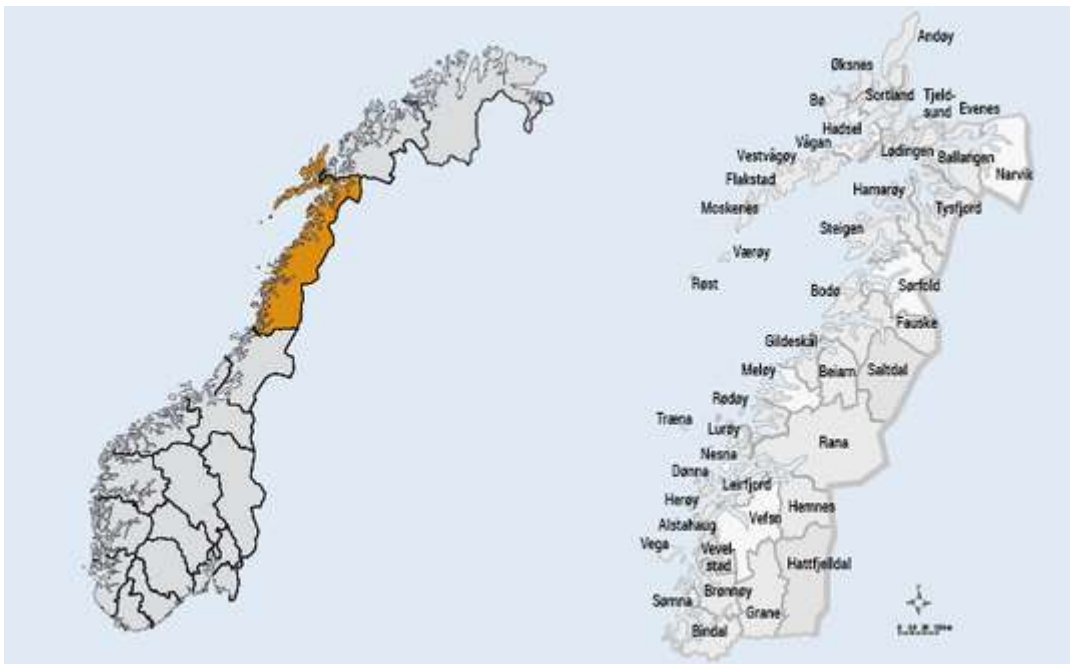
Why has Bolga ceased to recruit young fishers, and which factors have had the greatest influence on this development?

Why have Andenes and Reipå been strong recruitment hubs for young fishers, and what factors have been most prominent in this development?

What can these case studies teach us about the conditions of, and prospects for, such communities to survive and thrive in the future?

The three communities included in this thesis project, Bolga, Reipå and Andenes, are coastal communities situated in semi-rural municipalities in Nordland County. Andenes is located in

Andøy, in the north of the county, while Bolga and Reipå are located in Meløy, in the middle of the county. There are similarities between Reipå and Andenes that are interesting from a research perspective. They are similar in that there are several young fishers owning and operating small coastal fishing vessels in these communities. Bolga, on the other hand, has developed differently, exhibiting little recruitment, which has resulted in the present absence of fulltime fishers.



Source: Allkunne.no

Figure 1: Map of Nordland

The young fishing recruits in this study are a new generation of coastal fishers that entered the fisheries after 1989 when the individual vessel quota system (IVQ) for North Atlantic cod was introduced. In recent studies, young fishers who own their own boats are characterized as pragmatic and dedicated (Sønvisen, 2014). Through interviews, statistical information, historical data and a literature review, This study will provide an overview of the communities in focus, their distinctive features, particularly their social networks. A further goal is to shed light on how fishers interact with each other, and with the communities. The best sources of information on which factors promote successful recruitment systems are the fishers themselves. Their rationale for choosing to become fishers, and their choice of community to settle in, are key to understanding how recruitment processes work. At the same time, studying the communities is important to identifying relevant structures and social networks. The main hypothesis of this study is that if external factors are alike in these three

communities, then there must be specific factors within communities that hold the keys to successful recruitment processes.

The young fishers studied are some of the most dedicated, with strong attachment to their communities (Sønvisen, 2014). Of the categories of fishers, coastal or ocean, and crew or boat owners, the fishers studied here fall into the coastal boat-owning category. It is interesting to explore their choices and adaptations because they are important to the resilience of coastal communities for two main reasons. First, in terms of future recruitment through primary socialization, and second, for creating economic activity and generating revenue by creating jobs and landing their catch locally. This study will build on the previous work done by Norwegian sociologist Signe Sønvisen (2013, 2014) on recruitment and the image of fishers. The theoretical backdrop to this project draws on the work of American political scientist Richard Matland (1995) on policy implementation, on theories on discursive agency by German political scientists Sina Leipold and Georg Winkel (2013), and on the system theories of French sociologist Raymond Boudon (1981). Finally, American sociologist Mark Granovetter's (1973, 1985) theories on embeddedness and social networks will be employed.

Following the research questions and the background of this study introduced in chapter one, chapter two presents a review of relevant literature and the theoretical backdrop for this study. Chapter three presents the methods and research design choices of this study. Here deliberations regarding inductive versus abductive approaches are made. Chapter four describes the three communities included in this study, and the general trends influencing their development. Chapter five discusses the research findings. The final section sums up the study while drawing general lessons regarding recruitment, socialization and community sustainability.

2. Theory

A suitable theoretical starting point for this study is the work done on recruitment within Norwegian fisheries by Jentoft and Wadel (1984) and Sønvisen (2013). Their work focused on recruitment systems in coastal fisheries and how they have changed over the recent decades. Furthermore, a model on policy implementation by Matland (1995) is presented, along with Boudon's (1981) theory on interdependent versus functional systems. This study also involves Granovetter's theory (1985) on embeddedness, and finally Foucault's theory on knowledge, power and discourse (1982). These theories will provide perspectives on the research topic: why, unlike Bolga, Reipå and Andenes have many young fishers, and what general lessons can be learned from what has happened within these communities over the recent decades.

The focus of this study is young fishers who own or operate small coastal fishing vessels, because they entered the fishing industry after 1989 when the quota system was established, and because they often fish and land their catch locally, and thereby often foster closer ties to the fishing community than fishers on bigger offshore fishing vessels. One of the studies serving as a departure point for my study is the PhD. dissertation, *Coastal Communities and Employment Systems: Networks in Change*, by Signe A. Sønvisen (2013). Through quantitative analysis Sønvisen identified four fisher types, the traditionalist, the modernist, the pragmatist and the neutralist (Sønvisen 2014). Out of these the pragmatist was a new type, and one I was interested to see whether I would meet during my interviews. The pragmatist would come from smaller communities, often owning his own boat, not highly educated, but with a keen interest in his profession, described by Sønvisen as “a leader that is making a good living by being more strategic and business oriented, less hot-headed, and more articulate and compromising than the traditionalist” (2014). With her analysis in the back of my mind, I set out to interview fishers, curious to see if I could categorize the fishers according to Sønvisen's types.

2.1 Coastal recruitment systems

Jentoft and Wadel (1984) described a Coastal Employment System (CES) where young fishers were recruited into the fisheries through kinship and community networks. Recruitment systems and processes are likely to have changed as coastal fisheries have

changed. Societal, demographic, and technological changes, and changes in access to resources have altered the fishing industry and its recruitment systems. Sønvisen described a recruitment system where professional networks and more diverse recruitment structures are present (2013). She argues that political discourses, whether centering on profitability or on community interests, are insufficient for describing the current recruitment systems of fishers. She describes a greater diversity among fishers and their paths into the fishing industry than had earlier been assumed. This reflects a more complex reality where multiple societal variables are at play. Still, Sønvisen agrees with Jentoft and Wandel (1984) that relational ties between actors are a significant factor in the recruitment of fishers and the sustainability of fishing communities. This study supports this view of society in which many factors influence young people's choice of profession.

2.2 Discursive power

The diversity among fishers has become greater in recent years (Sønvisen, 2013), and to understand the recruitment process, why and how young people choose to become fishers, it might be useful to apply discourse analysis employing Foucault's theories on discourse, knowledge and power. He claims that a principal technology of power is the *gaze*," the gaze is concerned with gathering of information to inform and create a discourse on its subject-matter" (Foucault, 1982). Discourses can, according to Foucault, be understood as formations of statements that are perceived as "normal," give meaning to the world, define relationships and give parameters for possible actions (Førde et al., 2010). Determining what knowledge is important and accurate gives power, as power and knowledge are mutually connected. Foucault speaks of *power/knowledge*, which cannot be reduced simply to either component.

One of Foucault's objectives was to create a history of the different modes by which human beings become subjects. He claimed that subjects are the effects of discourse (Foucault, 1982). Dutch political scientist Maarten Hajer works along the same path, and defines the concept of discourse as "an ensemble of ideas, concepts, and categories that provide meaning to social and physical phenomena, this is produced and reproduced through identifiable practices" (Hajer, 2006). Hajer identified politics as a struggle for discursive hegemony by trying to win support for a particular definition of reality (Hajer, 1995). This theoretical perspective is useful for identifying the intent and origin of Norwegian fishery regulations, where quotas (IVQ) have been made into a commercial commodity, and for attempting to find how this has affected coastal fisheries and their recruitment systems over the recent decades.

The overarching, unitary policies of central governmental agencies regulate most areas of Norwegian society. As the complexity of societal structures increases, the multitude and complexity of policies grow as well. Hence, the analysis of policy-making for, and discourses on, fisheries becomes more multifaceted. German political scientists argue that this complexity provides arenas for participation and bases for legitimacy. They claim that political actors are provided with considerable room to maneuver, i.e. discursive agency, because of discursive complexity and ambiguity (Leipold and Winkel, 2013). Their argument will be a suitable starting point to study how local actors in the communities “work” the system, and if there is indeed discursive agency at the local level.

2.3 Policies and local repercussions

The unitary division of power that is a hallmark of Norway is evident through the prevalence of centralized policy making. State directorates and agencies are delegated power to implement the policies. Below, a model developed by Matland (1995) shows how policy implementation can be assessed according to conflict level and ambiguity level. The ambiguity in this model is either ambiguity of goals or means, and the conflict parameter refers to the level of conflict a policy implementation causes for the actors. Policy in an area where there is little conflict and little ambiguity falls in the top left slot and can be labeled administrative implementation. A policy that raises high levels of conflict, but little ambiguity will be a political implementation, where the outcome is decided by power. The bottom two slots are, on the left, experimental implementation, where the ambiguity is high and conflict level is low, and, on the bottom right, symbolic implementation, where there is both high conflict and high ambiguity levels. This model is useful when one wishes to analyze the implementation of the individual vessel quota (IVQ) system in 1989, and how this policy implementation affected the actors in this study, chiefly the fishers. Norway introduced the individual vessel quota system for cod fisheries in 1989, it has since developed into a quota system where the quotas have become commercial commodities.

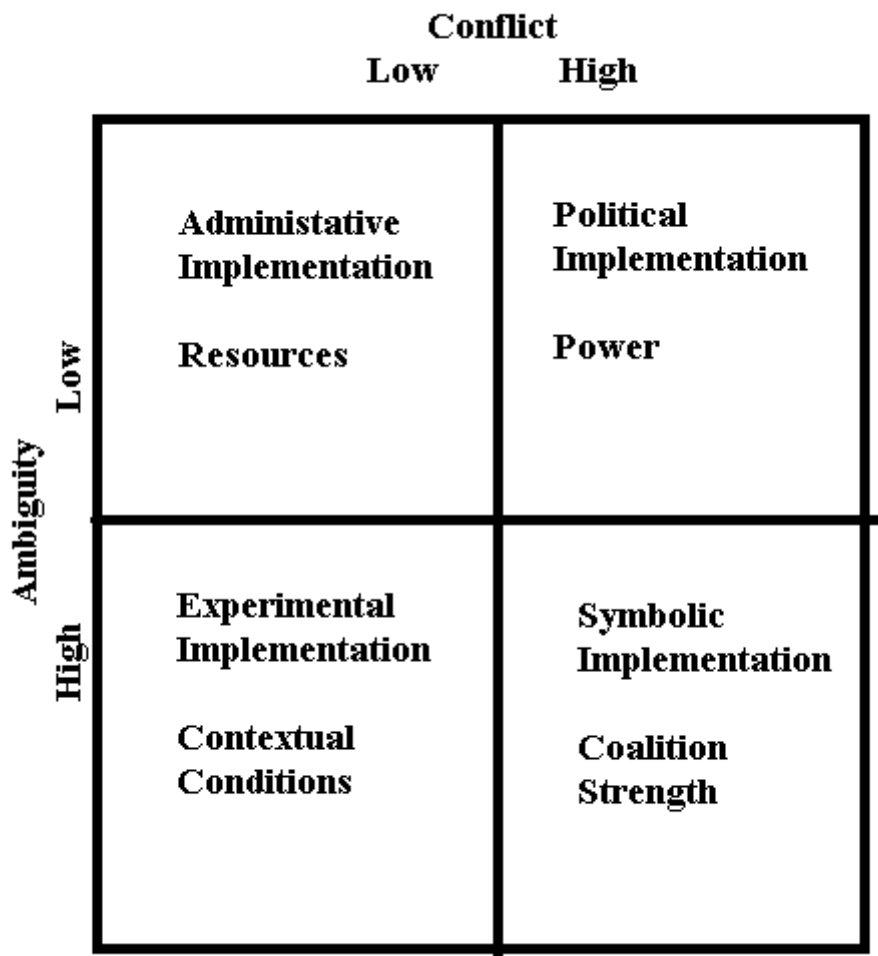


Figure 2: Policy implementation model according to Matland, 1995.

The IVQ regulations were introduced by the Norwegian government in response to a drastic decline in cod stocks. There is no doubt that these fishing policies have raised a lot of debate, and the implementations have been disputed. The key point of interest here is whether fishers are affected by policy implementation, not only in affecting their patterns of behavior, but also in causing a corollary change in their perception of the system they are a part of. An analysis of these issues will improve understanding of how young fishers approach the industry, and how and why they make related career choices.

2.4 Systems theory

The IVQ policy can furthermore be viewed against the theoretical backdrop of Boudon's (1981) interdependent or functional systems. He described these two systems either as a system of interaction where individual actions can be analyzed without reference to the

category of role; an interdependent system, or as a system where the actors hold certain roles within a structure where there is dependence between the role holders, a functional system. Boudon used the image of a queue to explain interdependent systems. The people in the queue are all there for the same reason, buy tickets to see a movie, they have no relationship to one another; they are interdependent of each other. The opposite is true in a functional system, where the actors are woven together through the roles that they hold, like within an organization. Boudon stated that; societies can be considered complex entanglements of systems of interaction, some as interdependent systems, others as functional systems. Actors in coastal fisheries relate to one another in complex structures, which reveal, among another things, power structures and fishers' room to maneuver. By identifying and analyzing these structures of interaction in Bolga, Reipå and Andenes one aims to identify links between the prominent system and recruitment patterns of young fishers.

2.5 Social Networks

The social bonds between the actors in a small community can be hard to identify because they tend to be deeply intertwined. Still, they make up the community as a social system. The American sociologist Mark Granovetter's theories on embeddedness and the strength of weak ties between actors were primarily based on studying relationships involving economic or business activity. At first glance, the economic relationships in this study do not seem to be of key importance. However, as an example, fishers employ crewmen, and if there are too few fishers left, the fishery infrastructure grows weaker, and both the industry and its actors suffer. For these reasons, the bonds and ties between fishers, and between fishers and their communities are vital, and should be studied. Granovetter defines the strength of an interpersonal tie according to its duration, emotional intensity, intimacy and reciprocity. He asserts the importance of the weaker ties between actors, claiming that we do not receive the most valuable new information from those closest to us, but from contacts that are not in our closest circle. Those we associate most closely with tend to have the same information as we do. Those with weaker ties to us move in other circles and are more likely to present us with novel information (Granovetter, 1973). In this respect interpersonal ties of a weaker nature are of great importance, and interpersonal ties are key to establishing trust and discouraging malfeasance (Granovetter, 1985). When studying Bolga, Reipå and Andenes, the presence of knowledge sharing between actors, trust and lack of malfeasance would be good indicators of strong social networks. The strength of these networks, as characterized by Granovetter, is

also likely to have an impact on recruitment patterns and the resilience of such coastal communities.

3. Method and Research Design

In this section of the study, the choices made regarding method and research design will be discussed. When I started out I had a hypothesis that some fishing communities recruit young fishers better than other communities, and if that were the case, I wanted to determine what characterizes those communities and their recruitment networks. Step one was to find out whether the communities in question indeed recruited better, and step two was to identify their successful recruitment processes by examining the communities and the networks within.

By clarifying and explaining the methodical choices I have made, I aim at illuminating the process of comprehending complex subjects. The choices of methodical tools were made with the aim of presenting the most valid and reliable answers to my research questions. My role as a researcher, and my relationship to the subject topic has also been important for the choices in research design. Since I live in one of the communities featured in this study, I felt I had to be extra-conscientious in the methodical choices.

The project was assessed and approved by the National Data Protection Agency (NSD). Adjoined with the application, I submitted a questionnaire, which was designed for use when interviewing the fishers in this study. All the interviews were semi-structured, the questions were open-ended and served as starting points for conversations around a topic. When it came to participants from either local organizations or municipalities, I focused on their involvement with the communities, and on what kind of networks exist, and how the ties between the community members could have affected recruitment.

3.1 How to put together a good research strategy?

The research was carried out over four months, from October 2017 till January 2018, and my study capacity was limited by contemporaneously working fulltime. The research questions were designed to:

- A. Verify Reipå and Andenes as successful at recruiting young fishers,
- B. Illuminate possible distinctive features in the communities of Bolga, Reipå and Andenes,

- C. Compare and contrast Reipå and Andenes with Bolga to explain why their development paths differ.

I also needed to get a good grasp of previous studies, historical data, government papers and public information about the communities, including data on fisheries, and data on employment within local fisheries. On this informational foundation, I was able to make more informed choices as how to best pinpoint the topic. Next, I decided that I would work mostly along the qualitative axis. I would do documentary research and follow up with semi-structured interviews. My reasoning being that the combination of the different approaches would secure more meaningful and accurate answers to my research questions.

In research literature the approach of combining several study methods on the same phenomena is referred to as mixed methods or triangulation. The chosen approach of comparing studies of statistical data, and interview data is known as *between-method triangulation* (Deacon et al. 1998). In my study this combination of methods was used to strengthen the findings, and to cover more aspects of the topic, which is both complex and multi-faceted.

3.2 Quantitative methods

The first thing I needed to do was to get empirical data on recruitment of young fishers in Bolga, Reipå and Andenes, and in Norway in general. Since statistical data is only available at the municipal level, I was forced to examine these issues using statistical data on the municipalities in which the communities are situated, Meløy in the case of Bolga and Reipå, and Andøy in the case of Andenes. Even if I wanted to determine the recruitment history of the communities of Bolga, Reipå and Andenes, I had to look at the trends at the municipal level. Meløy is doing quite well in recruiting young fishers, and recruitment in Andøy is adequate, close to the national average. By using data from Statistics Norway and the Norwegian Directorate of Fisheries, I was able to examine the municipalities where the communities were located, hold them up against a national statistical backdrop, and find out where they follow national trends and where they differ.

By comparing the historical numbers of fishing vessels in the community in which I grew up, Bolga, to those of Reipå and Andenes, one finds recruitment in Reipå and Andenes to be more successful than Bolga. In an inductive approach, empirical data was examined, and from this

data general patterns formed, which then led to further inquiries. First, an inductive approach is where one identifies general patterns in objective reality as consequences of natural law. Second, there are also abductive research strategies involving ongoing processes of rethinking and recreating knowledge, concepts, and theories intending to better reflect our understanding of multiple changing realities. Third, there are deductive strategies, which test hypotheses formulated from theories and result in general conclusions (Sønvisen, 2013). Out of these three strategies, the deductive strategy is more theory-driven than the other two. Empirical findings supported by quantitative methods form strong presumptions about society, which inductive, abductive or deductive methods may, or may not, then support.

3.3 Qualitative methods

To get a deeper understanding of what features characterized these communities as social, embedded systems, qualitative and abductive methods were appropriate. They helped form a deeper understanding of the communities' qualities, their fishers, and the bond between them. In Andenes, the former director of the municipal business office was very helpful in helping to find people that would speak to me about recruitment of young fishers. Furthermore, I sought out some participants from newspaper articles in which they had been interviewed. Both on Bolga and in Reipå I was able to find fishers to interview through prior knowledge about the community, and through newspaper articles. Beyond talking to fishers, I found it valuable to talk to municipal officers and to other people engaged in local organizations. I spoke with a total of seven people in Andenes and four people in Reipå. Out of these, seven were fishers and four were active in local organizations or held municipal positions.

Qualitative methods prioritize closeness between the researcher and the participant, and this closeness, combined with the flexibility of a semi-structured process, can give the researcher access to "deeper" knowledge, information that would otherwise be hard to acquire (Kleven, 2014). I selected qualitative methods in this study, such as semi-structure interviews, because I felt they could help me acquire a deeper knowledge, as well as allow me to utilize my previous knowledge, due to the flexible nature of the research methods.

3.4 The role of the researcher

Knowing a topic well can be both a blessing and a curse. Through prior knowledge of the topic one might have an easier time understanding issues involved. One might know the vocabulary, the landscape and history. At the same time, a researcher must be aware of her

prior knowledge and beliefs, since these might lead to misconceptions or opinions about the topic that make one biased. The aim is to come to the topic with fresh eyes, despite prior knowledge. It is beneficial that in this study my home community is not the main focus, because I fear I am too close to the people here and have too many opinions about the development of the fisheries on Bolga to be able to treat the subject with the impartiality it demands. This also applies to theory and readings. Irving Seidman argues that it is crucial to read enough to be well informed about the context of the topic, while being genuinely open to what the participants are telling you (2013). Understanding that one comes to the project with prior knowledge and theory makes it easier to clarify this to the participants of the study, and to one's readers.

3.5 Collecting and Analyzing the Data

While keeping the study's focal point in mind I set out to design questions to ask the participants. In Figure 1, I have modified a model from Thor Kleven's book on research methods, where the circle represents the topic one wishes to examine, in this case the recruitment of fishers to smaller fishing communities. This is a complex topic, which cannot be explained simply. There may be several reasonable explanatory models for the topic studied. In trying to build a thorough understanding of a complex issue, one designs questions, represented by the rectangles in this model, that highlight parts of the issue, hence aiming at covering enough ground to be able to paint a truthful picture of the situation (Kleven, 2014).

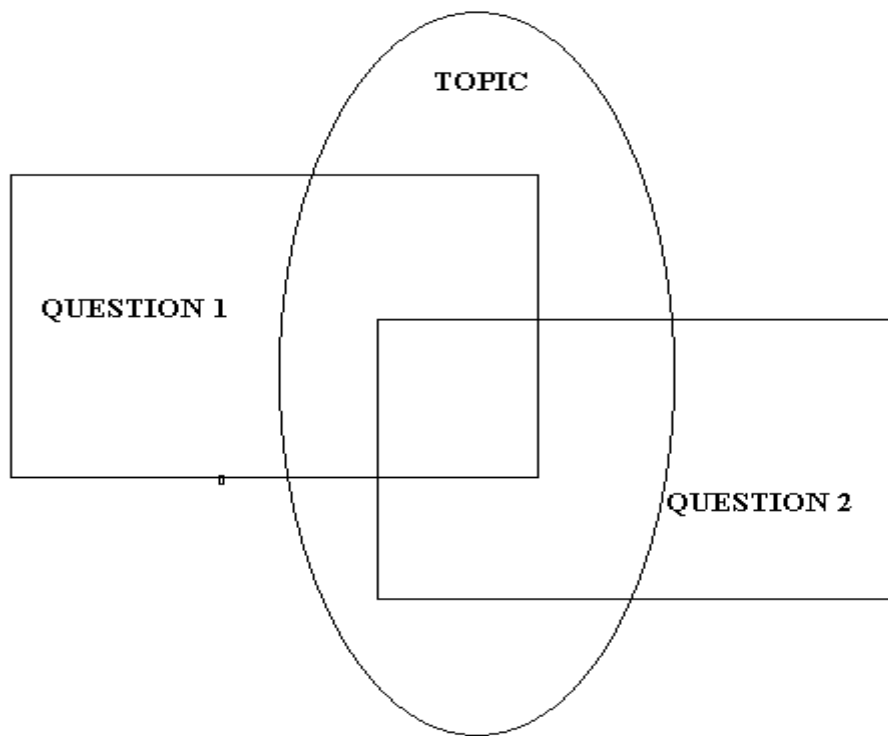


Figure 3: Covering the topic's essentials, modified from Kleven, 2014.

During the course of this study I found this approach to resonate with my personal experience. I hoped to pose questions effectively designed to identify the important aspects of the topic. However, I found it more challenging than I imagined. In the afore-mentioned book, *Introduction to Educational Research Methods*, Kleven discusses how to transform concepts that are not directly observable into measurable observable indicators. Kleven goes on arguing that the validity of a concept depends on there being compliance between the theoretical concept and the measuring of the assigned indicators (2014). In this study, the hardest part was to operationalize the qualities of the communities and their networks.

The interview process was conducted from November 2017 till January 2018, half in person, and half over the phone. I used a list of questions prepared in advance, and from these questions let the conversation with the participants develop reasonably freely. I took notes as I spoke to the participants, and immediately transcribed the participants' responses after the interviews were over. After I was done with the interviews, I sat down with the transcripts, read through them and marked the interesting parts and the parts that recurred. From these notes, I tried to connect common trends and identifying patterns, with the hope of finding

some answers to my research questions. Finally, I sought to analyze and compare my findings with the theory and literature studied in advance. All the interviews and transcripts, as well as other Norwegian sources I used, I translated myself.

3.6 Generalizations, Reliability and Validity

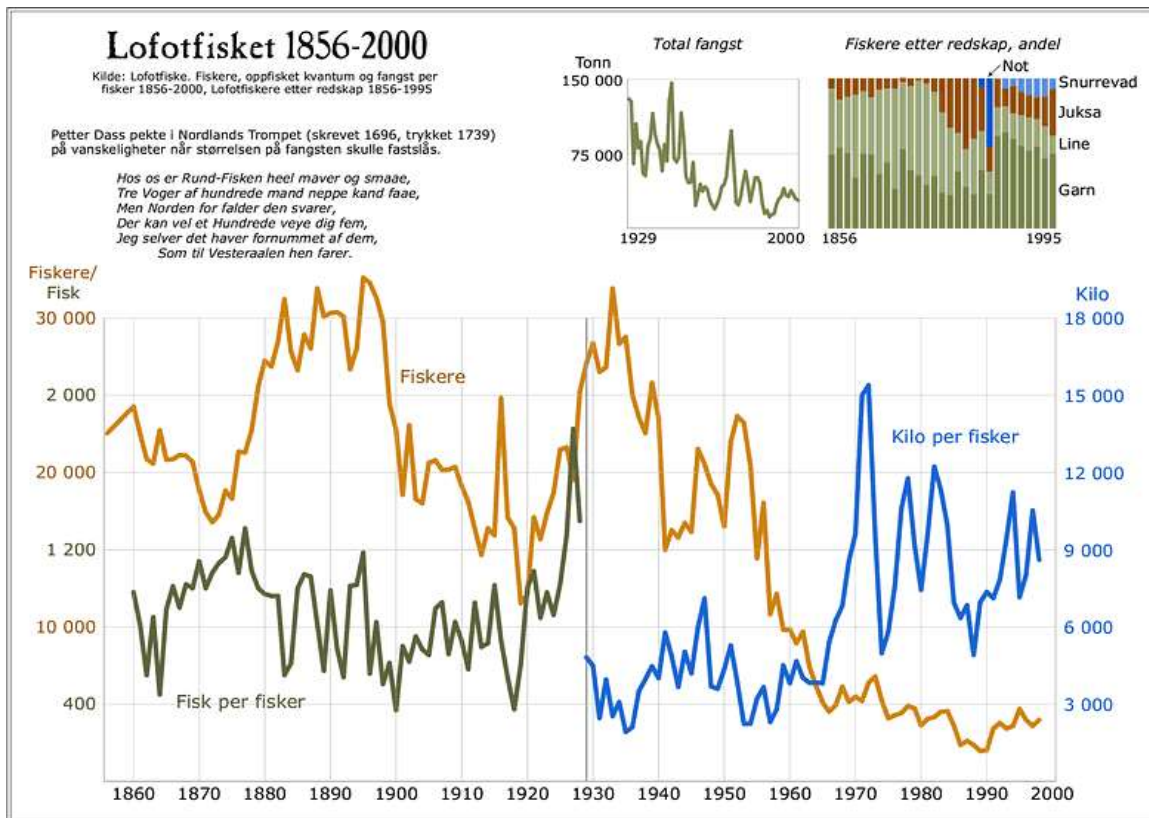
The winter is normally high season for the fishers. This study was conducted during their hectic winter months. However, the participants still took the time to speak with me and appeared genuinely interested in the research topic. I interviewed eight fishers and three participants involved in municipal or community roles. This is not a big selection and does not provide a database big enough to draw any general trends from. Their stories and their experiences are still valuable and interesting, and I have tried to render their stories accurately, although there is always interpretation involved when the spoken word is put to notes, then to the transcripts, and finally to the research report. When being presented with the research report, the participants should still recognize a reality familiar to them. Reliability is secured according to Kleven when data is not significantly affected by random design errors (2014).

When one considers the validity of a project, there are different factors to consider. For whom are the research findings valid, and in which contexts are the results valid? Are the findings from this study valid in similar contexts? I would argue that, in general, they should be. However, it might be wise to see the findings of this study more as snapshots of a complex and changing reality where validity would be strengthened by a bigger sample size and a more experienced researcher.

4. A northern coast in change.

As the 20th century introduced new technology, coastal fisheries were fundamentally altered. For example, smaller fishing communities without harbors were often abandoned, since motorized boats needed harbors, for example Måstad on the island of Værøy (Kolle, 2017). The innovations have been plentiful, and the character of the fishing industry has changed dramatically. However, as the industry changed, so did the legal structure regulating it. The Raw Fish Act of 1951, the Participant Act of 1952, and the Living Marine Resource Act of 2009, are all examples of legislation that have led to the fishing industry becoming highly regulated.

During the latter part of the 1980s, the cod fisheries were struggling, and the catches were reduced. This led to the establishment of the individual vessel quota regime in 1989. Those that had been active fishers and who owned boats in the years leading up to the introduction of the IVQ system were given quotas. This made an open-access resource, the cod fisheries, a closed-access resource with a restricted number of users, and with restrictions on the quantity harvested.



Source: Statistics Norway

Figure 4: Lofoten Fisheries 1856-2000

In this table, the historical development of the important Lofoten cod fisheries shows that the fishing industry has become more technically advanced, the number of fishers has gone down, and the quantity of fish caught per fisher has gone up, the yellow line being fishers, and the blue line being amount caught.

In Nordland, rural trends are reflected in the coastal fishing industry; the fishers are aging and becoming fewer, alongside an aging and decreasing rural population. The population in Nordland stayed around 240 000 from 1981 to 2016, whereas Meløy's population went down, by eight percent, from 6968 to 6471, and Andøy went down even further, by 39 percent, from 7270 in 1981 to 4980 in 2016 (Statistics Norway, 1983), (Directorate of Fisheries, 2017). In 1981 the average ages of Meløy and Andøy were both approximately 30 years, but by 2016 it had risen to 42 and 44 years respectively (Statistics Norway, 2018). One of the few trends not seen in both municipalities studied here in parallel is the development of the age of fishers, the largest age group in Andøy in 1983 was 30–39, and in 2016 it was 40–49. In Meløy, however, the largest age group in 1983 was 20–29, and remained so in 2016 (Directorate of Fisheries, 2018). In Nordland the largest age group had shifted from 30–39 in 1983, to 50–59

in 2016, so the average fisher in Nordland is older than that in both Andøy and Meløy. On a national level the number of fulltime fishers has also gone down but has been stable at around 10 000 for the last five years, and out of these the proportion of young fishers, under 30, and the proportion of older fishers, above 60, has gone up (Directorate of Fisheries, 2017). It is important to note that these are all the full-time fishers in the Norwegian fishing industry, and thus do not necessarily reflect the status of coastal fishers in rural communities.

In 1989 the stock of Northeast Atlantic Cod was low, and the Norwegian government introduced the IVQ, thus regulating the quantity harvested at micro level. Since then the cod stocks have recovered. This has resulted in the issued quotas being high, and price stable around 20,00 Norwegian kroner (NOK) per kilogram of cod in the last couple of years. With stable quotas and stable prices, quota-holders have had the opportunity to earn a good income. Even if the monthly pay for fishers in 2016 was below the average monthly income in Norway, 37.100 NOK and 43.300 NOK respectively, there are many stories of coastal fishers earning a high income (Johansen, 2012).

There are fewer people living and working in rural Northern Norway, at the same time there is a need for qualified people in rural areas. The areas that lack personnel the most are health and education, areas that normally employ women. Here there might be factors that influence one other mutually, good opportunities for work for young women in health and education, at the same time as there are opportunities for young men in coastal fisheries, if they are given some start-up help. There are many listings for available positions in the health sector and in education, but few in the fishing sector. This indicates that those becoming coastal fishers may use a different route to finding work than those in other occupations.

Nowadays, not all traditional fishing communities along the coast are operational. The number of fishers and fishing activities have been in decline. Still, the people in coastal communities get much of their cultural identity from the fishing on which their communities were founded. In the past, young men found it natural to follow in their fathers' footsteps and become fishers. Today, young people are expected to acquire a secondary education, and the level of students in secondary education in recent years has been almost one hundred percent (Statistics Norway, 2018). Since secondary education in Norway is centralized, youth move away from their rural communities at sixteen years old to attend school, and out of those, few return to their hamlets. Young students are, in other words, forced make active choices at a

quite young age about what kind of education to choose and which school to attend. Numbers show that among the children born in Northern Norway between 1986 and 1991, only 44 per cent remain in their home communities. Furthermore, figures show that in the smallest rural communities the percentage of young people leaving is even bigger (Mangset Lorentsen, 2016). There are of course many factors at play, but the education level among young fishers is also higher than earlier because most youths go through secondary education regardless of the line of work they choose.

Today the income level in Norway is high, higher than in many countries it would be natural to compare with. The level of income correlates with a high standard of living, and participants in any industry wish to achieve a standard of living that is perceived as at least average, including fishers. On top of this, it would be reasonable to expect that fishers, who often work under difficult conditions, in one of the most dangerous occupations in Norway, would wish to be compensated for the added hardship that this entails. Furthermore, in spite the fact that the average pay for fishers is below average, the stories of fishers earning high salaries might be an important motivator for young fishers starting out. In today's society, where individual values often overrule communal values, young fishers are as likely to be motivated by the prospect of earning good money as by any other factor. This trend in and of it self is healthy; profitability must be the foundation for any business venture. However, an increased focus on business and profit aspects in the fishing industry may challenge the political role of community builder that the fishing industry was given after the Second World War. Furthermore, Recent controversies regarding proposed fishing and rural policies, such as the debates regarding the Government issued Seafood-Commission's report, *Tveteråsutvalget*, show this. In this report, the commission proposed that profitability should be the main consideration when planning new fishing policies (NOU 2014:16). This report reflects the increased tensions between former and newer societal trends and priorities. Older fishers may recognize that they must support and aid young fishers to uphold recruitment to coastal fisheries, which has been under considerable strain in the recent decades. This strain has manifested itself in, for example, fewer fishers, thus leading to their profession losing political influence, and fishing losing its place as the financial backbone of rural fishing communities.

4.1 Bolga: from fishing to fish farming.

The name Bolga is short and fits the island well; it is a small island half-occupied by a small, pointy mountain. Bolga looks like a little pyramid out in the sea; it is the furthest point west of the Meløy municipality. Bolga has experienced a reduction in population over the recent decades, due to lower birth rates and young people moving away. Bolga's population in 2015 was 104 (Meløy Kommune, 2015). The population peaked right after the Second World War.



Source: Private

Figure 5: The island of Bolga

Ever since the first written record of Bolga in the fifteenth century, the records have spoken of an island rich in resources linked to the sea; seabirds' eggs, eiderdown, seal and otter skins, seal oil and, foremost, fish (Aslak Bolt, 1430). Today, the resource that provides Bolga's prosperity is still the sea, the coastal waters suitable for fish farms, where large volumes of farmed salmon are produced every year. Nova Sea AS, an aquaculture company holding the majority of fish farms in the region, has two out of fifteen production units near Bolga (Nova Sea, 2018). In 2017 the company produced 40.700 tons of salmon (Hofstad, 2018), with an operating margin of 30 percent (Ytreberg, 2016). This successful aquaculture company has provided Bolga with well-paying, secure jobs, and is today the biggest employer on the island.

Bolga was, until the 1980s, a fishing community; 1989 marked a crossroads for inshore coastal fisheries. The community had up till the 1980s been quite traditional. The women mostly remained on the island, while the men worked on small and medium size fishing boats.

The fisheries were seasonal, both regarding gear and fish stocks. Most important were the winter cod fisheries. Even though the fishing practices were revolutionized as new technology became available, the practice was still based on traditional knowledge passed along from generation to generation, for instance, detailed information about sea currents and the location of fishing grounds. The Bolga fishers were the first in the area to organize a local chapter of the Norwegian Fishers' Association, founded in 1930 (Kolle, 2018). Then, in 1935, some of the same progressive fishers that had helped start the local chapter of the association rallied the local fishers into starting an ice-depot, later a fish-trading co-op that operated from 1938 till 1987 (Fygle, 1991). Below, a picture shows the early days of the Bolga Fishers' co-op. However, by the late 1980s, both the local chapter and the co-op were struggling to survive, the chapter due to dwindling membership, and the co-op due to low profitability.



Source: Private

Figure 6: Bolga co-op Ice Depot

In 1983, as important cod fisheries were reduced, the first fish farm was established just off Bolga. This could be important for understanding why so many fishers on Bolga gave up fishing in the following years. The generation of fishers active at the time were specialists in their field, fishing in the local waters off Bolga. However, they did not have much formal education, many had just primary school. When the aquaculture industry started in the mid-1980s, former fishers could easily get work since the industry did not have formal work requirements. During the 1980s and 1990s ten production sites were established in close vicinity to Bolga. Kjell Lorentsen, who was the CEO of the biggest fish farm during this period, was quoted in *Fiskerihistorie for Meløy* saying that there were three main reasons why Bolga had succeeded in establishing aquaculture production. First, the production sites were

well suited in terms of water quality and were within sheltered waters. Second, the local employees had transferred their knowledge from traditional fisheries into aquaculture and were willing to get further training in aquaculture production. Thirdly, the company had been able to cooperate with Hydro Seafood, a big industrial partner who had ploughed capital into the company (Fygle, 1991). These factors helped pave the way for Bolga to become a fish-farming community as opposed to a fish-catching community.

The aquaculture industry was still a new industry in the 1980s, however, since then, the developments in the industry have been massive. The automation of the industry in the recent decades has been one of many significant changes. Today, Nova Sea A/S produces proximately a fifth of their yearly production, 8 000 tons, at the Bolga sites, as compared to 1 000 tons in 1991 (Fygle, 1991), with only a fraction of the work force. This is made possible by automatic feeding systems, maintenance-free nets and bigger production units. The major technological innovations in this industry have altered the work, along with the skills needed to do the work. This has led to a workforce with specialized skills, and today most of the employees at Nova Sea Bolga are educated, with certificates of apprenticeship in aquaculture production.



Source: Private

Figure 7: Nova Sea Fish Farm off Bolga.

While the production of farmed fish has multiplied many times since its start in the 1980s, the landings of wild fish have been stable at between 500–1000 tons a year. However, just as in aquaculture production, the number of active hands landing these catches has reduced. Technological innovations, like power blocks, maintenance-free nets and more effective boats

have made this possible. The fish processing plant at Bolga was originally a fishers' co-op, but it is now a privately own plant operated by a regional fish processing company, Modolf Sjøset Fisk A/S. The high profitability of fish farming is not reflected in the wild fish industry, which has struggled to stay in business. In the last five years, there have only been Eastern European or Baltic workers at the fish plant, due to the low profitability of the industry, and employment contracts based on piecework payment. It is also important to note that only a fraction of the landed fish comes from Bolga boats, most come from boats from surrounding communities, since the number of landing sites has been reduced along with the reduction of the fishing fleet.

The situation in Bolga is similar to that of many other small communities along the Northern coast of Norway: dwindling populations, fewer fishers, fewer fishing boats and less of an overall fishing infrastructure. At the same time, despite the declining economic role of fisheries, the sea is still the focal point for the people of these coastal communities. The sea provides the people with an identity. South of Bolga on the island of Træna, the people host a music festival called *Sea-People*. That is how people in these small coastal communities see themselves, they are still *Sea-People*.

4.2 Reipå: from farming to fishing.

Reipå is at the Northern end of Meløy, on the mainland. In 2017 the population of Reipå was 291 (Statistics Norway, 2017). Since Reipå is a bigger community than Bolga, and on the mainland the occupational spectrum is wider than on Bolga, this is reflected in a wider range of occupations held by the inhabitants of Reipå. Furthermore, since Meløy has had ample access to low cost power from hydro electrical power production, Fertilizer production has been a major industry in the municipality for decades. This is evident in employment statistics, where one finds that heavy industry, despite automation, still is the main employer in the municipality (Statistics, 2018), shared mainly between fertilizer production and silicon crystal production for sun-cell. Employment and occupational statistics exist only at the municipal level, not at the community level. Still, by using a range of different sources, a picture of a community with diverse public or private sector employment opportunities stands out.

Reipå's topography is flat, with much farmland. It has not traditionally been viewed as a fishing community. Reipå Harbor was built in 1981, and that marked a starting point for the growing and vital fishing harbor of today. According to the municipality, in 2013 there were 122 fishers and 77 registered fishing vessels in Meløy, of which 37 had quotas. The average age of the fishers was 28 years. Meløy's fishing vessels landed 968 tons of fish at Meløy's two fish plants, with a landed value of 9 million NOK (Ulsnæs and Dahle, 2015). However, the landed value of the fish landed locally may not be a good enough estimate of the value generated by the fishing industry in Meløy. In a report prepared by *Næringsutvikling A/S* in 2016, the value generated by the 29 fishing boats in Reipå Harbor was 100 million NOK, but neither the value of the fish landed outside the municipality by Meløy boats, nor the economic repercussions of the fishing industry in Meløy were included. Since it was built in 1981, the harbor at Reipå has become too small for all the commercial and leisure boats that use it as their homeport. The municipality and the Norwegian Coastal Administration decided in 2018 that the harbor is going to be enlarged to facilitate the increased activity (Votvik, 2017).

The municipality of Meløy, dependent on heavy industry, received 100 million NOK in state funding in 2013 to help it strengthen its employment market after a major shut down in the sun cell industry, which left 600 people unemployed (Meløy Kommune, 2012). When *REC A/S* closed their operations in Meløy, people were forced to look for new work. Some of them turned to fishing. Moreover, some of the state restructuring funds were made available for

fishers through interest free loans. This program was based on a similar program in Andøy, where fishers could get interest free loans to buy boats and quotas. In Meløy, fourteen fishers have received almost 4 million NOK in loans, constituting fifteen percent of their total investments (Didriksen, 2018), out of which many are in Reipå Harbor.

The Reipå of the previous generation ago is gone without a trace. The employment spectrum has widened. The community has gone from being a farming community to becoming a more diverse community, with various employment opportunities for both men and women. Furthermore, there is an entrepreneurial spirit in the community that has manifested itself in active organizations and clubs, as well as in the harbor, where some of the more established fishers have taken on leadership roles. As one fisher claimed, cooperation between the fishers, positive promotion of the occupation of fishing, and an unbreakable belief in the future are the main reasons why the young fishers keep flocking to the Reipå Harbor (Didriksen, 2018). This positive trend is continuing, as plans for a landing and processing plant in Reipå are underway.

4.3 Andenes: fisheries past and present.

Andenes is in Andøy, the most Northern municipality in Nordland County. It has proven itself difficult to find detailed statistical data on Andenes for this study, therefore Andøy, the municipality in which Andenes is located is used. Andøy is both an island and a municipality, with 4902 inhabitants as of 2017 (Statistics Norway, 2018). Being situated close to rich fishing grounds, which offer year-round fishing opportunities, makes Andøy, on the northern tip of Nordland, a good place to fish from. The history of Andøy also tells of rich fishing traditions dating centuries back.

Modern times have made their mark on Andøy, the population is in decline and traditional industries are not the main employer. Today, primary industries are not the biggest employer, tertiary industries are. This is a general trend in industrialized societies, and all three communities included in this study share these developments, a decline in population and a shift away from primary industries. These trends do not, however, mean that less fish are landed, just that fewer fishers were involved in the activity of landing the fish.

The Norwegian Air Force had, in the years following the Second World War, built an airbase on Andøy, which has become a major local employer. However, in both 1994 and 2017, the authorities decided to reduce activities at the air base. This resulted in the municipality receiving state funding to strengthen the employment market, since the restructuring of the base would lead to an increase in unemployment. In the five-year restructuring plan for 2018–2023 the municipality identified three areas to focus their employment efforts on, primary industries, including fishing industries, tourism and technology. Back in 1994, the state-restructuring funding allowed Andøy to set up a program where fishers could apply for interest free loans to buy boats, and later also quotas. This program has been in operation since then, and municipalities like Meløy have Andøy's program as a blue print for their own interest-free loan programs for fishers.

Andøy has four fish processing plants, operated by J.M. Nilsen Fisk A/S, Jangaard Export A/S and Andenes Fiskemottak A/S. The two that are operated by J.M. Nilsen Fisk A/S are in Normela and Bleik on the western side of Andøy, whereas Andenes Fiskemottak A/S and Jangaard Export A/S are in Andenes, on the northern tip of Andøy. These fish processing plants serve the local fleet, as well as a visiting fleet that find Andøy's location ideal, with its

easy access to rich fishing grounds. The fleet that lands fish at the Andøy processing plants is comprised of medium to small fishing vessels.

The number of fishers has gone down in Andøy in recent decades, from 321 fulltime fishers in 1983 to 136 fulltime fishers in 2017 (Directorate of Fisheries, 2017). During this period the quota system was established, and in 2004 quotas were turned into a tradable commodity. This has resulted in cod quotas being sold to fishers outside Andøy, and thereby reduced Andøy's total cod quotas by fifteen percent since 2010 (Vestås, 2017). Despite this, there seems to be optimism in Andøy's fishing industries. The harbor in Andenes is being extended and deepened, Jangaard is opening a new fish processing plant in Andenes, and the processing plant in Bleik was reopened in 2017 after being closed for a year. In Andenes the number of registered fishing vessels has been quite stable after a dramatic decline in the 1990s, in 2016 thirty vessels were registered there, among which many are smaller boats held by younger fishers. These young fishers, the next generation of coastal fishers, are the group I have been most interested in interviewing for this study. Below, a table shows the number of registered fishing vessels in the fishing communities included in this study from 1986 to 2016. All three communities had a dramatic decline in fishing vessels during the 1990s. However, in Reipå and Andenes the number has stabilized. Still, it is important to note that in Andøy's case, there has been a reduction in cod quotas over the last years, and many of biggest fishing vessels have been sold out of the municipality (Antonsen, 2018).

5. Analysis

The analysis in this study will be based on statistical information, historical data, a literature review and the interviews with young fishers. This study was driven by curiosity about why some fishing communities thrive, whereas others struggle to survive. Through an approach inspired by grounded theory (Glaser & Strauss, 1967/1970), the aim is to understand the factors involved in these processes.

The study was designed to determine whether Reipå and Andenes are successful at recruiting young fishers, illuminate possible distinctive features in the Reipå and the Andenes communities, and compare Reipå and Andenes with Bolga to identify the similarities and differences that could explain why they have developed along different paths.

Through an open coding process, I examined the transcripts from the interviews conducted and focused on three areas of interest; (1) the level of cooperation between the fishers, (2) the cooperation between the fishers and the coastal fishing communities, and (3) the fishers' own view on their position in the community. These three areas are interwoven, and an analysis of discourses and discursive agency involving the theory of functional and interdependent systems and the theory of embeddedness has been used to investigate them. This was done to identify factors in the recruitment of young people to the fishing industry. In addition, it is important to note that specific developments in the communities may have affected recruitment to the coastal fisheries, factors that were not foreseen and not directly related to the fisheries, for example, low birth rates or the rise of the aquaculture industry.

5.1 A coast in rapid change

Coastal communities are quite different today than they were thirty years ago. Some of these changes are similar for all the communities in this study. Generally, there has been depopulation, specialization, globalization, and urbanization; trends present in all industrialized countries, including Norway. It is therefore necessary to identify the unique factors that have affected the divergent development of Bolga, Reipå and Andenes.

5.2 Profit versus community: discourses at work.

Interviewing younger fishers is interesting and useful because these interviews stand up against a historical and statistical backdrop and give a deep understanding of the dynamics in these communities. Two of the central discourses in fishing communities in recent decades have been viewed as mutually oppositional; one promotes a community perspective where the interests of the community and its continued well-being is in focus, while the other has been one oriented towards economic considerations and profitability. It may be argued that the first one was more dominant in the decades after the Second World War, when the Northern Norwegian fishing industries were being rebuilt. The latter discourse has been gaining ground in the last three decades, as the Government has introduced policies to limit access to fishing resources, thus increasing the focus on profitability in the industry, much in line with Hardin's *Tragedy of the Commons* theory (Hardin, 1968). The Government saw limiting the access to common fish resources as the solution to the resource crisis of the Norwegian cod fishery.

Several of the young fishers spoke of starting out as fishers despite uncertain prospects and conflicting policies. One of the fishers at Andenes told how all the old fishers, except for one at the *Velferden* center in Andenes advised against becoming a fisher. The one that supported the young man followed him outside to where the others could not hear them and said, "do not listen to them, become a fisher, it is a good and free life." In the end this advice was the one the young man paid attention to. In fact, all the fishers interviewed in this study stated that they had made active choices to become fishers, none stated that becoming a fisher was the only option they had. So even if general policies greatly affect fishers' execution of their work, the fishers choose this occupation despite policies that may be perceived as obstacles, like the IVQ policy. This is an interesting intersection, where the discourses that are actively used to support politics are not readily noticeable in the narratives presented by the fishers as they talk about starting their careers. The fishers answered that it is the freedom, the excitement of making good catches, and the fact that no two days are alike that made them become fishers. These reasons do not align with only one of the discourses mentioned above but are congruent with both. For example, the wish to make good catches and make a good profit aligns with a profit discourse, while the wish to lead good, free lives aligns more with a community discourse focusing on the well-being of people living in local communities. Hence, young people are motivated to enter this industry by reasons not readily recognizable or prominent in either of these two ostensibly opposing discourses, but aligned with a third discourse, a local discourse that melded the values and the traits of these two discourses together to serve local agendas.

Both the profit discourse and the community discourse have enjoyed support from the political establishment at different times. As a result, fishing policies base their legitimacy in either of these seemingly opposing discourses, for example, the Participation Act was based on a community discourse, whereas the quota regulations and later the structuring regulations are legitimized in part through a profitability discourse. The apparent shift from a community perspective to a profitability perspective in recent decades may also have affected the fishers' own views of their profession and of the fishing industry. The way the young fishers talk about the need to trade and structure quotas supports this argument. One of the young fishers interviewed in Andenes won a cod quota through the national quota lottery in 2017. In the interview he stated, that if he had not won this quota, he would have given up fishing. He went on to say that it is hard to fish without a cod quota, which can easily cost up to NOK 3.5 million. This reality influences young fishers in how they perceive their work and their options. Other actors in the community, for example municipal officers, follow a community discourse in legitimizing their arguments and actions, when, for instance, they improve harbor conditions or assist young fishers with financial aid. Hence, the two discourses exist side by side on the local level, and are used by different actors to justify different actions.

A possible key to the recent success of Andenes and Reipå harbors may be that the two apparently diametrical discourses coexist, even gaining strength from their coexistence in these communities. Young fishers tend to be oriented towards a profitability discourse because of the market-oriented regulations that have been established. The fact that a declining number of young fishers are organized in The Fishermen's Association, aligned with the young fishers' responses to the question about unity among the fishers, where three out of seven answered that the cooperation and unity among the fishers was not good. This may support an argument that new perspectives, new values and worldviews are gaining support. The young fishers seem less connected to one another, and it may appear that they legitimize their views and actions in a discourse centered around the individual fisher and his needs and rights. Still other community actors, such as municipal actors, use community discourse to legitimize actions like making funds available for young fishers to buy boats and quotas. These two discourses are seen as opposing ones, but their coexistence, even mutual dependence may be one of the keys to Reipå and Andenes' success. Municipalities support fishers financially, even if there may be conflicting interests where interest free loans are used to buy additional quotas, supporting structuring initiatives that result in fewer fishers owning

more and more of the fishing rights. From a community perspective, having fewer fishers is not a desired outcome, since communities depend on people and employment opportunities. Still community actors may use their room to maneuver to serve both their own and the fishers' interests. One could reason that this approach of working two discourses simultaneously has been successful, since the number of fishers along with the number of fishing vessels in Reipå and Andenes are stable and slightly rising. This could mean that a profitability discourse not only exists alongside a community discourse, but that this coexistence is one of the reasons for the recruitment success of Reipå and Andenes. Still, it will be interesting to see how this will continue to develop, since past success in recruitment is not a guarantee of future recruitment success.

Some of the fishers and municipal officers spoke of the importance of communal backing to lower the thresholds for entering the industry. A former municipal officer in Andøy told of his routine of going down to the docks and getting to know the young fishers, and through frequent visits, providing detailed knowledge with which to advocate on their behalf in different forums. Beyond moral support, municipalities provide material communal backing, for example, interest free loans. Leipold and Winkel stated that the growing complexity of policy-making processes leads to discursive complexity and ambiguity, which provides political actors with considerable room to maneuver, i.e. discursive agency (Leipold & Winkel 2013). Interest free loans serve as an example of municipalities doing this, using the room that the complexity entails to create local policies based on local discourses. After talking to municipal officers and business people, it appears that top-down policies stemming from top-down discourses do not correspond well with local realities, hence a local discourse is formed, where the market tools from the profitability discourse are used to serve community interests. This approach is used as the community safeguards its interests through strengthening individual fishers' financial ability to enter the industry. The statutes of Meløy municipality's loan program states that the purpose is to maintain and renew the fishing fleet in Meløy, particularly to help young fishers (Meløy Kommune, 2012). There are no conditions tying the fisher to the municipality after the interest-free period of five years is over. Out of the seven fishers interviewed, four are now fishing out of communities other than the one in which they grew up. Still, the most important thing to note in this context is that both Reipå and Andenes have seen an increase in recruitment during recent years, and all the fishers interviewed said that the interest-free loans had been helpful as they were starting out, and that they all hope they will be fishing out of their communities ten years from now. The

municipal policy that the loan program is a part of is mutually beneficial, both for the community and for the fishers. One could argue that the success of Reipå and Andenes in recruiting young fishers is a mutually reinforcing arrangement. By recruiting youths the structure is strengthened, making Reipå and Andenes thrive, and successively reinforcing the communities as strong recruitment bases for young people entering the fishing industry. Hence, positive developments become virtuous cycles. If one takes it one step further, one could argue that communities like Reipå and Andenes have been successful at the expense of smaller surrounding communities, for example Bolga. There an opposite trend has played out, less recruitment may have led to weaker community structures, which led to less recruitment, resulting in a vicious cycle. In this case size matters, and Bolga may have been too small to uphold its recruitment structures. The fact that birth rates have declined during the last four to five decades weakened Bolga's chance to recruit new fishers among its own youths. Furthermore, the development of the secondary school system wherein the youth are expected to finish high school has drained small communities without secondary schools of youths. This has been the case for Bolga; all the youths moved to bigger communities to take secondary education. Moreover, youths have rarely sought secondary education aimed at the fishing industry. A future in the coastal fisheries has been viewed as less prudent due to trends such as specialization, and due to policies influenced by a profit discourse. The combination of fewer youths, less interest in training to become fishers, and a lack of other job opportunities has made Bolga a less attractive community for young people to settle in. The unknown factor in this dynamic is how large a fishing community has to be to maintain a resilient recruitment network. This question could be researched further.

5.3 An Interdependent versus a functional system.

As the fishing industry has been altered through technological innovations, general societal trends and evolving policies, the fishing communities and the fishing networks have also changed. One aspect that has changed is that fishing vessels no longer require as big a crew as before to operate. This development, in conjunction with market-oriented fishing policies, such as IVQs, which are targeted at the individual fishers; make the fishers increasingly estranged from one another, whereas in the past they were co-workers and team players. This may point towards an interdependent system gaining ground at the expense of a functional system. Boudon describes an interdependent system as one where the actors are doing the same thing, like fishing in this case, but not interacting while doing it (Boudon 1981). In this system the actors work alongside one another, doing the same work, but do not cooperate.

Traditionally, the coastal fishing communities have not been interdependent systems, but functional systems, where the different actors in a system held different roles and were mutually dependent on each other. An example of such a role within a functional system in the fisheries was the master seiner, whose skills could mean the success or failure of a seine cast. However, new policies and societal trends may be changing this. Government-imposed policies like the IVQ system and structuring policies force new perspectives on fishers, strengthening their individual agendas while weakening their social bonds and communal responsibility. Norwegian sociologist Jentoft argues that distantly operated resource management systems erode social responsibility among resource users (Jentoft, 2000). This may not be an intended consequence of these policies; nevertheless it may be the result. This may also be happening in Reipå and Andenes, but in these two communities there is a counterforce in the form of a strong professional network, the Fishermen's Association, which has chapters in both communities. Both Andenes and Reipå hold the only chapters of the Fishermen's Association within their municipalities. These two communities have, through these chapters, formalized networks among fishers, and they may help counteract the social demolition produced by individualist-based policies, hence maintaining some functional system elements within their social structures. At the same time, it is important to note at these two communities have many clubs and organizations, which fishers as community members are part of, such as hunting clubs, sports clubs or brass bands. These networks are also part of the social cement that ties fishers together and motivates others to want to remain in their communities to become fishers. According to Mark Granovetter, economic action is embedded in social structures, making a strong argument for studies of social networks in the context of economic action (Granovetter, 1973). My research shows that both Reipå and Andenes have strong social networks. The former leader of the Chamber of Commerce of Andøy said that there has been a strong tradition in Andenes of clubs and organizations working together to develop Andenes as a community. She said, "you know of enthusiasts in other networks and you can play on their strengths. There have been both unstructured and structured cooperation between these networks, and this has been important for solving problems that the municipality does not manage to solve. Subsequently, you take a burden off the municipality's shoulders and then solve it through community cooperation." This relates to community action, not so much to economic action. Still, Mark Granovetter's theory of weaker ties offers a theoretical lens through which one can view this statement. His theory states that the information that comes to us from acquaintances is more novel than the information coming to us from our closest network, and therefore often more useful. He

claims that ties between networks are important because the most valuable new information travels along the weak ties between networks (Granovetter, 1985). This model reflects how the former Chamber of Commerce leader spoke of the cooperation between networks in Andenes. The ties between the networks were essential for both information sharing and for cooperation in problem solving. In addition to clubs and associations, the professional network of Fishermen's Association chapters form important social networks, which counteract the fragmentation of communities that results from a move towards a more interdependent system. The negative effects of individualist focused policies based in a profitability discourse may be reduced by positive societal factors such as a municipal loan program or strong professional networks, such as the chapters of the Fishermen's Association. Where Reipå and Andenes to a large extent have been able to maintain functional systems, Bolga, without professional networks or other strong networks, has developed more of an interdependent system. In small communities, idealists are key to upholding social networks such as clubs or associations. However, if these idealists are present in too many networks, they may overextend themselves. This has been one of the problems on Bolga; the idealists working to uphold social networks have stretched their resources too far. The result has been that the local Fishermen's Association chapter, the sports club and other clubs have ceased to function. The result has been that the remaining fishers operate more independently of each other, in an interdependent-like system. This development towards a more interdependent system was further reinforced by the bankruptcy of the fishers' co-op in the late 1990s, leaving the fishers without the support net that the co-op represented.

5.4 Fewer and Bigger – Centralization Trends

Even though wild fish exports exceeded 26 billion kroner (NOK) in 2017 (Haram, 2018), the industry does not employ as many as before, making it is less visible in coastal communities, and therefore assigned less of a responsibility for the continued well-being of coastal communities. The fisheries are also subject to a centralization trend, where fewer larger fishing communities grow at the expense of other smaller fishing communities. Three decades ago there were seven to eight active fishing communities in Meløy, today you would be hard pressed to name more than a few, out of which Reipå is one. It is likely that the few remaining fishing communities have strengthened their position at the expense of other fishing communities. A good indication of this comes from the book *History of Fisheries in Meløy 1850–1991*, in which Bolga is repeatedly described, whereas Reipå is only mentioned towards the end, since the harbor at Reipå was only completed in 1981. However, Reipå as a fishing

community is often mentioned in Internet and newspaper articles over the last ten years, during which time it has become a vital fishing community. To claim that Reipå has gained ground at the expense of Bolga may be a claim hard to substantiate, but such a trend is clear all along the coast. Fishing infrastructure, such as harbors and fish landing sites, has been weakened. This forces fishers to cluster together in a more centralized system. Reipå may have succeeded in become such a fishing community. The fact that Reipå is on the mainland, not on an island, adds to its centrality. Out of the seven fishers I spoke with, four came from surrounding smaller communities and have moved to Reipå or Andenes. The reasons why they moved to Reipå and Andenes, the biggest harbors in their municipalities, are not clear. Still, the trends show that smaller, less central harbors are being abandoned, and a new generation of young fishers are settling in bigger, more centralized harbors.

Half of those interviewed state that they started as crew. This corresponds with the fishers' remarks that the structuring policies, which allow for more than one cod quota per fishing boat, make it more demanding for one person to operate a boat alone. The Fishers' Association chapter in Øksnes, a municipality neighboring Andøy, recently used this point to support their argument that structuring policies should be extended further. They claimed that structuring policies have increased profitability in coastal fisheries, attracting young people to the industry. They claim that government should introduce structuring policies for the smallest coastal fleets as well, since it is not possible to operate as fishers did ten to fifteen years ago, regarding neither work hours, pay nor staffing issues (Nilsen et al., 2018). These factors point towards centralization, automation and specialization, in other words, fewer effective coastal boats with small crews and more debts due to costly quotas and boats, but also higher earnings.

Improved profitability within coastal fisheries might be a reason why recruitment is up; the operating margin for the smallest fleet was up 16.8 percent in 2016. In 2017, the national numbers of fishers and fishing vessels increased for the second year in a row (Directorate for Fisheries, 2018), as did the number of youths applying for vocational education within fisheries (Directorate of Education, 2018). The increase in the number of young fishers in Reipå and Andenes has been evinced for some time, and it would be presumptive to simply ascribe the development of these two communities to the general developments within Norwegian fisheries during the last few years. My research has revealed that the key factors resulting in increased local recruitment in Reipå and Andenes are that they have benefited

from the start-up loans afforded to young fishers, which have lowered the threshold for young people entering coastal fisheries. Secondly, Reipå and Andøy have benefited from strong social networks, which have to a greater extent embedded young recruits in these communities, counteracting factors which detach youths from coastal communities, such as individualist focused fishing policies. Finally, young people have chosen to become fishers in Reipå and Andøy because these communities are centrally located within their respective municipalities and are bigger than the surrounding communities. In contrast, smaller communities struggle to attract young people to settle or become fishers therein. For example, recruitment on Bolga should have been able to benefit from the municipal loan program like Reipå, however it has not been enough to cancel out negative factors, such as fewer available youth, educational hurdles and weaker social networks. Bolga has today no fulltime fishers left, those who could have become fishers live in bigger communities and work as electricians or mechanics, or hold jobs in other marine or maritime industries. Those that have remained on Bolga are today occupied in fish farming, which in a way replaced fisheries during the early 1990s.

6. Conclusion

Today, an older fisher came into the store on Bolga, and said that he had sold his boat and quota to a fisher in Lofoten right after he finished the spring cod haul. To the question of what he planned to do now, the answer came quick; buy a new boat, a *speedsjark* (a fast, small fishing vessel). He said he that got his first fishing boat at fourteen and cannot be without a boat. For such fishers, there is no other life than fishing. As the older fisher at *Velferden* in Andenes said, “being a fisher is a good and free life.” These qualities should be emphasized. It would help if older fishers were conscious about talking about their positive experiences, so that they do not end their careers and pull up the ladder behind themselves. Today, there is less fishery infrastructure, for example less landing facilities, due to centralization and other social changes. Coastal youths are not subjects to the same primary socialization into fisheries as in the past. This study has revealed that Reipå and Andenes have been better than Bolga at maintaining professional fishing networks, which is one of the keys to continued recruitment of youths to fisheries. Hence, in communities where these networks have been weakened, other actors, for example older fishers, schools or local authorities should make conscious efforts to promote coastal fisheries to secure the continuation of these communities as fishing communities.

The interviews with the young fishers focused on why they chose to become fishers, and on the communities from which they fish. Their responses show that they are dedicated, and they value the same qualities as the older fisher of Andenes spoke of. A series of articles in *Fiskeribladet Fiskaren* (fishery newspaper) over the winter of 2018 described positive recruitment trends. Vocational high schools for fishery have seen an increased interest in attendance. Young people see the opportunities to earn good salaries while being able to live good lives in coastal communities.

Both profit and community discourses are part of the backdrop of discussions of what future lies ahead for smaller coastal communities, and of discussions on why recruitment is up or down in communities like Bolga, Reipå and Andenes. These discourses are overarching, and in recent years the profit discourse has become dominant at the expense of the community discourse. The increasingly complexity of modern societies, however, leave local actors with considerable room to maneuver, providing discursive agency. The two municipalities, Meløy and Andenes, have used their discursive agency to establish local policies in the form of financial loan programs aiding young fishers with boat purchases and quotas. Such local programs have been based in a community discourse, while general fishery policies have been based in a profit discourse. Still, despite communal support, young fishers expressed through the interviews an alignment of their views about their own profession and their role in their communities with a profit discourse. This is due to fishing policies that are based in such a discourse. The young fishers are pragmatic and work both fishery regulations and local loan programs to their advantage as they see fit, and not always with a long-term perspective in mind. An example of this might be how the Fishers' Association wants to structure the quota system even for the smallest boats, those under eleven meters (Kyst og Fjord, 2017). This could make access to the coastal fisheries for young fishers even harder than today, hurting future recruitment. Despite these parallel discourses, which are both part of the backdrop of a dynamic fishery landscape, it is not certain how they will affect the future recruitment of fishers. Here there is a need for more knowledge, and future studies could address these issues.

Those communities that have secured recruitment have stronger functional systems, characterized by strong social networks, such as the Fishers' Association chapters, seen in both Andenes and Reipå. These functional systems have, to some degree, fended off the

negative effects of policies such as the IVQ system, and been able to secure continued recruitment. In this study, professional networks have been emphasized as one of the keys to strong recruitment. To maintain recruitment systems, as well as maintain smaller fishing communities, and strengthen social networks, features of a functional system are of vital importance. This was supported by findings showing that Bolga had more characteristics of an interdependent system and therefore struggled more than Reipå and Andenes to recruit fishers.

There is a global trend of fewer and fewer people living rurally. This trend has affected all three communities in this study. Still, Bolga has been harder hit than the other two communities in this study. As an island, Bolga once had the advantage of being close to the fishing grounds. Today, however, faster fishing vessels have nullified this advantage. Today Bolga is struggling more than Reipå and Andenes to maintain its population, due to its peripheral location. People, including fishers, increasingly establish themselves in bigger communities. The reality is that if the fishery network and its infrastructure are weakened as much as it is on Bolga, it is hard to repair. It is harder to repair something that has deteriorated, than maintain something that is functioning. Therefore, stakeholders should focus their efforts on maintaining those fishing communities that remain.

The lessons learned from these case studies show that young people choose to become fishers because of qualities such as freedom and independence, and because of the opportunity to earn a decent income. Furthermore, they choose to become fishers in communities that offer support in the form of loan programs or social networks, for example professional networks. To reinforce communities so that they can offer the support needed to recruit young fishers, one should look to strengthening functional systems and establish local policies aiding young fishers with boats purchases and quotas.

Biography

Antonsen, T. (5.1.2018). Nedgang i Nordland. *Kyst og Fjord*. Retrieved 3.5.2018 from <https://www.kystogfjord.no/nyheter/forsiden/Nedgang-i-Nordland>

Aslak Bolt Jordebok. (1430-1439). Økonomisk beskrivelse av Nidaros Erkebispedømmes eiendommer. Retrieved 8.5.2018 from <https://media.digitalarkivet.no/view/36327/5>

Boudon, R. (1981). *The Logic of Social Action. An Introduction to Sociological Analysis*. London: Routledge and Kegan Paul.

Deacon, D., et al.(1998). *Collision or Collusion? A discussion and case study of the unplanned triangulation of quantitative and qualitative research methods*. Retrieved 7.1.2018 from

Directorate of Education, (2018). *Søkertall til videregående 2018-2019*. Retrieved 8.5.2018 from <https://www.udir.no/tall-og-forskning/finn-forskning/tema/soker--og-inntakstall/sokertall-til-videregaende-2018-19/>

Directorate of Fisheries. (2017). *Flere fiskere og fiskefartøy*. Retrieved 8.5.2018 from <https://www.fiskeridir.no/Yrkesfiske/Nyheter/2017/0117/Flere-fiskere-og-fiskefartoe>

Directorate of Fisheries. (2018). *Fiskere fra Fiskermanntallet*. Retrieved 13.3.2018 from <https://www.fiskeridir.no/Yrkesfiske/Statistikk-yrkesfiske/Fiskere-fartoe-og-tillatelser/Fiskere-fra-fiskermanntallet>

Didriksen, K. (17.1.2018) Fiskerivekst skaper ny optimisme i Meløy. *Fiskeribladet Fiskaren*, p. 20

Foucault, M. (1982). The Subject and Power. *Critical Inquiry* 8(4): 777-95

Fygle, S. (1991) *Fiskerihistorie for Meløy 1850-1991*. Ørnes: Meløy Kommune.

Førde A. (2010). Nyskaping, brytningar og samspel. Borch O. J. and A. Førde (Eds.) *Innovative Bygdemiljø*.(155-168). Bergen: Fagbokforlaget.

Glaser, B.G. and A.L. Strauss (1967). *The Discovery of Grounded theory. Strategies for Qualitative research*. Chicago: Aldine Publ.Co. 1967 –Third printing 1970.

Granovetter, M.S. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*. 91 (3): 481-510

Granovetter, M.S. (1973) The Strength of Weak Ties. *American Journal of Sociology*. 78 (6): 1360–80.

Hajer, M. A. (1995). *The Politics of Environmental Discourse: Ecological Modernisation and the Policy Process*. Oxford: Clarendon Press.

Hajer, M. A. (2006). Doing Discourse Analysis: Coalitions, Practices, Meaning. Van den Brink, M. and Metze, T. (Eds.) *Words matter in policy and planning. Discourse Theory and*

Methods in the Social Sciences. (65-76). Utrecht: Netherlands Graduate School of Urban and Regional Research

Haram, Ø. (8.1.2018) Sjømateksport på 94,5 milliarder. *SjømatNorge*. Retrieved 8.5.2018 from <https://sjomatnorge.no/945-milliarder/>

Hardin, G. (1968). The Tragedy of the Commons. *Science* 162(3859): 1243-1248.

Hofstad, M. (14.2.2018). Nova Sea har aldri produsert mer laks. *Helgeland Blad*. Retrieved 8.5.2018 from <https://www.hblad.no/nyheter/nova-sea/laks/nova-sea-har-aldri-produsert-mer-laks/s/5-23-92797>

Jentoft, S. (2000). The community: a missing link of fisheries management. *Marine Policy* 24 (2000) 53-59

Jentoft S, and C. Wadel. (1984). *I Samme Båt – Sysselsetningssystem I fiskerinæringa*. Drammen: Universitetsforlaget

Johansen, M. (22.11.2012) Sjarkfiske er lønnsomt. *Lofotposten*. Retrieved 8.5.2018 from <https://www.lofotposten.no/naeringsliv/sjarkfiske-er-lonnsomt/s/1-71-6356383>

Kolle, N. (2017). Between Tradition and Modernity. Kolle et al.(Eds.) *Fish, Coast and Communities – A history of Norway*.(179-206). Bergen: Fagbokforlaget.

Kleven, T. (2014). *Innføring I pedagogisk forskningsmetode. Hjelp til kritisk tolkning og vurdering*. Trondheim. Fagbokforlaget

Kyst og Fjord. (21.8.2018) *Fiskarlaget vil ha litt strukturering under 11 meter*. Retrieved 8.5.2018 from <https://www.kystogfjord.no/nyheter/forsiden/Vil-ha-litt-strukturering-under-11-meter>

Leipold S., and G. Winkel. (2013). Discursive Agency [Discursive Agency: Towards an actor-centered analysis of political discourses](#). Proceedings of the 1st International Conference on Public Policy (ICPP 2013), Grenoble, France

Mangset Lorentsen, H. (30.11.2016) Barnekullet som forsvant. *NRK*. Retrieved 8.5.2018 from <https://www.nrk.no/nordland/xl/barnekullet-som-forsvant-1.13241224>

Matland, R. (1995). Synthesizing the Implementation Literature: The Ambiguity-Conflict Model of Policy Implementation. *Journal of Public Administration Research and Theory*. 1995, Vol.5(2), p.145-174

Meløy Kommune. (2018). *Folkemengde I Meløy*. Retrieved 8.5.2018 from <https://www.meloy.kommune.no/Global/Plan%20og%20utvikling/Befolkning/Folketall%20i%20Mel%C3%B8y%20kommune.pdf>

Meløy Kommune. (2012). *Omstilling I Meløy*. Retrieved 12.3.2018 from <https://www.meloy.kommune.no/no/Demokrati/Meloy-Utvikling-KF/>

Meløy Kommune. (2012). *Regelverk finansiering fiskerifartøy*. Retrieved 19.3.2018 from <https://www.meloy.kommune.no/Documents/Omstilling/Regelverk%20finansiering%20fiskefart%C3%B8y%20i%20Mel%C3%B8y.pdf>

Nilsen, S., et al., (13.4.2018). Øksnes Fiskarlag ber Ap droppe sjarkromantikken. *Fiskeribladet Fiskaren*. p. 4

NOU 2014:16. (2014). *Sjømatindustrien – Utredning av sjømatindustriens rammevilkår*. Oslo: Nærings- og Fiskeridepartementet

Nova Sea AS. (2018). *Våre anlegg*. Retrieved 8.5.2018 from <https://novasea.no/om-novasea#34>

Seidman, I. (2013). *Interviewing as Qualitative Research*. New York: Teachers College Press.

Statistics Norway. (1983). *Statistisk fylkeshefte 1983. Nordland*. Retrieved 8.5.2018 from https://www.ssb.no/a/histstat/nos/nos_b358.pdf

Statistics Norway. (2017) *Befolkning og areal i tettsteder*. Retrieved 5.3.2018 from <https://www.ssb.no/befolkning/statistikker/bef tett/aar>

Statistics Norway. (2018). *Fakta om utdanning*. Retrieved 8.5.2018 from <https://www.ssb.no/utdanning/faktaside/utdanning>

Statistics Norway. (2018). *Kommuneprofilen*. Retrieved 8.5.2018 from http://www.kommuneprofilen.no/Profil/Befolkning/DinRegion/bef_alder_region.aspx

Statistics Norway. (2018) *Kommunedata Andøy*. Retrieved 6.3.2018 from <https://www.ssb.no/kommunefakta/andoy>

Statistics Norway. (2018) *Kommunefakta Meløy*. Retrieved 6.3.2018 from <https://www.ssb.no/kommunefakta/meloy>

Sønvisen, S. A. (2013). *Coastal communities and Employment Systems: Networks in Change*. (Doctoral Dissertation). Retrieved 19.1.2018 from <https://munin.uit.no/handle/10037/5553>

Sønvisen, S. A. (2013). Recruitment to the Norwegian fishing fleet: storylines, paradoxes, and pragmatism in Norwegian fisheries and recruitment policy. *Maritime Studies Journal*. 201312:8 <http://web.a.ebscohost.com.cyber.usask.ca/ehost/pdfviewer/pdfviewer?vid=1&sid=0a7a1439-bf5d-439c-b342-a4408060d2a1%40sessionmgr4009>

Sønvisen S. A. (2014). Contemporary fisher images: Ideologies, policies and diversity. *Journal of Rural Studies*. Volume 34, April 2014 p. 193-203

Ulsnæs, E. And Dahle I. (2015). Krafttak Meløy. Meløy Utvikling KF. Retrieved 12.3.2018 from <https://www.meloy.kommune.no/Documents/Omstilling/Avis%20Infospalte%20og%20brosjyre/Krafttak%20informasjonsavis/Krafttak%2002-15.pdf>

Vestås, W. (10.2.2017) Fiskeri Andøy. *Bladet Vesterålen*. Retrieved 13.3.2018 from <http://www.blv.no/meninger/fiskeri-andoy-1.1983359>

Votvik, J. (12.3.2018) Skal mudre for millioner i havna. *Avisa Nordland*. Retrieved 12.3.2018 from <https://www.an.no/nyheter/meloy/fiskeri/skal-mudre-for-millioner-i-havna/s/5-4-687358>

Votvik, J. (24.10.2017). Skaper verdier for millioner. *Avisa Nordland*. p. 13

Ytreberg, M. (20.4.2016) Det er spennende å tjene penger. *Dagens Næringsliv*. Retrieved 8.5.2018 from <https://www.dn.no/nyheter/2016/04/20/1148/Nova-Sea/-det-er-spennende--tjene-penger>