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Institutional aspects of the fisheries management among the Sami people living in the Murmansk region

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Master's thesis in International Fisheries Management (30 ECTS) – May 2019



Acknowledgments

First of all, I would like to express my appreciation to the University of Tromsø (UiT) and all academic staff and administration for that unique experience, knowledge and skills acquired during the study.

I would like to express my greatest appreciation to my supervisor professor Jahn Petter Johnsen for his substantial assistance, constructive feedbacks and suggestions that helped me to accomplish this study.

I would like to thank program coordinator Ane-Marie Hektoen for her guidance and support throughout the IFM program.

And of course, I would like to thank my family for their love and support during my study.

Marianna Osokina

May, 2019

Abstract

This master thesis will consider the institutional aspects of traditional fisheries regulation among the small Indigenous minorities of the North, Siberia and the Far East of Russia, using the Kola Sámi settled in Murmansk region as case. The thesis studies the potential for influence of local institutions on the traditional fisheries management. Based on documents and internet sources the thesis explores how regional authorities in their collaboration with communities and industries implement and adapt the norms and principles of federal and regional legislation relating to the traditional use of natural resources, particularly fisheries. Taking into account the specificities of regional economic, social and ecological conditions as well as cultural and ontological background of the Kola Sámi, to the thesis addresses the effectiveness of underlying institutional set-up for traditional fisheries and how the traditional institutions can be incorporated in existing institutional structure.

Keywords: *Sami fisheries, traditional institutions, Indigenous rights*

Table of Contents

Abstract	3
1 Introduction and problem definition.....	7
2 Theory and method.....	11
2.1 Institutional theory	11
2.2 Traditional ecological knowledge concept.....	14
2.3 Methodology	17
2.4 Ethical issues	19
3 The Sami and the fishery in the Murmansk region.....	21
3.1 The Sami	21
3.2 Arctic fisheries	24
3.3 Sámi fisheries	26
3.3.1 Subsistence Sami fisheries	28
3.3.2 Commercial Sami fisheries.....	31
3.4 The role of the local institutions in Sami fisheries	34
4 Governance framework: main policies and institutions	40
4.1 Laws and regulations of Indigenous rights.....	40
4.1.1 Guarantees for the rights of Indigenous peoples	40
4.1.2 Local self-government.....	41
4.1.3 Indigenous communities.....	42
4.1.4 The status of Indigenous people	44
4.1.5 Territories of Traditional Land Use.....	45
4.2 Fisheries Laws and regulations.	47
4.2.1 Fisheries laws	47
4.2.2 Fisheries rules.....	49
4.2.3 Operating mechanism for regulating traditional fisheries	50
4.2.4 Control, monitoring and surveillance system.....	52
4.2.5 Government support of the traditional fisheries	53
5 Discussion - Potential for improvements of governing the Sami fisheries.....	55
5.1 Role of local institutions.....	55
5.2 Local involvement and co-management.....	58
5.3 Different types of adaptation in terms of subsistence or commercial use	60

5.4	Use of LEK/TEK in fisheries management.....	64
5.5	Enhancement of new adaptive institutions.....	65
6	Conclusion and need for future research	70
6.1	Conclusion.....	70
6.2	The future for Sami traditional fisheries management and need for future research	71

List of Tables

Table 1.	The Sami population dynamics in Russia.....	22
Table 2.	The Sami population in the territories of traditional residence.....	22
Table 3.	Summary table for netnographic material.....	80

List of Figures

Figure 1.	Salmon fishing with the poezd on the Ponoy river and operating principle of the poezd.....	30
Figure 2.	Operating mechanism for regulating traditional fisheries.....	84

List of Acronyms and Abbreviations

BBTU - Barents-Belomorsk Territorial Fisheries Directorate of the Federal Agency for Fisheries (*Barents-Belomorsk territorialnoye upravlenye*)

EAF - Ecosystem approach to fisheries

IAD - Institutional Analysis and Development

FFA - Federal Agency for Fisheries

FS - Fishing site

KMNS - Indigenous people of the North, Siberia and the Russian Far East (*Korenye Malochislenye Narodi Severa*)

LEK - Local ecological knowledge

PINRO - Polar Research Institute of Marine Fisheries and Oceanography

TAC - Total available catch

TEK - Traditional ecological knowledge

1 Introduction and problem definition

It is claimed that a unique relationship with nature, is what distinguishes the natural resource use of Indigenous minorities of the Arctic from the resource use of other groups. From a general point of view, it is assumed that the close interaction with the ecosystem over many centuries has taught the Indigenous people to take from nature only as much as is necessary for the life support of their community. Despite of the fact, that such claims and assumptions can be viewed as an attempt to idealize traditional resource management, some traditional practices and approaches have proven to be effective (Berkes 2012).

As for example Berkes describes, the resource management of Indigenous people based on traditional institutions imply that for example increasing fish stocks will not result in an increase the fishing effort, the amount of harvested fish and the stock size will always be constant. This point can be illustrated in practices of «pulse fishing» and rotation of fishing sites described by Fikret Berkes (2012) during long and thorough field work among Cree people. He concluded that, following the traditional rule-of-thumb of rotating family hunting grounds, ideally over a cycle of four years, Cree people optimizes the catch per unit of effort in very creative and effective manner.

Since the time human has mastered the elementary tools of labour, hunting and fishing have provided food and contributed to the process of evolution. Over time, instruments have evolved through their use, but despite this fact, in the modern world, some indigenous practices and gears have remained almost unchanged and are still effective.

Pisarev (2015) notes, that the traditional recourse use is characterized by a balanced approach to the use of natural resources, the comparability of the volume of their use with the real needs of the social group, not related to the realization of surplus and the consuming attitude to the source of subsistence. In addition, due to a number of factors, especially the harsh conditions of the Arctic region, traditional activities are often the only source of food and only means of survival for the Indigenous people of the North, Siberia and the Russian Far East (KMNS).

However, the world is moving forward, and it changes over time. The modern market economy and the growing pace of globalization creating the new conditions and dictate the need for a new approach to traditional activities. In these circumstances, it is sometimes not

enough for Indigenous groups to carry out traditional activities only for their own consumption and for the needs of their communities. In the new conditions, traditional fisheries inevitably are becoming not only subsistence, but commercial activity. In order to survive in the modern world, it is necessary to become a part of this world, to adapt the mentality to changing conditions. In modern context, this means that Indigenous groups should be involved in commercial activities on an equal basis with the other resource users. So aspects of both commercial and traditional fisheries should be considered in system of traditional management as well.

Fisheries has long been a market-oriented business all over the world. In case of reindeer herding, the Indigenous groups have no competition, while in fisheries they often face various obstacles created by the competitive nature of a market economy. The carrying out of traditional activities is complicated by the fact that communities often are located in remote and isolated areas, where people are poorly supplied with goods and fisheries equipment, and the opportunity to process and market their products is poor. Under such conditions, the principle of payment for the use of aquatic bioresources (for example through auctions, the transfer of fishing grounds for long-term rent to private companies, etc.) that is now spreading in Russia, infringes upon the rights of Indigenous peoples to conduct their traditional and commercial activities (Turaev 2017). Thus, the right of Indigenous peoples to live their traditional way of life and to exercise traditional activities, enshrined in law, have in practice become more difficult. Traditional fishing practices of many of Indigenous groups are in general in line with the concept called Traditional Ecological Knowledge (TEK), which I will explain later. The potential of TEK and traditional institutions in terms of management effectiveness and the sustainability of the resource use, can be underestimated in state organized systems for resource and environment management.

In order to explore how the management system for traditional fisheries work, it seems reasonable to consider the extent to which Indigenous peoples, as an affected group of users, are involved in the decision-making process and to what degree their eventual participation in the organization of monitoring and control can contribute to protect their own interests and the well-being of ecosystems. For this purpose, there may be lessons to learn from the practices of Indigenous people and the characteristics of their interaction with the environment.

The Kola Sami Indigenous group has their traditional living area on the Kola Peninsula. The Sami of the Kola Peninsula is a completely independent ethnic group. This Indigenous group is distinct from other groups in terms of economic adaptation and culture. This is determined by a combination of reindeer herding, fishing and hunting, and a semi-nomadic life-form. However, the last decades they lead in general a settled way of life. Fishing is an older occupation of the Saami of the Kola Peninsula than reindeer herding. Numerous archaeological finds of primitive fishing gear illustrate the possibility of the emergence of fishing in the early Neolithic period. Fisheries along with reindeer herding, one of the most important branches of the Sami economy, is closely linked to the Sami's religious beliefs and their folklore. As well as this traditional activity are powerful symbols for expressing group identity (Kuropyatnik 2003).

It is evidenced by a number of empirical studies that use of TEK and traditional institutions in the fisheries management system can be quite effective in sustainable resource management and use. In the case of Sami people, their traditional approach to fisheries seems to be useful and compatible with the new paradigm of the resource governance. Since the traditional practises of the Sami based on the animistic beliefs is closely related to the concepts of complexity and uncertainty, characterising the contemporary approach to resource management. Sara (2009) states that the Sámi determine the natural environment is at one extreme predictable and repetitive, while at the other extreme, unpredictable and shifting. This way of thinking is to some extent in line with the by science defined concept of ecosystem approach to fisheries (EAF), which strives to balance diverse societal objectives, by taking account of the knowledge and uncertainties of biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries (FAO 2003:6). Therefore, the regulation of traditional fisheries, both subsistence and commercial, should be concentrated on the protection of the biodiversity and the traditional way of life of the Indigenous groups that are closely connected with the ecosystem.

Among the objectives of this paper are to identify obstacles in the conduct of traditional activities like subsistence and commercial fisheries. This includes to identify bureaucratic procedures that cause possible restrictions to access to traditional fisheries for Kola Sami.

I will in this thesis, explore the conditions for local and traditional management of Sami fisheries in Russia and I will answer the following exploratory research questions:

1. Do the formal laws and regulations of fisheries in Russia define a space for local and traditional management of Sami fisheries in the Murmansk region.
2. Does the organisational set-up facilitate local engagement in fisheries management?

The answer to the research questions will indicate whether government institutions sufficient for traditional fisheries management among Sámi people or not. These issues will be considered in the master thesis because, today more than ever before, the problems related traditional natural resource use is urgent. Depending on the results, the possibility for adoption of traditional institutions in fishery management will be discussed, either as an independent system or by combining government and traditional institutions in form of a participatory approach. The study is a theoretical desk study, based on a “netnographic approach” and document studies. I have not carried out any field studies or interviews. To get the permits to do fieldwork and interviews and to establish contacts would require considerably more time than what is available for this thesis. The descriptions and discussion are limited to what can be said on basis of the explored material.

The thesis has the following structure. In chapter two I present the theory and method that I use, before I in chapter three describe the current situation for the Sami and the fisheries they are involved in on the Kola Peninsula. In this chapter, I also present the formal institutional set up and I reflect on the role of local institutions. In chapter four, I present, the "rules by law" aspect of government institutions. I here categorise and analyse the governance framework (federal, regional and local level), while in chapter five, I present the findings from the netnography of the research and discuss to what extent the formal governance structure facilitates local involvement. In this chapter, I explore assumptions acquired from two previous parts through field work in form of netnography. Chapter 6 is concluding the thesis and present some ideas for further research.

2 Theory and method

2.1 Institutional theory

Human behavior, interactions within ecosystem and decision-making mechanisms are key elements in natural resources management. In this context it is appropriate to address the research question within the frameworks of institutional theory and traditional ecological knowledge (TEK).

Institutional theory is conceptualizing how institutions are formed, how they operate and change, and how they influence behavior of individuals. It is an important framework that facilitate research in field of politics, sociology, and economics. Elinor Ostrom elaborated institutional theory through many studies that produced deep understanding of the nature and diversity of institutions. She argued that institutions are key elements that affect and shape human behavior in particular situations. A main aspect of the theory is that institutions have underlying values, norms and structures that affect human behavior and outcomes that can be achieved. This idea is expressed in conceptual framework of Institutional Analysis and Development (IAD).

First of all, the theory provides us with a definition of institutions in general. In accordance with Ostrom (2005:15) institutions are the prescriptions that humans use to organize all forms of repetitive and structured interactions, including those within families, neighborhoods, markets, firms, sports leagues, churches, private associations, and governments at all scales.

Institutions thus regulate human behavior through a system of restrictions on the pursuit of selfish interests. Institutions create the framework within which people are interacting in accordance to expectations to each other. Changing and modifying established frameworks can lead to unpredictable consequences. Therefore, expectations are manifested through established system of norms and rules that because they can be quite vague, guide people to act almost unconsciously and automatically and only intuitively know what implies the expected behavior.

Institutions are characterized by high diversity and complexity and various interactions between individuals in different contexts lead to a spectrum of chosen behavior strategies. In accordance with Goffman's (1959) dramaturgical theory individuals can act in

different ways in different situations (arenas) and with different public. Choice of the right behavior is achieved by adjustment actions in accordance to expectations from others in each specific situation. This is an example of institutionalized behavior.

In the context of this study I will consider rules as a key concept in institutions (Ostrom 2005). I will consider the rules in a restrictive, regulating meaning as well as percept that implies acting out of *maximes*, intrinsic principles of morally "correct" behavior that can be defined as norms. I will explore if *percept* rules on basis of which most traditional institutions operate, can be good enough to replace restrictive rules of government institutions for long-term sustainable natural resource management.

Institutional theory can be used to address exactly how and what rules restrict negative behavior or constrain destructive actions. This is relevant in this thesis. Institutional theory also addresses how rules are adopted and revised over time and how alternative rules can and have been used to solve various social dilemmas, especially ones related to common property problems.

In this thesis, institutional theory is used to explore if there are alternatives to government institutions in fisheries. I will scrutinize if traditional institutions in which individuals act subconscious in certain situations can be more effective than formal regulations by the government. In accordance with Ostrom (2005:25) this possibility is not excluded, since “when the interactions yielding outcomes are productive for those involved, the participants may increase their commitment to maintaining the structure of the situation as it is, so as to continue to receive positive outcomes”.

Positive outcome will not necessarily be acquired through a rigid regulatory system established by government institutions. The centuries-old experience of sustainable natural resource management of many Indigenous people supports this idea. Sustainability here understood as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” (Brundtland 1987). This strategy does not imply *subtractability* when individuals maximize their own returns. Indigenous people generate a specific type of behavior conditioned that close interaction with nature and adjustment their actions on basis of animistic worldview.

In accordance with Ostrom (2005) individuals are fallible learners trying to do the best they can in the long term by using norms and heuristic algorithms in making their immediate decisions. So, production of a certain type of behavior regarding the

use of resources is a continuous and cumulative process, based on knowledge and experiences. In addition, the behavior is not the result of only external influence (management system) but is also based on internal self-perception and symbolic aspects of identity. Many of the values pursued by individuals are intrinsic values that may not be represented by external material objects, and their presence and strength are important parts of the individual to be examined (Ostrom 2005). Thus, in general human behavior can be represent as system of intrinsic values, action arena, interaction components and outcomes.

Another important aspect in institutional theory is compliance with rules. Why are some rules working and respected by the majority, as for instance prohibition to steal, while other rules are not supported by all? This can be the case for many rules related to common resource use. As Ostrom (2005) emphasize there will always be someone who is interested to break the rules. The main question in this context is what prevent individuals to break the rules, is it fear of punishment or moral maxima? With no government regulation, who or what prevent people to overexploit resources? These questions are important to consider when developing any management policy.

In terms of Batson`s (1979) system theory, the world is ruled by the system mechanisms. From humans as systems of organs, further to individuals interacting with each other and to individuals interacting with ecosystem. First, an individual is a system of organs, organized together to support vital functions of the body. Thus, a self-regulating system of the human body characterized by unstable physiological competition and interdependence. The society of individuals is the same type of the system. Finally, the ecosystem, the natural biological environment of human, can be assumed to have ability of self-regulation. Human activity can destroy natural systems, and the pace of destruction can accelerate with the pace of the progress. However, many Indigenous peoples have retained to some extent an intuitive understanding of these processes. Therefore, given the right conditions their actions do not violate, but maintain the built-in balance.

Thus, Indigenous people may have appropriate social institutions combining laws, policies and processes, operating on basis of consistent governance and management system, developed with respect to intrinsic values that are preconditions for effective and sustainable resource use.

2.2 Traditional ecological knowledge concept

There are many well-known cases where Indigenous groups in different part of the world are managing natural resources in effective and sustainable ways on basis of their own understandings of the ecosystem and interactions within it. Often such traditional management systems based on concept which calls traditional ecological knowledge (TEK). Since TEK is predominantly a non-articulated system of knowledge, then it manifested in traditional management system mostly through practices. Fikret Berkes (2012:6) argue that TEK is a component of practice in the way people carry out their agriculture, hunting and fishing, and other livelihood activities. As well as a component of belief in peoples' perceptions of their role within ecosystems and how they interact with natural processes.

Berkes (2012) emphasize that TEK is a process, not just content. There is no universally accepted definition of traditional ecological knowledge as well, the term is quite ambiguous. A definition of TEK is:

A cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment (Berkes 2012:6).

It should be noted, that there is an obvious asymmetry in recognizing value of TEK for resource management as compared to conventional scientific knowledge. However, TEK is an alternative way to acquire knowledge about environment. While conventional science according to positivist reductionist view is based on experimental, mostly quantitative knowledge, TEK is rather qualitative. When exact biological data do not exist or is not sufficient, TEK can provide a feasible alternative to scientific knowledge. Nevertheless, asymmetry in power relations between these two knowledge systems exist.

It is important to emphasize in context of TEK that ecological aspects of traditional knowledge cannot be divorced from the social and spiritual setting it is produced in. TEK is closely linked to culture and beliefs of Indigenous people. Stories and legends are important part of culture because they signify a meaning. Such meaning and values are rooted in the land and closely related to a "sense of place" (Berkes 2012:6). The sense of place determines

in many respects the attitude of the Indigenous peoples to the land and to the resources belonging to it.

TEK is a dynamic concept that implies constant change and renewal on basis of every day experience. It is a broad category that is related to ways of life, not only specific data and patterns in a narrow sense. For example, the concepts of “fishing luck” and “reindeer luck” (Oskal 2000) in Sámi culture, do not only include the set of rules in order to obtain desirable results, but are also related to moral dimensions. This imply that both correct thoughts and behavior are aggregated in the general concept of “good” life. In this context pragmatic interests are replaced by moral dimensions.

Berkes (2012) argue that TEK as a dynamic and adaptive system is also hybrid knowledge in its nature, which can imply ability to adapt to another knowledge and experience. In this context it will be appropriate also to define TEK as Local ecological knowledge (LEK).

In context of this study it might be relevant to explore if fisheries management on Kola Peninsula can be more effective if it incorporates traditional knowledge, skills, and institutions of Sámi fishers rather than ignore it. Berkes (2012) emphasized that traditional systems may in some ways be analogous to Adaptive Management with its nonlinear, multi-equilibrium concept of ecosystem processes and its emphasis on uncertainty, resilience, and feedback learning. This point is supported by extended empirical knowledge acquired from long term field work conducted by him among Cree people. According to Berkes (2012), Cree people’s adaptation of fishing strategy (adjustment of fishing effort and mesh size dependent on species, fishing sites) to multi-species fisheries proved to be more successful in management than the conventional management approach. He describes the Cree Chisasibi traditional fishery as a well-managed fishery system.

The intuitive ecological sense of traditional knowledge, and the rules-of-thumb that are often used, are consistent with dynamic, multi-equilibrium, ecosystem-based analyses in contemporary ecology (Gadgil et al. 1993; Berkes et al. 2000; Gunderson and Holling 2002; Berkes and Kislalioglu 2009; Berkes 2012:103). Thus, the interaction mechanisms within ecosystem through a knowledge–practice–belief complex based on local knowledge and animistic worldview, which imply non-linear resilience thinking and deal with complexity and uncertainty, might according to the referred authors be incorporated in fisheries management systems through appropriate social institutions. Moreover, according to Ostrom

(2005:27), rules, the biophysical and material world, and the nature of the community all jointly affect the types of actions that individuals can take, the benefits and costs of their actions and potential outcomes, and the likely outcomes achieved. However, Indigenous adaptation is flexible. Some Indigenous people are adjusting their resource use strategy in terms of future outcomes, while another people not always do it. The reason why can be different. Flexibility can be seen as a rational choice adaptation strategy to changing material conditions. As Indigenous people are in immediate contact with environment, they identify factors that can influence outcomes. This process is facilitated by use of selected indicators that are developed by experience and observations through generations and accumulated as a part of TEK. Another and more spiritual explanation is related to a symbolic discourse based on an animistic ontology inherent in the Indigenous people worldview that suppose the existence of kind of kin relationships with nature. This relationship includes all components of the system as human, non-human beings, places, and natural phenomenon. In terms of this idea, individuals controlling their actions in order to not harm to something that have extremely important symbolic value.

However, in order for modern management to be effective and viable, traditional management of natural resource should be included into modern governance institutions. In this context, collaborative management or co-management based on active participation of the user group in resource management seems to be a solution. Co-management has been defined as ‘the sharing of power and responsibility between the government and local resource users’ (Berkes et al. 1991:12; Carlsson & Berkes 2005:66). As well as ‘the term given to governance systems that combine state control with local, decentralized decision making and accountability and which, ideally, combine the strengths and mitigate the weaknesses of each.’ (Singleton 1998:7; Carlsson & Berkes 2005:66). Thus, for the purposes of this master thesis, it seems appropriate to apply institutional theory in combination with the TEK and co-management concepts.

2.3 Methodology

This study presents theory-driven qualitative research based on the concept of TEK and institutional theory. This theory framework is relevant to explain data derived from empirical research that will be carried out.

In this master thesis, I use a number of methods of qualitative research allowing as close as possible to approach the solution the problem defined in the research questions. One main method is literature review of relevant sources and content analysis based on data acquired from netnography.

The netnography is online research in order to obtain understanding of social interaction and underlying attitudes through digital tools. Given the limitations in terms of time and potential for getting access to informants in Russia, netnography was a feasible option for this research. Netnography is using a set of research practices related to data collection, analysis, research ethics, and representation, rooted in participant observation, but without the physical participation in the informants environment Netnography is an interpretive research method that combine traditional participant observation techniques of anthropology with experiences obtaining through digital communications (Kozinets 1998). After completing the analytical work, the synthesized results from the analysis will be integrated, into a common system, in order to obtain a holistic perspective. This set of methods was selected because it allowed to analyze a huge number of different sources of information in their social context.

First, I analyzed relevant literature to consider objects, phenomena and processes to identify the most significant features and properties, connections and relationships, to establish the patterns of their development. Sources were various scientific papers, statistics and archival materials on the subject matter under study, as well as federal, regional and local legislation concerning aspects of traditional fishing and the traditional way of life of the Indigenous peoples of the North.

Second, I carried out a content analysis of the material. Content analysis is a research method for studying documents and communication artifacts, which can be texts of various formats, pictures, audio or video. Social scientists use content analysis to quantify patterns in communication, in a replicable and systematic manner (Bryman, Cramer 2011). This is a

qualitative-quantitative analysis of the content of documents in order to identify and measure the various factors and trends reflected in these documents. A wide range of different sources that are relevant to the topic of research, as books, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, and any other occurrence of communicative language can be used as unit of analysis. Content analysis in this case will be auxiliary tool, and based on findings from netnography, it will contribute to better understanding traditional fisheries system in Murmansk region. As indicators or content-related categories, will be selected key elements in order to systematize data about the existing fisheries management system and problem attributed to that. A different online source which encompass Kola Sámi traditional fisheries issues will be used in content analysis. The material is collected from a number internet sources:

- <https://saami.forum24.ru>
- <https://www.facebook.com/groups/Саами/>
- <https://www.facebook.com/groups/Kolasapmi/>
- <http://7x7-journal.ru/> (blogs)
- <http://monsaami.livejournal.com/> (blogs)
- <https://vk.com/lovozerie>
- https://vk.com/mo_centra_kmns

Data analysis will be conducted using open coding in order to develop meaning from the statements and organize it in into clusters of themes in accordance with observed patterns. During open coding developing core categories. Data arrangers according these categories (Kawulich 2004). At the end analysis results will be displayed in form of summary table in order to drawn conclusion.

In order to analyse the system of regulation of traditional fisheries statements from relevant online sources were distributed into the open categories related to the traditional fisheries system. Categories was selected in order to analyse the attitude of the Sami to existed regulation for traditional fisheries. Then internet material was contextualized with collected data about different factors influent the fisheries system. This will enable to draw conclusion whether the established institutions are sufficient or not, in terms of the successful functioning of the fisheries system and the adoption of operational decisions on urgent issues. Among the open categories are: the presence of appropriate (successfully operating)

institutions; the need for new institutions (yes / no); level of participation of the Kola Sami in the governance (high / low); availability and transparency of the rules; local conflicts associated with traditional fisheries (yes / no, urgent problem or not); problem of legal status of Indigenous minorities and confirmation of ethnicity (register); problem “fake community”; relevance of traditional knowledge for fisheries management (*Appendix*. Table 1).

Prior to work on the master thesis research questions, data and methods were assessed in terms of validity, reliability. Which means in accordance with Leung (2015) to assess “appropriateness” of the methodology, processes, and data which will be using in qualitative research in order to answer research question. Reliability for qualitative research is about consistency of research.

2.4 Ethical issues

So far as this study will be based on qualitative research it needs to consider moral and ethical issue related to privacy or/and safety of persons involved in research as well as pay attention to ethical consciousness and respect. There is number of ethic theories which emphasize specific issues when conducting qualitative research. In context to this study it seems to relevant employ ecological view of ethic (Flinders 1992, Miles and Huberman 1994) which suggests to be sensitive to the language and meaning of the local “culture”; to avoid “detachment” in favor of being attentive to the wrong or harm one may be doing to the entire relevant environment; and to consider during report writing “how to act responsibly in making public what we have learned” with attention to the effects of implicit, multiplex, stereotypic aspects of language.

This thesis work is conducted in accordance with the Norwegian Ethical Guidelines for Internet research (2014).¹ All sources are selected with respect to distinction between the private and the public spheres in accordance with Guidelines. Since "some people view a personal blog as a public arena, while others consider the blog as publicly-available, but with private content. Different participants on an Internet forum may have differing views of what is private and public, and their patterns of communication and behavior will be

¹ <https://www.etikkom.no/forskningsetiske-retningslinjer/veileder-for-internettforskning/>

influenced by this view" (Guideline 2014:4). This issue is taken into account under the study. Some information on internet forums is not clearly public or private, so it is necessary to be do several considerations regarding the use of sources and information in the research.

Limitation of the study is that in this analysis I used internet and media as primary sources of data, while I considered the fisheries legislation for contextualization of the internet material. In this context, it should always be remembered that the information obtained from Internet sources may contain distortions and inaccuracy. As well lack of direct communications with representatives of Sami community can be considered as limitation of this study.

3 The Sami and the fishery in the Murmansk region

3.1 The Sami

The Sámi (*са́ми, сáмь*) is a group of Indigenous people living on the Kola Peninsula in Russia, as well as in the north of Norway, Sweden and Finland. Over time, their land has been reduced through colonization by other ethnic groups. Today *Sápmi*, the traditional land that Sámi people is still inhabit, encompasses northern parts of Scandinavia and the Kola peninsula. The age of this ethnos is at least 5000 years old.

From ancient times, the Sámi people has lived as a semi-nomadic Indigenous group. Similar the all peoples who settled along the coast or near lakes and rivers, until the seventeen century, the Sámi hunted and fished. From the seventeenth century, they began to engage in reindeer herding, which developed into the main occupation (Oparin, Umanskaya 2010). After this, the Sámi, following the semi-nomadic lifestyle, combined reindeer herding with fishing and gathering due to ecological tundra conditions of the Kola Peninsula, which is rich in rivers and lakes. Thus, a mixed type of traditional activity developed, where the choice of fishing sites depended on the summer pastures of reindeer herds. In summer, while reindeer herds remained on the coast of the Barents Sea, where a strong wind protected the reindeer from mosquitoes and midges, the Sámi harvested fish on the coast and collected berries for the winter (Oparin, Umanskaya 2010). However, the reduction of reindeer herding in the region in some way led to a change and transformation of fishing practices. Over time, fishing became an independent activity, and was not only complimentary to reindeer herding.

Nowadays, the total number of Sámi in Norway, Sweden, Finland and the Russian Federation does not exceed 50 thousand people, and the Russian Sámi, inhabiting mainly the northeast of the Kola Peninsula, make up only a small part of them.

The number of Saami in the Russian Empire, the USSR and Russia has remained at about the same level for the past 100 years (Table 1):

Table 1. The Sami population dynamics in Russia

Years	1897	1926	1939	1959	1970	1979	1989	2002	2010
Population	1812	1720	1836	1792	1884	1888	1890	1991	1771

According to the data from the National Population Census of 2010, 1771 of the Sámi (0.2% of the total number of persons who indicated their nationality) lived in the Murmansk region. Of this number, the urban population is 787 people, the rural population is 984. The latter mostly live in the area of the Lovozero village (*Лувьер-сыййт*) in the Murmansk region, which is the center of the cultural life of the Sámi people in Russia.

In accordance with The Resolution of the Government of the Russian Federation No. 255 of 24.03.2000 “On the Unified List of Indigenous Peoples of the Russian Federation” the Sámi living in the Murmansk region are attributed to Indigenous small peoples. The Government Order 631-p (May 8, 2009) approving the list of places of traditional territories and economic activity for Indigenous minorities of the North, Siberia and the Russian Far East (*gov-murman.ru*). Following this list, the areas of traditional residence of Indigenous small peoples of the North in the Murmansk region are (Table 2):

Table 2. The Sami population in the territories of traditional residence

Territories	Kovdor district	Kola district	Lovozero district	Tersky district	Total
Population	112	201	873	10	1196

Today in the region established 37 self-governing economic collectives (*rodovaya obshchina*) i.e. traditional communities of the Sámi people which founded on the basis of clan and territorially-neighbourly affiliation (*gov-murman.ru*). The main activities of the traditional communities of the Sámi are: fishing and the extraction of aquatic biological resources in the Barents Sea and in the inland waters of the region; reindeer herding; hunting; collection of wild plants; processing of products of these types of management; handicraft; the tourist and excursion services.

Historically, Indigenous peoples in Russia have not been provided with appropriate, economic and legal conditions for their self-realization and maintenance of the traditional way of life. Despite of the substantial progress in promoting and protecting the rights of Indigenous peoples to live the traditional ways of life, there are still many challenges in this respect. In this regard, it should be noted that Russia has still not ratified the UN Convention № 169 on Indigenous and Tribal Peoples in Independent Countries. This convention according to everyone's opinion, plays an important progressive role in the formation of a positive policy towards Indigenous peoples and peoples living a tribal way of life. The Convention provides Indigenous people with the right to participate in management of natural resources within their territory and contributes to the recognition of them as full-fledged members of the global community.

However it should be noted, that the Russian Federation in 1995 ratified the Convention on Biological Diversity (Anon 1994:47,60) which prescribe to each contracting party “subject to its national legislation, to respect, preserve and maintain knowledge, innovations and practices of Indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity[] Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements”.

The Sámi of Russia, Norway, Finland and Sweden are united in the Sámi Council (*Sámiráđđi*), an international organization engaged in the problems of Indigenous peoples in the Arctic region. Since it was founded in 1956 the Saami Council has actively dealt with Saami policy tasks. For this reason, the Saami Council is one of the indigenous peoples' organizations which have existed longest. The primary aim of the Saami Council is the promotion of Saami rights and interests in the four countries where the Saami are living. The main task of the Saami Council is to consolidate the feeling of affinity among the Saami people, to attain recognition for the Saami as a nation and to maintain the cultural, political, economic and social rights of the Saami in the legislation of the four states (saamicouncil.net).

In Russia, the Sámi are engaged in Association of the Kola Sámi and Sámi association of Murmansk region (Oparin, Umanskaya 2010). Public associations of Indigenous peoples of the North are created for the purpose of protecting the rights and legitimating the interests of the small Indigenous peoples of the North. These organizations

take measures to protect and develop the places of the traditional residence and economic activities of Indigenous peoples and promote their direct participation in cultural and environmental projects are being implemented. The Sámi, through these public organisations, are working together to maintain ethnic identity, as well as ensure social, cultural, and economic development of the Sámi people.

Over the thousand-year history of close interaction with the harsh environment of the Arctic, the careful attitude to nature and a rational approach to use of natural resources on the basis of traditional knowledge, are embedded in the way of life and traditional practices of Indigenous people of the North. These attitudes and elements of knowing are distinctive features that characterize the Sami people in the north from the other groups (Oparin, Umanskaya 2010).

As history has shown, the clash of the traditional way of life with the modern industrial world has violated the fragile state of the equilibrium between nature and human. So, the transition to a new state of equilibrium can be achieved by raising awareness and joint participation in the management process of both federal and regional authorities, as well as representatives of Indigenous peoples and industrial enterprises, operating in their territory and traditional fishing areas. The development of flexible strategy of interaction between all stakeholders might help resolve the dilemma of preserving the traditional way of life of Indigenous peoples and implementation coherent mechanism for sustainable resource management.

3.2 Arctic fisheries

Fishery in the Arctic has its own historical characteristics. For many people living in the North, fisheries are not only the basis of their livelihood, but also a defining aspect of identity. The Murmansk region largely dependent on fisheries, which plays a significant socio-economic role for all people living here (Vasilyev 2011).

Murmansk region located mainly on the Kola Peninsula in the northwest of Russia and washed by the Barents Sea in the north and White Sea in the south and east. According to the data for 2011, the fisheries of the Murmansk region, along with other basic industries and activities, determines the specialization of the region. The fish industry of the Murmansk

region provides about 1/5 of the total catch of the Russian Federation, which is approximately 500 - 650 thousand tons (Vasilyev 2011:79).

Traditionally, the fishery in the region consist of offshore and coastal fisheries, hunting for marine mammals, coastal processing of aquatic bioresources as well as freshwater fisheries. Commercial fisheries in the region has undergone a number of changes over the past decades. So, according to data for 2010, the number of fish companies in offshore fisheries increased from 12 in 1990 to 110, and fish processing companies from 8 to 41, respectively. The coastal fishery began to revive in the 1990s as well, after it was stopped in the 1940s. Currently, about 90 actors (companies, entrepreneurs, cooperatives) are engaged in the costal fisheries in the Barents Sea. The main commercial species are cod and haddock. In the White Sea, about 50 users engaged in coastal fisheries, of which about 15 companies and 35 individual entrepreneurs. The main commercial species are salmon, White Sea herring and algae. The catch volumes are insignificant. The reason why the volume is low is related to the difficulty in marketing due to lack of fish processing and freezing facilities and undeveloped coastal infrastructure (Vasilyev 2011).

Commercial fisheries in the internal waters of the Russian Federation (with the exception of territorial waters of the Russian Federation and with the exception of anadromous, catadromous and transboundary fish species) in the Murmansk region is carried out with allocation of a fishing site on a competitive basis. (*gov-murman.ru*).

The rivers, lakes, reservoirs of the Kola Peninsula are rich in fish. Twenty-four of the twenty-eight species found on the Kola Peninsula - the object of commercial and recreational fishing: burbot, pike, roach, whitefish, grayling, smelt, brown trout, char, palia, salmon and other.

The Atlantic salmon (*Salmo salar*) is a kind of brand of the Murmansk region. However, today the stock condition causes concern. The greatest impact on the Atlantic salmon population is exerted by commercial fishing, which is mainly conducted by fishing collectives in the White Sea. It is legal, but still allowed as an exceptional measure. According to scientists, too intensive exploitation of mixed salmon populations that are going from the sea to spawning grounds into the rivers, to some extent, still threatens the salmon stock. There are a lot of companies offering the organizing of sports and recreational salmon fishing on the rivers of the Kola Peninsula as well. Nevertheless, despite all of the above, the main problem is that the Atlantic salmon is an attractive and profitable target of illegal fishing. The level of

illegal salmon fishing is alarming. It became almost commercial activity, where the nets are set up on the coast, in the mouths of rivers, and salmon are catches in high volumes (Popov 2013).

The fisheries management at the federal level is carried out by the Federal Fisheries Agency, and in the regions, the FFA's policies are carried out by the territorial offices. In the Murmansk region they are presented by the Barents-Belomorsk Territorial Fisheries Directorate and regional fishery committees. The Agency monitors the state of biological resources, determines the annual TAC, and is also responsible for the allocation of quotas (Vasilyev 2011).

3.3 Sámi fisheries

The regulation of traditional fisheries in Russia is a quite broad subject for consideration with huge number of specific features and problems, depending on the region and ethnic group. It seems reasonable to narrow the focus of research in order to make it easier to identify the key elements of the traditional fisheries management. For this purpose, I will consider a specific case, namely traditional fisheries among the Kola Sámi living in the Murmansk region.

Before the arrival of the Russians on the Kola Peninsula, the Kola Sami were a self-governing and independent ethnic group. In the 18th and 19th centuries, with the beginning of the industrialization of the Arctic, the harmonious traditional resource management system underwent a significant change, which also affected the state of the fishing stocks. Initially, the traditional Sámi fisheries were characterized by using a relatively small part of the resources by a small population that did not violate the natural resources and processes. As Makoedov and Kozhemyako (2007) mention, the abundance of fish could make it possible for Indigenous people, with primitive gears, in just a few days of active salmon fishing, to provide fish volume for annual consumption of themselves and sled dogs.

Chuner M. Taksami, an ethnographer, a researcher of the North and cultures of Indigenous people, who is himself a Nivhi², said about the traditional relationship between human and nature that the traditional local economy for centuries was waste-free, that is, from a modern point of view, the most reasonable. He emphasised that Indigenous people knew how to take the optimal amount of resources from nature and how to use raw materials in an effective way and did not take too much from nature. Despite the abundance of fish, it was caught only amounts as was necessary for the family or community consumption (Makoedov and Kozhemyako 2007). In the similar way describe traditional fishing practices Berkes (2012:160) “the conduct of the fishery was guided by the need for different food products, social obligations to contribute to community exchange networks, and the conservation imperatives of “getting what you need” and minimizing waste”.

During the soviet period, the situation in the traditional fisheries were complicated even more then in period before the revolution. It was primarily due to the soviet paternalistic policy that included enlargement of settlements, liquidation of "unpromising" fishing villages, resettlement, withdrawal of traditional residence areas, the introduction of a five-year plan and uneven development of biological resources.

The post-soviet period and the transition to a market economy was characterized by universal commercialization, impoverishment and the transfer of fishing sites to commercial companies. As history had shown, strict rules for traditional resource management undermined the basis of interaction of the Sami people with natural environment and led to resistance and non-compliance.

The modern period largely characterizes the transition from paternalism to a policy of partnership, which is ensured by the inclusion of Indigenous peoples in modern market economy models. Significant changes were made in the empowerment of Indigenous peoples, which is reflected in the legislation, but this was not enough to provide real opportunities for management of their resources to these groups.

As was found from netnographic research, in recent years, the state of traditional fisheries system in Russia has been complicated by the fact that attempts to create a coherent system for traditional fisheries regulation within the framework of the existing top-down

² An indigenous ethnic group inhabiting the northern half of Sakhalin Island and the region of the Amur River

paradigm of governance have raised a number of troubling issues. Among other things, this is represented by the uncertainty of the status of the Indigenous people, which creates a fertile ground for illegal activities, presenting it as a traditional recourse use. The regime on of access of the Indigenous minorities to commercial fishing often causes dissatisfaction of other resource users. Some people claim that Indigenous groups do not reasonably deserve fishing privileges, while other groups of local people are limited in their rights. Consequently, this is leading to tension in the local communities.

There can also be, difficult relations between Indigenous peoples and the tourism industry in those cases when they use the same water bodies for fishing and tourist purposes. The inconsistency of the regulatory mechanism, namely the fact that the same water body that are used in traditional fisheries are also can be used for commercial, sport fishing and touristic activities often leads to legal collisions and local conflicts. For all these reasons, a level of the general dissatisfaction with the system of traditional fisheries regulation had increased and led to increasing social tensions at the regional and local level respectively.

For deeper understanding motivation and individual's behavior, the traditional fisheries and traditional economic activities should be considered as part of the current modernization and globalization processes that occur in the world. Such approach might be useful in terms of finding the optimal natural balance between the needs of Indigenous peoples and the existing ecosystem characteristics, including economic, biological and social factors. Considering the traditional fisheries in context of historical development and traditions also will contribute to further adapting and elaborating of the management system. Among the moments on which it is worthwhile to pay attention, are the distribution of competencies between the federal, the regional bodies and the local Indigenous self-government, as well as the strengthening of the role of local institutions of Indigenous small peoples of the North, Siberia and the Far East in places of their traditional residence.

3.3.1 Subsistence Sami fisheries

Traditional fisheries of the Sami most commonly refer to the subsistence fishery, which suggests the catch of variety of species in fresh waters and close to shore. Subsistence fisheries are generally, carried out in order to feed the family and relatives. Lakes Imandra,

Umbozero, Kolvitskoe, Lovozero, Notozero, Pyrenga, Upper and Lower Enozero are main fishing areas for traditional Kola Sami fisheries. The main fishing rivers are the Tuloma, Teriberka, Voronya, Iokanga, Ponoï, Varzuga, Umba. In the interior of the Kola Peninsula the Sami fishing in the lakes. In the lakes they catch whitefish, perch, pike, grayling, trout, char, burbot and roach. In coastal areas, the main fish species is salmon. Historically, fishing in the lakes was a source of food for the family (community), while salmon fishing was a source of income.

For the Sami, subsistence fishing is closely associated with seasonal migrations and the unique social organization of the Sami, the so-called *siida* or *pogost* (сыййт, погост). The fishing grounds as well as the hunting grounds were distributed among the families and governed by a gathering (council) of elders or heads of the family – *sobor* (собор). The territory of each *siida* consisted of units that represented the basis of the traditional management: salmon *tonies* (тонни) on rivers, lakes *tonies*, hunting territories, reindeer pastures, coastal areas. *Siida* had the exclusive right to exploit the natural resources of its land. The ratios of the collective and individual nature of the use of land in terms of type of economic activities were different. Coastal and river salmon *tonies* were considered as the common property of the *siida*. Community's ownership of salmon fishing grounds was combined with regular redistribution of *tonies*. When salmon fishing carried out with *zakol*³ (забор, закол) the rights to fishing grounds and gears belonged to the community, and the distribution of the catch took into account the “shares” that belonged to each family. The lakes were in the use of families or family-related groups. The right to use these fishing grounds was inherited, and these units were not subject to redistribution (Kuropyatnik 2003).

On the lakes and coastal areas of the Kola Peninsula, the Sami used two-oar boats (*vens*), very light and stable, from six to eight meters in length and from one to one and a half meters in width. In the gulfs and in the mouths of the rivers they used boats of large sizes, but rarely larger than the four-oar boats. The equipment of the fishing boat consisted of oars attached to a wooden oarlock with a rope, a straight sail, a mast and a steering oar. Some fishermen installed a gate on the boat to make it easier to pull up the seine with a large catch.

³ *Zakol* or fence, was called the construction, completely or partially blocking the river channel. Holes were made in the fence, into which traps were inserted. The fish going to spawn, swimming upstream and in search of passage, fell into traps from which it could not get out (Layus & Layus 2011)

The number of boats for each head of the family does not exceed three while the poor family have mostly one boat (*Saami.su*).

An old fishing gear was a spearhead with six or seven teeth and a fixed hook. The main gears for the lake fishing are set nets and a drag (pull) seine. Sea salmon fishing is carried out with the help of large-mesh nets - *garv* or *harv* (Ivanischeva, Ershtadt 2015:17). The set nets (*garv*) on operating principle partly resembled a *zakol*. They were set to trapping the fish going to spawning grounds. *Garves*, like *zakols*, could be quite large size. Therefore, the installation and operation required considerable effort and the participation of several fishermen. For small fishing collectives, was more suitable the way of catching salmon with *poezd* (floating nets). This technique demanded the participation of only four people with two boats, between which the net was moved up and down in order to catch salmon going to spawn. When fishing on large rivers often used a beach seine. Sometimes mixed techniques were used in fishing (Layus & Layus 2011).

Traditional fishing methods of the Sami might be regarded as sustainable, assuming that fish selection was taken care of by using different types of mesh-size in the nets. This is illustrated in *Figure 1*.

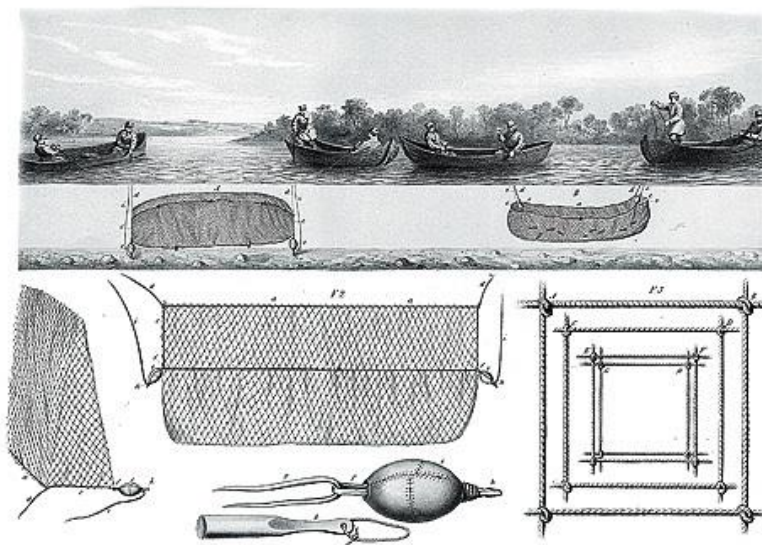


Figure 1. Salmon fishing with the *poezd* on the Ponoy river and operating principle of the *poezd*. Illustration from the collection "Drawings for the study of catching fish and animal on the White and Arctic Seas" (St. Petersburg 1863; Layus & Layus 2011).

It is worth noting that not all traditional fishing methods and gears are still in use. Traditional fishing methods have changed as well as environment. Now it is mainly set-nets from nylon.

With regard to traditional Sámi fisheries, a quotas allocate between individuals belonging to the Indigenous peoples and their communities for catching aquatic bioresources with established total allowable catch (TAC) like cod and haddock. Each of the Sámi in the Murmansk region is endowed in the form of quota with 289 kg of cod and 70 kg of haddock, 9.5 tons of whitefish and 3 tons of vendace (Order of the Committee for the Fisheries of the Murmansk Region 07.07.2010 No. 76).

In context of subsistence traditional fisheries, it should be emphasized that some established regulatory measures are quite controversial. For example, the total ban on fishing on the spawning grounds on days when salmon and pink salmon are spawning. This measure is explained by the fact that, for example, in the Nenets Autonomous District on Pechora river, fishermen under the guise of catching pike uncontrollably caught only salmonids (Volkova 2016). However, the restriction was introduced at the federal level, and is related not only the Nenets, but to most of Indigenous groups. It was introduced without taking into account the fact that many Indigenous settlements are located just in the immediate vicinity of the salmonids spawning grounds and the Indigenous peoples are carrying out traditional fishing for subsistence there. Also, the restriction in using traditional fishing gear seemed rather controversial. It was a ban on the using set nets (which can be regarded as traditional gear *garv*) for the individual Sámi fishermen. Only Sámi communities that have been allocated a Fishing site could use this type of gear. This measure actually equated traditional subsistence fishing with sports and recreational. Worth to be noted that the ban on the using set nets was adopted centralized without discussion with the all stakeholders. Now the ban is lifted, due to the work of Sami public organizations (*gov-murman.ru*).

3.3.2 Commercial Sami fisheries

In accordance with the legislation, commercial fisheries can be carried out only by the Indigenous communities, not by individuals. The most important commercial species of the Kola Peninsula, caught by the Sami are salmon (*luz*), caught mainly in the mouths of the

rivers and gulfs. Cod (*torek*), flounder (*kampel*) and halibut (*paltos*) caught in the sea. Commercial fishery in freshwater bodies of the Murmansk region is carried out by the Sámi communities who are allocated for use of the Fishing sites (FS) and who have signed the contract for the use of aquatic biological resources. This type of fishing is carried out for species where a TAC is not established (brown trout, arctic char, whitefish, vendace, European smelt, snack, burbot, freshwater perch, grayling, pike, roach, ide, common dace, Eurasian ruffe, bream) (*bbtu.ru*). This fish can be sold. More complex is the question about anadromous fish, which are most important species in terms of commercial fisheries. For these species, TAC is not established, and main management instruments related to control and regulation of fishing effort is missing.

Indigenous people with permits to harvest, under the current legislation can conduct commercial fishing on a par with other stakeholders. Access to aquatic biological resources is possible under an agreement on the allocation of quotas, contracts for the provision of Fishing Sites and permits for the use of aquatic biological resources. The Ministry of Fisheries and Agriculture of the Murmansk Region accepts applications for participation in the tender for the use of Fishing sites for traditional fisheries in order to maintain the traditional lifestyles and the traditional economic activities of Indigenous people living on the territory of Murmansk region in relation to aquatic biological resources of inland waters of the Russian Federation (*bbtu.ru*).

In 2017, in the Murmansk region, only two Fishing sites were allocated for traditional fishing. Fishing sites were allocated to Tribal community of Indigenous Sámi people “Umba” - FS No. 668 and Tribal community of Indigenous Sámi people “Kola shore” - FS No. 669. With the FSs these Sami communities were given the permits to catch separately cod, polar flounder, whitefish and Atlantic salmon. (*bbtu.ru*). Thus, the fact that in the territory of the Murmansk region for traditional economic activities only two FSs were provided illustrates that the competitive nature of the access to the resources do not contribute to development of commercial fisheries among Sami communities. A significant level of competition does not always create equal conditions for Indigenous people and other commercial fishing participants.

As an obstacle, the need to have a fishing vessel that meets certain requirements for commercial fishing can also be considered. As a result, there was established a system by

which fishing companies are hired to catch quota, allocated to traditional fisheries and then these companies buy this fish from the Sami (Kuchinskiy 2011).

Thus, the number of Indigenous communities authorized *de jure* to carry out traditional activities in 2017, clearly illustrates that governance system built on top-down management and bureaucratic procedures does not contribute to solving actual problems of traditional fisheries.

In addition, the problem of local conflicts remains unresolved. Historically, salmon fishery in the region is a controversial issue and a source of tension and mutual claims in the local community. Some aspects of interethnic interaction were mentioned in the early XXth century: “In addition to lake fishing, part of the Lapps of Semioostrovsky and Voronezh pogosts are engaged in salmon fishing. The first have long been going to the mouth of the rivers Varzina, Drozdovka, Sidorov stream - by the ocean, the latter - to the padun on the river Voronya near the Russian village Golitsyno, 15 miles from the mouth. In recent years, they have been having constant disputes over salmon fishing grounds with Russian colonists.” (Alymov 1927:18). The fact that traditional fishing is carried out both the Indigenous and other local groups traditionally living on the territory of the Kola Peninsula, but not having the status of Indigenous people, still creates certain tension in inter-ethnic relations.

The mechanism of allocating access to aquatic resources for Indigenous people (subsistence and commercial) on basis of decisions of regional authorities are made in accordance with the Fisheries Rules established by the Government of the Russian Federation is presented in *Figure 2*. The figure illustrates that Indigenous peoples must go through a number of complex bureaucratic procedures to obtain the right to carry out traditional activities. For instance, applications for the permit to harvest the aquatic resources should be provided separately for each type of resources (species) and in different agencies, for example, separately for anadromous and not anadromous species; applications must be made in a typewritten form, which also creates a number of problems for Indigenous peoples who live in remote and isolated areas.

3.4 The role of the local institutions in Sami fisheries

Local institutions on the Kola peninsula

In the Murmansk region, local traditional institutions are represented by various public organizations: The Sámi Parliament of the Kola Peninsula (*Куэллинеэк Самь Соббарь*)⁴, Sámi General Assembly (*Самь Соббарь*), The Council of Authorized Representatives of the Sámi (*СҮПС МО*), Association of the Kola Sámi (*АКС*), Sámi Association of Murmansk region (*ООСМО*), Sami Youth Organization of Murmansk region (*Sámi Nurash*) and other.

In 1989, the Association of the Kola Sámi was established with offices in the villages Lovozero and Revda. In 1998, the Sámi Association of Murmansk region began its work. Organizations carry out work to protect the rights and interests of the Sami, conduct legal seminars on the issues of hunting, traditional fishing, land and water legislation, pension and social security of the Indigenous minorities. However, the work of the organizations is not coordinated, and they are not always in agreement on current issues.

There is a different status of Indigenous governments in circumpolar states, in terms of legitimation and power relations. Indigenous institutions can be based either on self-rule or shared rule or combination of the both. Self-rule in some extent can be presented in consensus government in Nunavut in Canada, which has certain autonomy in some issues. Shared rule or shared power represent in co-management governance. It is the case of the Sámi Parliament in Norway, it has the political autonomy to develop policy recommendations to the National Parliament, and therefore participate on certain level in decision-making process (Poelzer and Wilson 2014). However, participation of Sámi Parliament in governance in Murmansk region was quite limited, that as a result led to the abolition of the Sami Parliament due to the fact that it did not fulfil its task of dialogue with the authorities.

The Sami Parliament of the Kola Peninsula was established at the first Sami congress of the Murmansk region. Ten members of Parliament were elected among the delegates of the congress. At the third congress of the Sámi, a new public body of the Sámi people, Sámi General Assembly (*Самь Соббарь*), was created. Today it consists of five members -

⁴ abolished in 2018

delegates to the congress. The main task of the Assembly is to represent the interests of the Sami people in a dialogue with the public and the authorities of the Murmansk region. According to the participants of the last, fourth Sami congress, the Assembly actually assumed the functions of Parliament. According to the results of the fourth congress of the Sámi, held on November 24, 2018, by the decision of its delegates, The Sami Parliament of the Kola Peninsula has been abolished (*tass.ru*). So, the sole representative body of the Sámi is the Sámi General Assembly which actually assumed the functions of the Parliament. The Sámi Congress is held once every 4 years and dealing with most acute issues in periods between.

Indigenous groups all over the world through their institutions (public organizations) usually try to establish a legal framework for their rights. However, these initiatives are not always successful.

Traditional Sami institutions are not only organizations, although they are often implemented in the form of organizations and play an important role in the life of the Sami. The concept of an institution or a social institution is much broader. They are complex frameworks for everyday life. Such institutions can be actualized as set of attitudes and/or social constructions which based on shared values and serving to social cohesion and inclusiveness within the group. Durkheim considers social institutions as the body's various organs that must adapt to the environment in order to be able to exist (Sørum 2000). Groups communicate own values inside and outside the group in order to protect their social, economic and political interests. Therefore, shared values are generated by the group and internalized by individuals in the strategies of daily life in order to adapt to surroundings.

Social institutions of the Sami

Before the revolution and the beginning of the policy of assimilation, the Sámi traditional community and the organizing principle of the community *siida* or *pogost* played an important role in local resource management on the Kola Peninsula. Since the control of the czar authority was largely declarative and left the possibility of self-government within the traditional institution of the community.

Concept of the community, as main local institution within which individuals act, is fundamental. When developing a system for regulation, including fisheries, it is important to

identify and classify the main features of the community. According to Ostrom (2005) the attributes of a community that are important in affecting action arenas include: the values of behaviour generally accepted in the community; the level of common understanding that potential participants share (or do not share) about the structure of particular types of action arenas; the extent of homogeneity in the preferences of those living in a community; the size and composition of the relevant community; and the extent of inequality of basic assets among those affected.

The institution of *siida* was the basis for the social structure of the Sami people. Its main features: clear organization and structure (common winter settlement and common fishing grounds), common economic interests and spiritual values, and elements of community consciousness. In accordance with Kuropyatnik (2003) *siida* had a permanent composition of residents, although as an open social structure, it allowed for the incorporation of new members. Its size ranged from 60-70 to 200-300 people. The main units of the *siida* were families, as well as temporary and permanent production collectives, organized both by territorial and by kinship principle. The relationships of its members were based on mutual assistance and cooperation.

In the western and central regions of the Kola Peninsula a kind of center was the winter *siida* or *pogost* (*талльв-сыййт*). There, the Sami lived from December to April, the rest of the year the community was divided into groups of families who made small migrations along the traditionally established route (Kuropyatnik 1992:163-164; Kuropyatnik 2003). In the east of the peninsula, in the winter and summer *pogost* settled all year round. In the spring and autumn, the Sami inspected their seasonal fishing grounds that were owned by (inherited) several families.

As mentioned earlier, an important element in the system of self-government of the *siida* was a gathering or council (*сход*) in which the heads of families took part, the elders having a special influence “the oldest and most respected Lapps.” (Efimenko 1877:55-56; Haruzin 1890:246; Kuropyatnik 2003). The competence of the gathering included primarily economic issues as regulation of the use of fishing grounds, the redistribution of salmon tonies between families, the construction of *zalol*, protection of the territorial interests of the community. In case of conflicts, the gathering acted as a judicial authority (Kuropyatnik 2003). Thus, the traditional institute of *siida* organized on territorial-neighborly and kinship

principles successfully carried out many economic and organizational functions, including as a self-government body.

The word *siida* (сыййт) still used in names of the traditional Sami villages in Sami language (Kildin dialect), for example Lovozero village (*Луявьр-сыййт*) Voronie (*Коардэжк сыййт*). It represents the fact that traditional Sámi community was closely tied to the place, to the local settlement. Territorial-neighborly and kinship network are still significant for the Sami. It is still of great importance the fact from which *siida* (pogost) a person comes from. On the basis of their origin, people unite into community associations (*землячества*). Today, as the realities of cultural and social life, there are Chudzjavr, Voronensk, Varzinsk community associations and the project "Culture of the Skolt-Saami without Borders" (Kuchinskiy 2011:123).

There is a varying degree of preservation of traditional institutions as well as the degree of their influence on the everyday life of Indigenous peoples. One of the traditional social institution that still exists and characterizes not only the Sámi, but also other Indigenous groups of the Arctic, is the institute of distribution of harvest in the community based on the principles of gift exchange and kinship system. Kinship and other social ties and networks construct social relations concerning mutual aid, public support of the disabled, orphans and widows. What is largely a prerequisite for self-limitation in the use of resources is the social structure of the community. This structure contributes to not exceeding the limit of need through social press from the community (prestige, respect and social hierarchy) (Collings 1997; in Oparin, Umanskaya 2010). Thus, individuals morally obligated to behave in accordance with expectations of other members of the community that creates the mentality of self-restraint in the harvesting.

Religion and beliefs as basis for actions

An important aspect that determines the behaviour of individuals and groups in different situations is the institution of religion. According to Durkheim (1915), religious beliefs are one of the most important social institutions that serve to bounding together society and maintain continuity through collective action (f.exe rituals). The institution of religion has a clear structure and function. The animistic cosmology of the Sámi may be considered, among other things, as a tool for maintaining social structure and adaptation to the harsh conditions of the Arctic.

In addition, by the definition of Weber (Lehmann, Roth, & German Historical Institute 1993) religious institutions have a significant impact on people's economic activities and practices. He illustrates his viewpoint using the example of Protestant ethics based on an idea that practical impulses to action are rooted in psychological and pragmatic religious ties. Thus, from this pragmatic perspective, self-restriction in harvesting on basis of long-term observation of surroundings can be seen as investment in future, for ensuring long lasting benefit.

Fishing luck

Many of the traditional institutions are not easy to understand due to their quite symbolic form. They are mostly based on animistic views and beliefs and related to a shared symbolic meaning that form philosophical basis for practises. Despite the lack of clear linguistic categories, these institutions have been preserved and maintained through generations. One of these traditional Sámi institutions is *fishing luck*.

Concept of a luck in Indigenous belief system can be seen as the institutional framework for certain practices and approaches to the resource management. In accordance with Oskal (2000) concept is mainly spread among reindeer herders (reindeer luck), but also occurs in other areas of traditional activity as dog sledding and fishing (dog luck, fishing luck). The idea of self-regulation of behaviour of individuals in order to inexhaustible and sustainable use of fish stocks can be confirmed in this concept. Attitudes and relations have been shaped by generations as a result of close interaction with the surroundings and resources. Fishing is a type of activity, which suppose the high degree of uncertainty, which is largely dependent on the luck. So, concept of fishing luck has developed as an ideological system, which includes beliefs, attitudes, moral norms of behaviour, words and even thoughts. This idea is based on the belief in alive nature and all its objects as lake, river, fishing stock etc. which should be treated with careful attitude and respect. Oskal (2000:177) describe nature of this phenomenon in this way:

Where it comes from is unclear, but it certainly has something to do with how the lake and the fish are treated. Acting in an unrestrained manner, swearing, or making fun of the lake or the fish is not good. It is better to focus on catching fish and to show interest in the fish. Catching only as many fish as one needs and taking special care of the catch is also important []
Fishing luck is seen as a resource and a blessing which can be used for common benefit.

Concept of place

The concepts of place and landscape that are rooted in Sámi cosmology are an integral part of the Sami group and individual identity. The way they communicate with the place and spirits of this place in a many respect affects the behaviour and practices of the Sámi people. The concept of the place, in the perception of the Sámi people, contributes to the development of a model of morally correct behaviour, just as fishing luck does.

The key point regarding the mode of interaction with the place, is a contact with the spirits of the place in order to obtain permission prior for any activity there. It is also important to express a highly respectful and caring attitude to the place and everything that is there (animals, fish, plants, etc.) (Helander-Renvall 2010). In accordance with Schweitzer, Sköld and Ulturgasheva (2014:139) it is not economic motives that encourage many to continue with a traditional relation to nature, but the quality of life, the quasi-existential persuasion that the landscape contains the meaning of life. Thus, Sámi traditional institutions are complex system of attitudes towards nature which joined pragmatic and spiritual values. A specific mentality developed in framework of this system result in Sámi traditional activity that conducting in unique sustainable way.

4 Governance framework: main policies and institutions

In order to approach the answers to the research questions, it seems to important to go deeper into the legal and institutional context of traditional fisheries. In an open society governed by a “rule of law”, the general legal framework in use will have its source in actions taken in constitutional, legislative, and administrative settings augmented by rule-making decisions taken by individuals in many different particular settings (Ostrom 2005).

4.1 Laws and regulations of Indigenous rights

4.1.1 Guarantees for the rights of Indigenous peoples

The system of legal regulation of Indigenous rights in Russian Federation includes an extensive list of legislative acts. Among them, above all, is the Constitution of the Russian Federation. According to the Constitution, the right of traditional natural resource use is an indisputable and indestructible right for persons connected with this activity.

Further, the Civil Code of the Russian Federation defines the institution of the community of Indigenous people, which plays an important role in the implementation of traditional activities and which is the subject of regulation. Namely, Article 123.16 of the Civil Code of the Russian Federation defines the concept of a community of Indigenous small peoples as a voluntary association of citizens belonging to the Indigenous small peoples of the Russian Federation and united on the kinship and (or) territorially-neighbourly basis in order to protect the original habitat, preserve and develop traditional way of life, traditional activity, crafts and culture.

The Water Code of the Russian Federation in Art. 54 determines the need to establish the order of use of water bodies in order to protect the original habitat and the traditional way of life of Indigenous small peoples of the North, Siberia and the Far East. In accordance with the Code they have the right to use water objects for traditional resource use. The Forest Code of the Russian Federation, in particular the provisions of Article 48, protects the original habitat of these peoples. Under the original habitat, it is understood the land of national

settlements, land of graves, cult objects of nature (sacred groves, lakes, passes), hunting grounds, pastures, etc. (Pisarev 2015:88).

According to The Federal Law “On Wildlife” of April 24, 1995 No. 52-FZ (as amended on July 13, 2015) Indigenous peoples enjoy the special rights provided in Articles 48 and 49 of the Law. Article 48 specifies the right to use traditional methods of harvesting objects of the animal world and products of their livelihoods, if such methods do not lead to a decrease in biological diversity, do not reduce the number and sustainable reproduction of wildlife, do not disturb their habitat and do not pose a danger to humans. Article 49 of the law establishes the right of Indigenous small peoples to the priority use of wildlife, which includes the priority choice of fishing grounds, privileges with respect to terms and areas of extraction, the exclusive right to the extraction of certain objects of the animal kingdom and products of their livelihoods.

The Law of the Russian Federation “On Guarantees of the Rights of Indigenous Peoples of the Russian Federation” dated 30.04.1990 No. 82-FZ establishes the legal basis for guaranteeing the original socio-economic and cultural development of Indigenous small-numbered peoples of the Russian Federation. Including the protecting the original habitat, traditional way of life, economic activities on basis of principles of sustainable nature management. However, the conditions for such a sustainable nature management are rather unclear and not formulated in the manner required for practical application in the field (Pisarev 2015).

4.1.2 Local self-government

In context of traditional resource management, special attention should be paid to the Federal Law “On the Principles of Local Self-Government in the Russian Federation” dated 06.10.2003 No. 131-FZ. The implementation of the Law has shown that the issues of self-organization of Indigenous people in the North and the Far East, seem to be rather complicated both for themselves and for authorities of all levels.

It is quite obvious that the lack of a proper self-government mechanism and appropriate institutions have negative impact on the system of traditional resource regulation as well as implementation of co-management model at the local level. Mendelev (2007)

emphasize that the Law “On the Principles of Local Self-Government” goes along the path of building a hierarchical and clear system of local authorities. The law stipulates that the community itself should formulate a budgetary policy in the settlement, determine the critical levels of harvesting of the resources, the amount of subsidies to needy households, and determine which functions should be delegated to the regional and local levels.

However, it should be noted, that the underlying approach to the organization of the system of local self-government does not actually take into account historically established traditional institutions. Which are vital for that the system be compatible with local conditions. Well-organized local self-government system is a key aspect, that contribute the Indigenous people adaptation to the changing socio-economic and political conditions in the region. Working mechanism for organizing Indigenous self-governance has already been developed and adopted by some of circumpolar states and can be applied in organizing local self-government of Indigenous people in the Russian Federation as well.

4.1.3 Indigenous communities

For better understanding the system of local self-governance, it makes sense to review the Federal Law No. 104-FZ of 20 July 2000 (as amended on 02.02.2006) “On Basic Principles of Organizing Communities of Indigenous People of the North, Siberia and the Far East of the Russian Federation”. The law establishes general principles for the organization and activities of the communities of the Indigenous small people of the North, Siberia and the Far East of the Russian Federation. The Indigenous communities are created to protect the original habitat and the traditional way of life. The Law legitimate the rights and interests of the Indigenous small peoples. It determines the legal basis for mechanism of self-government of the Indigenous community and state guarantees for its implementation.

In accordance with federal legislation and legislation of the entities of the Russian Federation, the Indigenous communities have a right to use for the own needs the objects of flora and fauna, common mineral and other natural resources. The newly established Indigenous community acquiring the legal status and have right to carry out a commercial activity. Constituent documents of the community of Indigenous minority are the founding agreement and the statute. The governing body of the community is the general meeting

(council). Individuals belonging to a community of Indigenous people should be persons belonging to Indigenous people who have reached the age of 16, conducting a traditional way of life and traditional resource use and engaged in traditional activity.

The refusal of a person to join the Indigenous community cannot serve as a basis for limiting his right to traditional resource use and engaging in traditional activity (Torja 2011). At the same time, according to the decision of the general meeting of the community of KMNS, persons who not belonging to KMNS, but carrying out traditional resource use and engaged in traditional activity of Indigenous people, can be admitted to the community. This aspect of the law seems quite controversy. The Sami may not be members of the traditional community, but still have a right to conduct traditional activity as individuals. At the same time, non-Sami, following the legislation, have the right to become a member of the traditional community and conduct traditional activities that are allowed for the traditional community.

The fact that not only the Indigenous people can receive status, and, as a result, some rights of the member of the Indigenous community raises a number of problems and creates a fertile ground for various misuses. For example, organizing a fishing business under the guise of an Indigenous community engaged in traditional fishing is one of the problems associated with this aspect of the law. The possibility of such situations inevitably leads to a constant conflict between Indigenous and non-Indigenous peoples in some subjects of the Russian Federation. As a result, even bona fide and responsible, not engaged in illegal activities, member of Indigenous community, often get a stereotyped image of poachers.

The situation is especially tense in the Far East and Northern fisheries basins, where the main fishing stocks are concentrated. Territories where Indigenous peoples traditionally live are not geographically isolated, and in these areas the population is mixed, both Indigenous and non-Indigenous. The local population, permanently residing in the traditional territories, but not having Indigenous status, assesses situation as detriment of their rights. Non-Indigenous residents often claims that their rights are violated by aspects of traditional resource management and that it is not fair to discriminate in this way the rest of the population permanently living within the traditional territories.

4.1.4 The status of Indigenous people

In context of traditional economic activity, the question of the status of Indigenous people often arises. It should be noted that at present there are no "nationality" graphs in Russian passports. Therefore, it is completely unclear on the basis of which document should be determined who belongs to Indigenous small people and who does not. The absence in the current federal legislation the norms, defining an exhaustive list of documents confirming the ethnicity hampers the realization of the rights of Indigenous minorities.

Tortsev et al. (2017) notes that it is advisable to improve the procedure for confirming the ethnicity of Indigenous people by creating a register of these persons by the executive authorities of the entities of the Russian Federation. Providing information to fisheries authorities will allow to eliminate cases of unfair use of the status of Indigenous people and the implementation of illegal fishing.

As part of this initiative, a draft law has been prepared on amending articles 3 and 5 of the federal law "On Guarantees of the Rights of Indigenous People of the Russian Federation". It proposes that "Article 3 be supplemented with Part 4 of the following content:" In order to implement the social and economic rights of persons listed in paragraphs 1 and 3 of this article provided for by the legislative acts of the Russian Federation, the authorized federal executive body shall, in accordance with the established procedure, establish and maintain a federal register of information about KMNS".

However, the draft law has a number of controversial aspects. In particular, it claims that citizens applying for inclusion in the federal register have to fill out an application for inclusion, and provide a passport with residence registration and "local government or community confirming the occupation of traditional economic activities and the maintenance of a traditional way of life". (*yakutiakmns.org*). The proposed norm was criticized for the possible existence of a corruption component, since it gives local self-governments or communities representatives, the right to provide or not to provide the required certificate of an unidentified form.

4.1.5 Territories of Traditional Land Use

A milestone on the path towards development the system of regulation of traditional resource use was the adoption of the Federal law dated May 7, 2001 No. 49-FZ “On Territories of Traditional Land Use of the Indigenous Small Peoples of the North, Siberia and The Far East of the Russian Federation”. The Federal Law defines traditional natural resource use as an inexhaustible way of using flora and fauna objects and other natural resources by Indigenous people. The peculiarity of this resource use is the conscious self-restriction of the consumption of natural resources by the Indigenous people, the existence of spiritual values that control the behavior of each member of the ethnos in relation to nature and natural resources, and the conservatism of the production means.

In accordance with the Law, the Indigenous people of the Russian Federation are recognized as the people living in the territories of the traditional settlement of their ancestors, preserving the traditional way of life, activity and crafts. These groups should be less than 50 thousand people and define themselves as independent ethnic groups. Article 4 of the Law “On Territories of Traditional Land Use...” aims to protect the original territories and traditional way of life of Indigenous small people, as well as to preserve and develop on these territories the unique culture of Indigenous people.

However, the law is far from perfect, because at the moment the implementation mechanism is not sufficiently developed. The simultaneous action of two or more incompatible legal systems within the same territory prevents the proper operation of the law and hampers the any activity on the territory of traditional natural resource use. The subjects of the law are the Indigenous groups, but they can exercise their rights only as members of the community of KMNS, not as individuals. In particular, the acute aspects of the law, namely the land ownership issues. According to Zhukov (2007), that the matter of fact, Indigenous peoples need not the exclusive right to land, but guaranteed access to the resources of areas of traditional nature use.

In this context should be noted that in many countries, the political discourse of liberal individualism focuses primarily on the protection of individual rights and freedoms, which, in turn does not provide the sufficient legal basis for collective rights, as for example land rights, Indigenous groups often claims (Van Dyke 1975). So, in order to deal with collisions between individual and collective rights, can be considered an option which not providing an exclusive

land right to Indigenous groups (which often seen as having “ancient” roots). Instead, there might be a well-defined and valid legal framework for accessing resources. Exclusive land rights might just escalate local conflicts. Since the local population in the Murmansk region, as mentioned above, is mixed, where ethnic Saami are only part of a single population.

Another problem, the cornerstone of the law, is related to discussions about the implementing the list of excluded activities in these areas. Under these activities understood any activity that not considered as traditional. However, from this point of view, the development of infrastructure, the construction of roads and communications also can be considered as non-traditional. So, in this context, should be pay attention to the fact that, on the one hand excluded activities will be contributing to the protection of the traditional territory from external interference, but on the other, separates the Indigenous peoples from the outside world, thereby limiting them in some extent in the exercise of their rights. Zhukov (2007) criticizes the idea of a complete cessation non-traditional economic activity in the areas of traditional residence of Indigenous people. Since under modern market economy conditions, it is doubtful that the Indigenous people will be able to operate successfully on the competitive markets, relying only on their own resources. It is also necessary to take into account the local context. If the introducing of excluded activities in remote and isolated areas of Siberia with a homogeneous population does not create particular problems, then the introduction of such a regime in the Murmansk region seems to be quite problematic.

Contradictions and collisions of the law “On Territories of Traditional Land Use ...” often lead to a conflict between Indigenous peoples and industrial companies, in particular oil and gas companies operating on these territories. The new draft law proposes not complete limitation of any economic activity on the territory of traditional resource use, but an effective legal mechanism for combining the rights of various users, with the unconditional priority of preserving the original habitat and resources of traditional use.

Under these conditions, federal and regional authorities in the collaboration with public organizations and self-governing bodies of Indigenous peoples should regularly monitor the situation of Indigenous peoples of the North in areas of industrial development based on several certain indicators and make operational decisions. Zhuravel (2018:82) claimed that prior to commencing economic and other activities in traditional areas of Indigenous small people, industrial companies must necessarily assess the direct or indirect

damage to the original habitat and traditional way of life of Indigenous small people and calculate the compensation for damages resulting from such activities.

Thus, the main goal of the law is to protect the interests of Indigenous people carrying out traditional activity, to adapt traditional management to the conditions of a modern market economy and offer an optimal coping mechanism for situations where a conflict of interest occurs. This way of thinking becomes more and more popular in light of the shift from the top-down management paradigm towards co-management and community-based models.

In this context, it seems reasonable that in accordance with Gorelikov (2012:211) one of the main conditions for their [KMNS] sustainable development can be a strategy of cultural-oriented modernization, which means the preservation of specific economic activities and creative endeavour of some Indigenous people in combination with other forms of occupations and activities. Since the most effective seems still not only the isolation of Indigenous people and traditional activity in a separate subject of relations but the allocation in the whole system of the social organism that implies a wide range of relationships governed by a single mechanism.

Federal legislation on traditional resource use represents significant progress in creating an effective system. It is represented by the extensive massive of legislative acts and regulations. However, the legal order is becoming rather confusing when it comes to colliding interests. There is a layer of regional laws and by-laws, that at the level of the entities of the Russian Federation, make it possible to detail what is not explained in federal laws. However, challenges still exist. So, it is important to pay special attention to the consistency of federal, regional and local legislation.

4.2 Fisheries Laws and regulations.

4.2.1 Fisheries laws

To achieve sustainable and effective development of the traditional fishery system, a simplified and coordinated mechanism regulating access to natural resources is required. At the moment, the existing federal and regional regulatory systems for traditional fisheries are rather declarative since there is still no satisfactory mechanism for their implementation. There are certain bureaucratic obstacles in the carrying out of traditional fisheries as well.

Federal Law No. 166-FZ of December 20, 2004, “On Fisheries and the Conservation of Aquatic Biological Resources” is one of the most important acts regulating fisheries in Russia in general and traditional fishing in particular. With the adoption of the Law, the fishery sector received a legislative act regulating its activities. Prior to this, regulation implemented at the level of orders of ministries and government decrees. The law established the basic principles by which Indigenous peoples maintain traditional lifestyles and carry out traditional economic activities, in terms of fisheries. Fishery is attributed to the traditional types of economic activity of the Indigenous small peoples of the North, Siberia and the Far East of the Russian Federation (individuals and communities).

According to the additions to Article 31 of Federal Law No. 166 that came into force on April 1, 2018, quotas on catch of aquatic biological resources in order to ensure traditional lifestyles and traditional economic activities of the Indigenous people of the North are allocated by the executive authorities of entities of the Russian Federation and established by the Government of the Russian Federation. The distribution of quotas for traditional fisheries is carried out between persons belonging to the Indigenous peoples and their communities in relation to aquatic biological resources with established TAC.

In the same context, it should be noted that according to the order of the Ministry of Agriculture No. 660 dated December 28, 2012, it was established that aquatic biological resources belonging to anadromous fish species (Atlantic salmon, pink salmon) are available for only Indigenous people who have status as individual entrepreneurs or traditional communities. And by virtue of Article 29.1. Federal Law No. 166-FZ of 20.12.2004 "On Fisheries and the Conservation of Aquatic Biological Resources" the access to aquatic biological resources (anadromous) is allowed only to persons who have signed contracts to provide Fishing sites (FS) for a specific type of fishing (Torzev and Novoselov 2015:48). FSs are provided on a competitive basis. Practice shows that fishing companies are more likely to win the competition for Fishing sites than traditional communities.

4.2.2 Fisheries rules

Traditional fisheries, as well as other fisheries sectors, are regulated by Fisheries Rules (*Правила рыболовства*), which are set separately for several major areas: The Western Basin (the Baltic and its catchment), the Northern Basin (Barents, White Sea, Onega Lake, and other lakes and rivers of the catchment), the Arctic Ocean Basin (including the catchments of Siberian rivers), the Far East Basin, the Black Sea/Azov Sea Basin, and the Caspian Basin. Fisheries Rules specify closed areas, seasonal closures, limitations of particular gear, minimum mesh sizes, minimum allowable size of catch, and allowable by-catch (*FAO*). According to the Fisheries Rules for the Northern Fisheries Basin, the main fishing areas for KMNS are places near settlements, located in the coastal zone of the Barents, White and Kara Seas, as well as tundra lakes and rivers.

The Rules define the procedure for conducting traditional fisheries and reporting of catch. When carrying out of traditional fishing, communities and individuals are required to provide a separate record of catch by species of aquatic biological resources, indicating the weight or piece ratio (for marine mammals) of the species in the catch, fishing gear and the catching areas. The information on the extraction (catch) of aquatic biological resources must be submitted to the Barents-Belomorsk Territorial Fisheries Directorate. Terms of the submission on the 3rd and 18th of each month are as of the last and the 15th of the current month, respectively.

In accordance with the Fisheries Rules, Indigenous people is allowed the use of all fishing gears and methods if such methods, directly or indirectly, do not reduce biological diversity, the number and sustainable reproduction of wildlife, their habitat and do not pose a danger to humans (*bbtu.ru*). Indigenous people, who are not allowed to use aquatic biological resources in the above manner, have a right to carry out fisheries in accordance with the rights and restrictions of recreational and sport fishing provided for in the Fisheries Rules for the Northern Fisheries Basin.

4.2.3 Operating mechanism for regulating traditional fisheries

In order to better understanding of the traditional fisheries system, it will be helpful to review the operating mechanism (*Figure 1*) for regulating fisheries among the Indigenous peoples, specifically the Sámi, living on the Kola Peninsula. At present, Sámi access to aquatic biological resources is defined as free, in accordance with the Fisheries Rules for the Northern Fisheries Basin, and on the basis of decisions of public authorities. Aquatic resources are provided by the Barents-Belomorsk Territorial Fisheries Directorate of the Federal Agency for Fishery, the Ministry of Fisheries and Agriculture of the Murmansk Region and the Ministry of Natural Resources and Ecology of the Murmansk region. At the moment, traditional fisheries conducted within the framework of the Concept of sustainable development of the Indigenous peoples of the North, Siberia and Far East of the Russian Federation.

The executive authorities of entities of the Russian Federation are authorized to set catch limits that vary from region to region, depending on the state of stock and the needs of Indigenous people. According to PINRO, for the year 2017, the Murmansk region has been allocated 95 tons of Atlantic salmon and 330 tons of pink salmon. Of these volumes, 1.88 tons are planned for research purposes, 2.515 tons for reproduction, and 1 ton for fishing for the traditional economic activities of Indigenous minorities of the North of the Russian Federation. (*mvpmk.gov-murman.ru*).

As mentioned earlier, aquatic resources are provided to the Indigenous people on the basis of decisions of Territorial Departments of the Federal Fishery Agency and regional authorities. The Sámi people living on the Kola Peninsula annually apply to the Barents-Belomorsk Territorial Fisheries Directorate, before September 1 of the year preceding the year of the respective fishery. Applications submitted by citizens belonging to KMNS and their communities. The Ministry of Agriculture of the Russian Federation approved (the order of December 28, 2012 No. 660) the form, procedure and terms for applications on providing aquatic biological resources in order to ensuring traditional way of life and traditional economic activities of the Indigenous people. The applications on providing aquatic biological resources, the TAC of which is not established, for use in order to conducting traditional fisheries in the inland sea waters of the Russian Federation, the territorial sea of the Russian Federation, the continental shelf of the Russian Federation and the EEZ Russian

Federation, as well as catadromous and transboundary fish species are submitting by persons belonging to small Indigenous minority and their community.

However, the applications for anadromous fish species are submitting only by persons belonging to small Indigenous minority who have legal status as individual entrepreneurs or Indigenous communities. The quotas on Atlantic salmon and pink salmon are allocated on the basis of decisions of the Commissions for regulating the production (catch) of anadromous fish species. The commercial fishing of such aquatic biological resources is carried out only by individual entrepreneurs or Indigenous communities which have signed contracts to provide Fishing sites. Traditional communities which were allocated a Fishing site have to apply for a permit for the extraction (catch) of aquatic biological resources, that is mandatory as well.

Applications for catch of the cod and haddock in the Barents Sea (in accordance with the established TAC) are submitting to Barents-Belomorsk Territorial Fisheries Directorate. The aquatic resources of freshwater bodies in the Murmansk Region for fishing for traditional lifestyles and the traditional economic activities are submitting to the Committee for the Fisheries of the Murmansk Region (Ministry of Fisheries and Agriculture of the Murmansk region).

The application received after September 1 of the year preceding the year of the respective fishery, is not considered and at the same day is returned to the applicant, explaining the reasons for the return.

The application is signed:

- a) The head of a community of KMNS or the person authorized to sign the application and is certified by the seal of a community of KMNS - for communities of KMNS;
- b) A person belonging to KMNS, with his own hand or authorized by him to sign the application by a person - for individuals belonging to KMNS.

A copy of the document confirming the authority to sign and submit the application on behalf of the applicant (if the application is signed and submitted by the person authorized by the applicant) is attached to the application. The application can be submitted directly by the applicant or a person authorized by him or sent as a postal item to the BBTU. Fisheries Directorate considering the applications within a period of not more than 30 days from the

date of receipt, except for applications for the Atlantic salmon and pink salmon. Applications submitted for Atlantic salmon and pink salmon are reviewed by the BBTU within 10 days of the decision of the Commission to regulate the production (catch) of anadromous fish species.

Based on the results of consideration of applications, the Barents-Belomorsk Territorial Fisheries Directorate makes a decision to provide or refuse to provide aquatic biological resources for use by the applicant and notifies the applicant within 5 working days about the decision.

Reason for refusal to provide aquatic biological resources: the application does not comply with the established form, failure to provide the necessary information in full, submission of inaccurate information, indication of the catch in the application that exceeds the catch limit, determined on the basis of the decision of the Commission for regulating the extraction (catch) of anadromous fish species.

4.2.4 Control, monitoring and surveillance system

In the light of the aspects of traditional fisheries regulation, it is necessary to note the existence of the problem in the control, monitoring and surveillance system. Control arrangements are often complicated by the limited resources and inaccessibility of traditional fishing areas. Applications for the provision of aquatic resources are submitted only by part of the KMNS, mainly living in settlements directly. Some of the Indigenous people do not report or fully report the volume of resources they produce due to the remoteness of fishing grounds and the lack of communication facilities. A part of the Indigenous people carries out the extraction of aquatic biological resources without a fishing permit. Also, they often ignore the decisions of the Commission for the regulation of the production of anadromous fish species, in particular they do not observe the regime of anadromous (migratory) days⁵. (*fish.gov.ru*).

Different kinds of explicit and implicit constraints in carrying out traditional fisheries often force the Indigenous peoples to refrain from legal fishing. Since the 30s, when the active policy of assimilation and alienation of the Indigenous peoples from traditional activities was conducted, has rooted the tradition that up to half of the total catch was

⁵ Days in which adult fish living in the sea migrate into fresh water to spawn (Wikipedia)

obtained by poaching (Makoedov and Kozhemyako 2007). This pattern works to this day, since establishing a quota on catch for personal consumption is perceived as the deprived right to carry out the traditional fishing for subsistence.

The problem of poaching groups, working under the guise of communities of Indigenous people, remains urgent. Although such activities are illegal and punishable, many Indigenous people still participate in illegal fishing. Often, when transporting illegal catch, it is enough to bring with a person belonging to Indigenous group, in order to prove the fishing inspectors that this is the catch of the community of KMNS.

For the purpose of raising consciousness and counteraction to the involvement of Indigenous peoples in illegal activities, joint actions of control and enforcement authorities and elders and leaders of Indigenous communities among both Indigenous and non-Indigenous local population are seen to be effective. The role of elders in preventive work with members of communities is indispensable in order to exclude the promotion of illegal fishing. Co-management arrangements already have place in existing system, but they are not implemented on a regular basis.

4.2.5 Government support of the traditional fisheries

As a positive trend, it should be noted that in order to protect the traditional way of life and traditional economic activities of the KMNS, the Government of the Russian Federation adopted the Resolution "On Approving the Rules for the Distribution and Granting of Subsidies from the Federal Budget to the Budgets of entities of the Russian Federation to support the economic and social development of Indigenous small-numbered peoples of the North, Siberia and the Far East of the Russian Federation" dated March 10, 2009 No. 217. The Rules determine the procedure for the allocation of subsidies from the federal budget to the budgets of the entities of the Russian Federation in order to support the economic and social development of Indigenous people. Subsidies are provided for co-financing of measures for the economic and social development of Indigenous small people aimed at creating conditions for sustainable development of traditional economic activities of Indigenous small peoples in places of their traditional residence (Torja 2011:56).

In addition, the Resolution No. 366 of April 21, 2014 approved the state program of the Russian Federation “Socio-economic development of the Arctic zone of the Russian Federation for the period until 2020”, which also focuses on the problems of traditional management. During the period of implementation of state programs aimed at the economic and social development of Indigenous minorities of the Murmansk region, from 2009 to 2016, 29 communities of the Sami received the state support in the form of subsidies for the purchase of material and technical resources. In 2018, sixteen communities were included in the list of recipients (*gov-murman.ru*).

Such state support in the framework of targeted programs, with proper application, can have a clear beneficial effect. Nevertheless, one should not forget that the subsidies do not always have a positive effect on economic development. Therefore, it should be implemented with a certain degree of caution.

So, there are number of laws and legislative acts which enjoy Indigenous people certain, in some cases exclusive rights, but how this legislative base should be implemented in practice are quite ambiguous, especially in the light of colliding interests. It is also worth noting that a clearer and unequivocal definitions for concepts such as "traditional residence", "traditional economic activity" are needed, which will contribute to more complete realization of the Indigenous people rights as stipulated and enshrined in the legislation. According to Oparin, Umanskaya (2010), subject to a detailed and well-functioning legislative base, the renewable resources use by Indigenous people can be both economically profitable and socially sustainable.

5 Discussion - Potential for improvements of governing the Sami fisheries

So, based on findings in this master thesis it possible to systematize some key aspects that illustrate how local management in Murmansk region is facilitated. It is now time to revisit my research questions. In research question one, I asked: Do the formal laws and regulations of fisheries in Russia define a space for local and traditional management of Sami fisheries in the Murmansk region?

In research question two, I asked: Does the organisational set-up facilitate local engagement in fisheries management? I will now systematically discuss my findings from my document studies and netnographic research in chapter 3 and 4 to provide answers to these two questions.

5.1 Role of local institutions

Local or traditional social institutions are forms of organization that serve to ensure optimal adaptation of society to changing environmental, social and economic conditions. The function of institutions is realized through a set of established rules, formal and informal, on which the society has agreed. Governmental institutions perform the function of ensuring security and order in society and are implemented through clearly formulated rules set forth in laws. The situation is complicated when some rules are not articulated. As Ostrom (2005) emphasizes words are always simpler than the phenomenon to which they refer. It is sometimes very difficult to correctly interpret the values embedded in traditional institutions, based mainly on informal rules and norms. As difficult as determine the meaning laid behind the practises within these institutions. People attribute different values to the traditional institutions depending on their world views, cosmology and ways of thinking.

Clearly, robust and resilient local institutions that do not conflict with each other and with government institutions are key elements for the success of any management policy. Therefore, to optimize traditional fisheries management at the local level, coordinated and consistent local institutions are needed above all.

Local institutions are diverse. They can be presented by organizations, including different public association, community's self-government bodies. At the same time, it can be complex systems of conventions and symbols, social constructions, different forms of social and political authority legitimated in various ways. Institutions facilitate common-property management and decision-making processes through different instruments as legislation, traditional laws, taboos and rituals. Through appropriate institutions, society manages resources and resolves conflicts.

However, the logic of traditional practices is not always clear at first glance and requires deep analysis and careful observation in order for to grasp its nature. As Schweitzer, Sköld and Ulturgasheva (2014:105) argue that:

In order to avoid deterministic views of culture, we define it as a non-static, creative process that imbues people's actions with particular meanings, saturates their words with distinct sounds and frames their relations within certain logic. All the configurations of meanings, sounds, relations and logic change over time but what remains is their embeddedness in socio-economic environments and systems of adaptations to the Arctic landscape.

Often, the misinterpretation of the meaning of traditional practices is due to the fact that people not pay enough attention to the cultural values on which they are based. Which in turn is the cause of the most local conflicts. The inability to see the world through the eyes of others is also the reason why traditional resource management does not look effective and even sometimes seems destructive. It happens when traditional practices are assessed in term of conventional approach to the resource management based on strict regulations and quantitative indicators. Such misperceptions and stereotyping, rooted in historical background, have often resulted in that "in wider contexts where Indigenous and non-Indigenous communities overlap, Arctic Indigenous groups are often marginalized and labelled as suicidal, dysfunctional or dependent on the welfare state" (Fienup-Riordan 2000; Morrow 1996; Vitebsky 2005; Schweitzer, Sköld and Ulturgasheva 2014:106).

In this context, traditional institutions, can serve, among other things, as a marker of common identity as equal and self-sufficient ethnic groups and the transfer the alternative image of these groups. In addition, it should be emphasized that in multicultural society, dialogue, which is ensured and supported by consistent local institutions, is essential for

effective resource management. It is also highly important that these institutions coordinate well with government institutions to develop a successful resource management strategy.

All traditional institutions are characterized by both stability and flexibility. Stability can be represented as official status and legal framework for traditional institutions (social structure, organisation), flexibility as ability to changing and evolving, which is typical for system of traditional knowledge (TEK) and traditional practices.

Nevertheless, there are some challenges related to traditional institutions. One of them is that they are quite unstable due to its intrinsic flexibility. Therefore, it sometimes might be difficult to construct durable institutional structure with lasting predictable effect and ensure long-term compliance with rules, which change all the time as well. As Ostrom (2005:31) emphasized that it is difficult, if not impossible, to maintain predictability in an ongoing voluntary activity. However, in terms of dealing with uncertainty and unpredictability that we are facing in our life first we should as Gregory Bateson (1978) said accept that fact that we are not living in the linear universe.

In the context of considering the role of local institutions, it is also worth mentioning that the problematic relations between the Indigenous and non-Indigenous people are often characterized by a lack of mutual understanding and indicate the lack of an appropriate mechanism for resolving local conflicts. This state of affairs in the Murmansk region is explained by the distorted and contradictory view of traditional activities, on the one hand, and the stereotypical perception of the Indigenous population, on the other.

Consequently, traditional institutions that are harmoniously integrated into a single structure of local institutions, covering both economic, cultural and ethno-political issues, will also contribute, among other things, to reducing the tension in local society. Traditional institutions seem potentially viable since “when all participants share a common set of values and interact with one another in a multiplex set of arrangements within a small community, the probabilities of their developing adequate rules and norms to govern repetitive relationships are much greater” (Taylor 1987; Ostrom 2005:38). Thus, local social institutions can be viewed as a framework and arena for the actions of individuals. Since the main goal of civil society institutions is to strengthen each other in order to maintain a balance, traditional institutions, which are coordinated with the system of government institutions, can be successfully adapted to the goals of fisheries regulation, as well.

5.2 Local involvement and co-management

At this moment, co-management governance in the region is rather limited. Involvement of the local community in the decision-making process is at a relatively low level. There are a number of Sami public organizations in the region, but their work is not coordinated. Therefore, their role in the implementation process is insignificant. This point is illustrated, in particular, by the fact that the Sámi Parliament was abolished due to the non-fulfillment of its functions. In this context, the idea of creating a union or council to coordinate the activities of various public organizations and ensure equal participation of all Sami people is actively discussed.

As a platform for discussion founded the Council of Representatives of Indigenous Minorities of the North under the Government of the Murmansk region. Representatives of the Barents-Belomorsk Territorial Fisheries Directorate, the Ministry of Fisheries and Agriculture of the Murmansk Region, the Ministry of Natural Resources and Ecology of the Murmansk Region, the Ministry of Internal Policy and Mass Communications of the Murmansk Region, the Center of Peoples of the North, and the Sami community take part in the Council. According to the results of the work of the Council, it is noted that a dialogue has been established and is developing between the Sami communities, authorities and local self-government bodies. In order to improve the regulatory framework for the protection of the rights and legitimate interests of the Indigenous Minorities of the North were proposals made and successfully implemented with the direct participation of members of the Council. (*mvpmk.gov-murman.ru*). However, Sami associations often claim that the Council is mainly controlled by regional authorities and the actual participation of the Sami in decision-making process is still limited.

Also, a Working group on advancement of regional legislation in the field of support of Indigenous Minorities of the North was established in the Murmansk region. Also ad hoc public consultations are held. The purpose of these consultations is to tell the local and Indigenous people about the concept of the proposed projects and to get their opinion on these issues. However, again, it is worth noting that under the current legislation, public consultations or public hearings on problematic issues are not provided. Consequently, the requirements which are associated with the procedure for conducting these consultations, including the preliminary placement of materials, deadlines, etc. are not legislated.

In addition, the local authorities and member of Sami community participate in a joint enforcement and control arrangements. As reported Federal Fisheries Agency: The Department of the control, monitoring and protection of Aquatic Bioresources in the Lovozero District of the Barents-Belomorsky Territorial Department together with the workers of the reindeer herding base of the territorially-neighboring community of the Sami “Sami-Sijt” (“Самь-Сыйт”) have carried out monitoring activities on the water bodies of fisheries of the Murmansk region. As well the Barents-Belomorsky Territorial Department highly commends the work done by members of the “Sami-Sijt”, particularly garbage and deadwood collection in water protection zones, which has a significant positive impact on the environment and improves the living conditions of salmon species which spawning in these reservoirs. However, it is worth noting that such arrangements remain inconsistent and have more occasional than systematic character.

Recently, the imperfection of the mechanism of regulation of traditional fisheries is actively debated. In an attempt to find the optimal solution, various hypotheses are put forward. In particular, Tortsev et al. (2017) proposes a regulatory regime based on the catch limits established by the regions, determined in close cooperation with the Federal Agency for Fisheries and scientists. His idea to simplify the mechanism for providing aquatic bioresources for Indigenous people by transferring the relevant authorities to one government body. Despite obvious advantages, it should be noted that the Tortsev mechanism does not place sufficient emphasis on the role of local self-government and involving the Indigenous people in the decision-making process. What may be considered as the most important premisses in the process of solution of a number of economic and socio-cultural problems. In this connection, it seems reasonable to optimize the traditional fisheries management system by providing and promoting active participation of the Sami people in the local self-government by applying co-management and community-based models.

Thus, the operating mechanism of the traditional fisheries system, presented in Figure 1, can be modified through expanded participation of Indigenous people in the making, implementation and enforcement of the regulation. The Sami Parliament, Sámi General Assembly or other Sami public organisations can play significant role as consultative body within the existing regulative mechanism. Sami organizations and association can be very effective in work to increase participation and influence of Indigenous communities on decision-making process within traditional fishery management. This will contribute to the

further development of fisheries management in the region, the maintenance of the traditional ways of life in the communities, and the protection of fish stocks. It can be a start to adaptation the governing system to needs of the system to be governed (in this case traditional Sami fisheries) and will lead to transformation of these systems in a full-fledged management structure based on co-management governance.

5.3 Different types of adaptation in terms of subsistence or commercial use

Netnographic research of the several online sources reveals a number of problematic issues related to traditional fisheries in Murmansk region, both subsistence and commercial. Some of these issues can be solved by improving the institutional structure with a special focus on traditional institutions.

Annually, the Sami living in the Murmansk region, by the orders of the government, allocate marine quotas for personal consumption on catch salmon, cod, haddock, flounder and herring, as well as quotas for fishing in river and lake. Also, quota is allocated the for commercial fisheries that is carried out on an equal foot with other users. Having a Fishing site, agreement and permission, the community can engage in commercial fishing, sell the catches, and invest income in its own development.

However, due to bureaucratic obstacles caused by the inconsistency of existing legislation and the lack of appropriate institutions, the traditional activities of the Kola Sami are limited to a certain degree. Some of the Sami feels themselves restricting in access to fisheries.

For instance, the members of Indigenous communities in remote areas, such as Krasnoshchelye (a village in the Lovozero district of the Murmansk region), for several reasons, do not have the opportunity to apply for aquatic resources personally. They often give out the authorization to submit applications to their representatives. However, authorization is often incorrectly issued and, together with other shortcomings in applications, this leads to the fact that people do not get access to resources.

Nevertheless, the Sami fishermen often proceed traditional activities for subsistence, as they have no other choice. Those Indigenous people who continue to fish, despite the lack

of permission, automatically become poachers in the eyes of society. Such bias also enhanced also by the effect of the “fake communities”, non-Indigenous groups engage in illegal fishing under the guise of traditional activities. Activity of these groups of illegal fishers created a distorted image of Kola Sami, even those who act according to the rules. This state of affairs inevitably leads to tension in the local community.

The step towards solving the problems of traditional fisheries: a procedure clearly established in the law for the conformity of ethnicity in order to obtain the legal right to engage in traditional activities. However, at the moment the question is still open. Even though there is a formal Sami Registry in the form of a survey among the Sami, reside in the Murmansk region, which has been held since 2006, this is not a mandatory, but voluntary obligation. So it does not have the appropriate legal force. The Sami public organizations can assist in the creation of the Registry. Nevertheless, the legal status and support of the authorities are necessary.

In addition, there is still a rather uncertain issue with the territories of traditional residence, especially with the rights of the Saami living outside these territories. Local authorities who determine these territories may direct the Indigenous Minorities to fish in areas remote from their actual places of residence. These places, defined as the territories of traditional residence, may be located in remote areas that are difficult to access due to lack of infrastructure and roads and where there may be no fish at all.

As for commercial fishing, the situation is also not in favor of the Indigenous peoples of the Kola Peninsula as well. In some cases, the Sami communities are not sufficiently prepared to compete with fishing companies in a tender for access to fishing sites. Thus, fishing areas, where for many years Sami people have been engaged in traditional fishing near their villages, can be transferred to fishing companies as a result of a tender. Since the main criteria are the financial, technological and processing base.

In light of the fact that the traditional lands and fishing grounds of the Sami can theoretically be transferred, through the "auctions", to private companies into the long-term lease, it may be difficult to determine whether the interests of the Sámi are infringed, and their priority right is taken into account. As far as legal norms are observed. Therefore, although the territories of traditional residence are conditionally fixed in the law and on the map, in fact they do not solve the existing problems. Due to the work of Sami public organizations, it was possible to defend the right not to lease the hunting ground to private companies. The hunting

ground, which is located in the Lovozero region, where the Sami traditionally live (*Facebook: Kolasapmi*). But there is no similar decision on fishing grounds yet.

As mentioned above, cod and haddock fishing in the Barents Sea is carried out according to quotas. Quotas are distributed according to the priority access by the Sami. However, it is not perceived as a solution to the problem of traditional Sami fisheries. Due to the lack of fishing vessels, Sami are often forced to transfer (give authorization to the catch) the quota to private companies that have the appropriate equipment for fishing. The same companies are bought up the catch afterwards. Whether the price at which the fish is bought up is market price or not, remains a question.

There is still an urgent problem with the regulation of anadromous fishing. The main problem traditionally associated with salmon fishing is poaching. At the same time, the question often arises as to what kinds of gears and methods can be considered traditional and non-destructive. It often claims that fishing carried out using modern fishing gear should not be considered as a traditional activity. Some people argue that only traditional methods compatible with the sustainable resource use, and this position reflected in the legislation as well. Since the traditional way of life does not imply the presence of freezers, industrial processing equipment and other modern elements.

Nevertheless, we should not forget that we live in the modern world, and no one can be limited in the use of new technologies and innovations, if they do not destroy the environment and do not pose a danger to humans. It is necessary to recognize that many traditional practices change while maintaining their effectiveness and sustainability. They develop, introduce something new, while remaining unique and traditional. This is a natural process to adapt to. Public meeting and creating different arenas for discussions can contribute to the transfer of an alternative image of traditional practices.

In the context of improving the traditional fisheries system, the possibility of partially introducing a working Alaska model in Russia, that is, allowing Indigenous people to fish for their own needs without restrictions, but prohibiting commercial activities, has been widely discussed (Chkanikov 2010). Although it can solve some of the problems associated with subsistence traditional fisheries, the issues related to commercial fisheries, on which the economic development of indigenous communities depends, remain unresolved. The processes of modernization and industrial development of the North inevitably lead to the commercialization of traditional activities and the related problems of regulating new

relations. Traditional activities are transformed, revealing the need for new, adaptive approaches.

Thus, a number of problems remain in the process of solving, the main one being the absence of a working mechanism, which is facilitated by the appropriate institutions for the realization of the rights of the Sami associated with traditional fisheries. Aspects to be paid attention to: procedure for determining fishing areas, conditions for the implementation of quotas, i.e. how this quota will be fished, and how will be organized process of catching, storing, transporting and selling fish.

Now, the functions of traditional institutions in the regulation of fisheries are limited by underlying top-down governance system. In addition, there is general decline in the influence of traditional institutions on the life of the local society. As well as the formation of a modern mixed identity in Sami society, which is associated with other than traditional values, results in that the role of the traditional institutions is considerable neglected.

In terms of subsistence fisheries, some elements of the traditional institution *siida* can be considered as a sustainable and effective alternative to regulation based on strict rules and can be incorporated in management system along with government institutions. Although the *siida* institution no longer exists in its original form, simply because there are no more ancestral lands that the Sámi can freely dispose of, but organizational principle still can be applied in modern resource management. Traditional fishery for family and community subsistence can still be governed by *siida* and distributional principles on which it is based. As mentioned above the traditional institute of *siida* successfully functioned for a long time and performed many economic and organizational functions.

At the same time, commercial Sami fisheries need a different approach, involving completely new modified institutions. Recently, the work of Sami fishermen in the market has been complicated by high competition and bureaucratic obstacles. However, granting of the exclusive rights over land and resources to the Sami may be seen as discrimination against other affected user groups who also depend on fisheries. Therefore, a compromise solution is need to be found.

A new approach to the regulating subsistence and commercial fishery among the Sami should pay special attention to the interaction and dialogue within and between user groups

(especially indigenous / non-indigenous) of the local community. It should also take into account the processes of modernization and the formation of a new mixed identity in the local community.

5.4 Use of LEK/TEK in fisheries management

Previously, the transfer of Sámi traditional knowledge from the older generation to the younger occurs naturally. It was mostly under seasonal migrations, where living in the tundra conditions supposed fishing, hunting and gathering. The children observed the parents work, helped them and at the same time adopted their skills. However, when the Sami were transferred to settled life, the transfer of traditions and knowledge became rather complicated and limited. Now, the preservation and maintaining of traditional knowledge is threatened by lack of the continuity of generations.

Nevertheless, even in a limited form, the traditional Sami knowledge about the environment is still exists and can be applied in the fisheries management system. It contains a comprehensive massive of observations of the environment that are reflected in language, beliefs, narratives and practices. According to Kert (2009) a characteristic feature of the Sami language is the sophisticated gradation of landscape features, for example, there are more than twenty definitions for designating water bodies in the Sami language.

As mentioned earlier, the traditional way of life of the Kola Sami depended on seasonal migrations of reindeer herds. The fish resources have always been extremely important for the Sámi. In summertime, reindeer meat was almost completely replaced by fish. «In winter, the Lapps almost always have deer meat, either fresh, or salty, or dried. In the summer, there can be no talk of meat, as deer are slaughtered only in winter, and the main food is fresh fish, which in turn becomes less frequent in winter and is replaced by salted and dried fish» (Haruzin 1890:90; Kozlov et al. 2008). The seasonal changing food habits, accordingly, influenced traditional practices, particularly fishing.

Traditional community as small society with particular worldview developed a set of attitudes towards nature and its resources based generally on the rules-of-thumb that resulted in system of traditional ecological knowledge. Through the generations, a sustainable approach to the fishery has been maintained in order to provide the community with fish but

does not deplete the stock on which they depended. Within this management system the traditional knowledge was applied to establish the optimal timing and volumes of catch as well as the choice of a fishing sites and fish selection (mesh-size). This TEK-based system has proven its applicability and can be very useful both in terms of sustainability and biological diversity as well as socio-economic development. Thus, attention to the aspects associated with the annual cycle, seasonal migrations can be considered for a more efficient allocation of fishing sites for traditional use and the determination of catch periods.

At the same time, knowledge about the characteristics of places, for example sacred places, is of great importance. Attention to the status of a place classified as sacred is important when developing a regulation. This classification can be considered in order to enhance compliance and avoid resistance to regulations in traditional communities. According to the Sami, fishing on the sacred lakes could be conducted only on certain days of the year and only collectively. For example, for Kamensky Sami the sacred places were lakes Seydozero, Purnach, Yurozero and several lakes north of river Ponoy (Charnolusky 1972). Lake Seydozero (*Сейдъявврь*) is very important for Kola Sami. They believe that Lake Seydozero “calling itself when needed” (*Facebook: Саамы*). Sami never go there just for the sake of tourism or recreation.

So, traditional ecological knowledge, especially aspects associated with seasonal variations in the traditional fishery and classification of place might be taken into account when determining the periods, volumes of the catch and location of the fishing sites. Decisions on traditional fisheries, so that they are effective and achievable, should be made with the participation of Indigenous peoples (for example, community elders) as consultants. For this purpose, it is important to create an arena where the traditional knowledge as well as local knowledge can be discussed in order to assess its usefulness and applicability in fisheries management.

5.5 Enhancement of new adaptive institutions

It is obvious that for successful establishing new adaptive institutions needs an involvement of extended list user groups in the making, implementation and enforcement of

the regulation. Such approach can be very effective in order to ensure consolidated dialogue between stakeholders, better compliance and harmonized application of the rules.

Unfortunately, the traditional institutions of the Sami at the moment do not provide them with a real power, which will allow them to influence the policy making and protect their interests. They are just a subordinate element in the system of government institutions. However, there is a real opportunity for the further development and adaptation of the fishery management system towards adaptive management and community-based models through incorporating of the traditional institutions into the system. The Sami and their communities united in a single strong public association with clear structure and legal status can be included into the governance process, at least as an advisory body and share power in decision-making process with regional authorities.

Today, the Sámi of the Kola Peninsula are full-fledged members of the civil society of the state as a whole and at the same time retain their particular ethnic identity. In some respects, this can cause problems related to the difference between new emerging multiple or mixed identities as for instance members of traditional community and citizen of the municipality, region, state.

In this context, is worth noting that the language assimilation of the Russian Sámi is 50.79%. Thus, half of the Sámi do not speak the Sámi language or know it poorly. However, this circumstance does not prevent them from self-identifying themselves as Sámi. In 2005, 88% of all students surveyed in educational institutions in the village of Lovozero called Russian their native language. The results of a sociological study showed that the Sámi of the village of Lovozero are practically no different from the surrounding nationalities (Semushin 2012). Also growing mixed identities are illustrated by data from demographic studies in the Lovozero region: over the past 10 years in Lovozero, out of 18 marriages, only one was the single-nationality the Sami marriage. (Hiltunen 1990; Kert 2003). As a result, a large group of descendants from inter-ethnic marriages (Sami/non-Sami) arose in the Sami community of the Murmansk region, with the problem of ethnic identity is more or less acute (Bogoyavlenskiy 2008).

These results can confirm that, despite the fact that the Sami people are a separate ethnic group with their own traditions and culture, they are at the same time part of a larger society. So their identity is complex and multifaceted. In this connection, the traditional values of the Sami often come into confrontation with the national values and the unified

values of a globalized world. It is sometimes quite difficult to choose which norms and values, defining the rules, will come first and will influence behavior. These aspects should be considered when developing new institutions or modifying existing ones on basis of new premisses.

Thus, as one of the ways to solve the problems of traditional fisheries, namely local conflicts, we can consider the possibility of creating institutions that promote the formation of a mixed identity, such as regional identity as a resident of the Arctic region. Regionalized Arctic identity is being claimed by institutions and sub-national groups to strengthen their political legitimacy and mobilize people for collective action (Schweitzer, Sköld and Ulturgasheva 2014:131). This type of identity is beyond the ethnic categories. Therefore, it will contribute to alleviate the tensions and further develop dialogue between user groups.

The various boards, forums, suitable platforms for discussions will contribute to development of regional identity. These institutions should ensure equal participation of the representatives of both Indigenous peoples and non-Indigenous residents traditionally live in the region. The new institutions also can be effective in addressing the problem of so-called “fake traditional communities”, which are subject to tension and disrupt the dialogue of cultures.

The creating new institutions, or even an “institutional matrix” (Kirdina 2001), a set of basic formal and informal institutions that meet emerging needs, seems to be the most reasonable. This set of institutions can be based on different value systems but serve a common need for optimal resource management.

In the master thesis have been highlighted some aspects related to traditional institutions based on religion and beliefs of the Sami. Attention to this matters can be seen as useful in terms of creating a coherent system for regulating traditional resource management. Showing respect and attention to the cultural and religious attitudes of the Sami people, which can also be reflected in the fishing regulations, can simplify the implementation of the new regulation and ensure better compliance with the rules. Support from Indigenous groups can facilitate a legitimation for traditional institutions and will contribute to successful incorporating these institutions into the system of local self-government.

Robust local institutions, as systems of organizations, are needed for serve as a forum for dialogue at the local level and at the same time provide individuals with the opportunity to communicate their climes to a higher level. To be effective and to avoid zero-sum conflicts,

these institutions should be based on a co-management model and all local groups who historically lived in these areas, regardless of ethnicity. Nevertheless, new rules and regulations should focus on the interests of those groups that are most dependent on natural resources and vulnerable. Often such groups belong to the Indigenous population.

In Norway, co-management governance implemented through The Fjord Fisheries Board (FFB) which consist of representatives of the both Sámi people and residents of northern counties and serve as «institutional compromise» between different interests (Johnsen, Søreng 2018; Jentoft, Søreng 2017). This approach proved to be successful despite the complexity of multilevel governance.

On basis the Council of Representatives of Indigenous Minorities of the North under the Government of the Murmansk region can be created the body related to special issue traditional fisheries which can serve as an institutional facility for dealing with the most topical and substantial issues of Sami fisheries in the region. With extended participating of representatives of Sami communities and organizations from various localities of the Murmansk region, as well as regional authorities, it might help to come to a consensus through discussion and finalization of the norms.

In the context of the implementation of new institutional model in the Murmansk region, the importance of state support and funding should be noted. In addition, the status of Sámi organizations should be determined in order to better interact with government institutions. So that representatives of these organizations will be heard, and recommendations will be taken into account. In case of Sámi people living in Norway, these aspects were actualized in the consultation agreement between the Sámi parliament and the Norwegian government, signed in 2005, which provide the Sámi parliament a real opportunity of influence on legislation and implementation of the policy related to Sámi issues (Poelzer and Wilson 2014).

Thus, decentralization and innovation are essential aspects of Indigenous self-governance and key to success of traditional fisheries regulation. As the beginning of the implementation of an alternative approach to traditional fisheries regulation in the Murmansk region, an institution (council, board etc.) can be established with participating of representatives of the Sami communities, the local population, fishing companies, tourism and authorities. With the active support and participation of the Federal Agency for Fishery and Sami organizations can be arranged self-control and enforcement activities on regular

basis. It is also important to encourage ongoing consultations and educational activities with the Sami community representatives, especially with support of the elders, in order to increase awareness and counter poaching and engaging in illegal activities. As well is significant to arrange a systematic seminars and meetings to bring relevant information about the rules and regulations to stakeholders.

6 Conclusion and need for future research

6.1 Conclusion

Based on my descriptions of the Sami fisheries, the laws and institutions it seems to be a potential for improvement. To sum up from the discussion my first research question was: Do the formal laws and regulations of fisheries in Russia define a space for local and traditional management of Sami fisheries in the Murmansk region? To this I can say that, theoretically, underlying laws and regulations provides the legal framework for traditional management as aspect of the traditional way of life which should be protected. This is defined in set of legislative acts as for instants Federal Laws “On Territories of Traditional Land Use...”, “On Guarantees of the Rights of Indigenous Peoples of the Russian Federation” as well as “On Basic Principles of Organizing Communities of Indigenous People” etc.

However, practical implementation of this legislation faced to number of problems. Among other things, lack of working mechanism for traditional fisheries management with real participation of Indigenous groups. The role of the traditional institutions of the Sami is still only nominal. They do not provide the Kola Sami with real participation in the decision-making process regarding resource management. Co-management governance represented by occasional arrangements but is not systematic. However, should be noted that, although the possibility for the inclusion of traditional institutions in local government are quite limited, it is still viable.

My second research question was: Does the organizational set-up facilitate local engagement in fisheries management? Well, the existed organizational set-up in some extent complicates the local engagement in fishery management but have a potential to development. It can be achieved by applying innovative approaches and introducing new adaptive institutions. It obvious the readjustment organizational set-up of governance institutions is a complex and time-consuming process due their inherent robust nature. However, some steps may already be taken in order to start the process and at the same time to proceed the dealing with ongoing urgent concerns and matters.

6.2 The future for Sami traditional fisheries management and need for future research

Among the main objectives are the provision of real participation of the traditional communities and Sámi associations in the decision-making process. The dialogue within and between groups living in the region is needed. The synchronization of federal legislation with regional and local as well as international laws will contribute to further development of a consistent policy. The problem of the legitimacy of the participation of non-governmental organizations, especially public organizations of the Kola Sami, still remains, which undoubtedly hampers the development of a consistent co-management model. A significance of the TEK concept already recognized by scientists, but, is still in a little demand in resource management. Therefore, it is necessary to change the entire paradigm in the direction of the new one, within which the institutional integration of traditional knowledge into the resource management system will be enable. This will require more deep insight into how the local management works today. For the Indigenous people of the Kola Peninsula such research can create more opportunities to become a full-fledged actor in resource management.

Given the situation of Indigenous peoples in modern Russia, who are experiencing some socio-economic and cultural problems, it is difficult to talk about the effectiveness or sufficiency of the existing system for regulating traditional fisheries and ability its institutions to deal with wicked problems and make operational decisions. This is another field where research is necessary. The existence of the traditional fisheries management system in Russia clearly illustrates that a unified approach to management problem may not be sufficient.

For the system to function successfully, communication channels for the Indigenous community, at the local level, and the authorities must be available and work in both directions. It is highly relevant to facilitate the interaction between the regional government and the Sami people through appropriate institutions. Most importantly, pay close attention to the processes occurring within local communities. Institutional changes, especially creating new institutions based, in particular, on TEK and traditional values will contribute to increasing the role of local self-government in the decision-making process. Research can play an important role in this respect.

In this master thesis, I tried to primarily draw attention to certain common dimensions related to traditional fisheries of Kola Sami and problems accompanying this activity.

However, this study was limited by lack of direct communication with the Kola Sami. Thus, future interdisciplinary research based on participate observation in the communities can give an in-depth understanding of values system, within which the Sami organize their traditional activity. This can provide new insight to nature of the traditional institution and how they work. Institutional framework as arena for action is complex and flexible system. A synergistic approach is required to recognize and systematize the entire spectrum of interactions between elements, which make it possible to see a whole that is larger than the sum of its parts.

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Appendix

Table 3. Summary table for netnographic material

Sources/Categories	Attitude to traditional fisheries regulation (established institutions are sufficient/ not sufficient)
Status of the Indigenous minority; Register	
saami.forum24.ru	And according to the law, how is nationality determined in our multinational country? The last time, at least. This is where the Sami <i>Register</i> could come in handy!!! But it is like the census results <i>not legitim</i> . I have long said: How can my grandchildren prove that they are Sami? [] That is why the <i>Sami Parliament is needed</i> so that such laws should be prepared <i>jointly</i> with the authorities. (Posted: 20.10.10 20:11)
saami.forum24.ru	My suggestion: to take the issue of the <i>Register</i> at the [The Sami] Congress and, in accordance with the adopted decision, <i>to demand a legislative act</i> . To this document was the basis, the guarantor and protection of ethnicity! (Posted: 09.11.10 23:04)
saami.forum24.ru	The <i>Register</i> of the Sami, the only indigenous people throughout the Kola Peninsula, will streamline issues not only fisheries, but also the use of <i>areas of traditional nature management (TTP)</i> , as well as the creation of <i>relevant regional legislation</i> . (Posted: 06.10.12 21:03)
vk.com/mo_centra_kmns Center of the Peoples of the North" (discussion board)	Where to go in order to issue documents about the fact that you belong to Indigenous small people? (Posted: 09.09.18 08:15) <i>(reply)</i> I asked this question a few years ago, I did not get an answer. (Posted: 09.09.18 08:15)
Accessibility and transparency of the rules; local institutions	
saami.forum24.ru	I understood that mere mortals <i>know nothing about quotas</i> , again it turns out that <i>deadlines</i> are tight, but they are really tight! And people have not yet submitted their application or <i>do not know that they need to do it!</i> If the communities want to move, then let them work, if they are not confident in themselves, then give through the mass media that people themselves can authorise someone to the catch within their quota... (Posted: 09.08.11 22:06)
saami.forum24.ru	Quotas: again the same picture. This is not ours, we are not responsible for it. What are we responsible for, then? Quotas are the most vital. [] About seven hundred people were left without fish. Most of them were refused a quota due to an <i>incorrect application</i> . The <i>social reasons</i> are that the signatures of some people do not agree with the signature on the

	passport, incapable people have signed, i.e. children. The authorization is not correct...(Posted: 09.08.11 22:06)
saami.forum24.ru	[] protesters see another - unofficial reason - the machinations of <i>fishing companies</i> . After all, quotas were largely not received by those Sami who are not members of communities and do not communicate with fishing companies. (Posted: 09.08.11 22:06)
saami.forum24.ru	<i>Residents</i> of the Murmansk region, they envy us that we have a lot of privileges. And what are our privileges? <i>We have no privileges today</i> . (Posted: 09.08.11 22:06)
saami.forum24.ru	So, according to the Russian legislation, all the other Sámi who live not in these places [<i>TTP</i>] are not indigenous peoples? Now there is a difficulty in <i>creating communities in other areas</i> [] What a pity that in other places it is impossible to create communities. As if in other areas do not live Sami. That is, they are driving people on the reservation: <i>where it will be determined</i> , there you will be engaged in traditional activities!!! (Posted: 24.05.10 20:52)
saami.forum24.ru	Of the three laws on indigenous people, only the Community law [On Basic Principles of Organizing Communities...] began to be implemented. But the communities were also confronted with the fact that for the realization of the rights indicated in their law, the elimination of a <i>large layer of gaps</i> existing in the rest of the law is required. And due to the fact that the <i>representation of the indigenous minorities in the authorities</i> , especially in the legislative, is in <i>no way indicated</i> , no one is interested in eliminating these gaps... (Posted: 07.11.10 13:23)
saami.forum24.ru	But the officials apparently decided <i>not to ask the Sami themselves</i> about how and where to determine the fishing grounds and gears. But how can they not know where they traditionally catch fish? So, it turns out that officials of the Murmansk region, as a rule, <i>designate places of traditional fishing in hundreds of kilometres from the place of residence</i> of the Indigenous Minorities. (Posted: 05.07.13 09:31)
saami.forum24.ru	As recommended by the Council, the quota in 2009 was distributed to the communities, but not equally, as recommended. [] Half of the quota was catch by June and 260 people, maybe a little more, received fish. Well, what happened then is unknown. But according to the results of the catching of quotas, the partners did not hand over the fish. Well, those <i>people who wrote the authorization and did not get the fish</i> are offended and complain. Although many people understand that most likely <i>the community was deceived</i> . (Posted: 10.22.10 23:50)
saami.forum24.ru	At this time, <i>Sami organizations</i> perform only a declaratory function. (Posted: 13.08.18 13:46)

Facebook group: Саами (Saami)	[comments on the article: The situation with the fishing rights of indigenous minorities began to be addressed at the federal level] Judging by the preparation of the new rules for fishing, the situation is <i>not solving</i> at all. IMHO. (Posted: 11.02.2019 21:27)
vk.com/lovozerie	This is simply offensive for Lovozero people, deception around, Saami people are deceived with quotas... (Posted: 05.04.2019 21:10)
vk.com/lovozerie	Fishing quotas are allocated. You can go and catch, but you have no right to sell your quota. (Posted: 05.04.2019 22:45)
vk.com/lovozerie	It is necessary to come out with proposals on introducing changes in the improvement of legislation regarding the rights of indigenous people and persons who are not related to KMNS but permanently reside in the places of their traditional residence and traditional economic activities. (Posted: 07.04.2019 23:21)
vk.com/lovozerie	When everything is open, transparent, and with the free and prior consent of the indigenous people, such “complicated” questions will not arise. Personally, I am in favor of dialogue, not division into yours and ours. (Posted: 06.04.2019 09:51)
vk.com/lovozerie	We really pay taxes, we are really trying to develop traditional activities and are looking for appropriate funding. But, we also understand that for some reason, many people don't like “our activities”. (Posted: 06.11.2014 11:51)
Access to fisheries; Local tension; "fake communities"	
saami.forum24.ru	The more indigenous peoples get legal catch rights, the more criminal elements fit into our communities, and we really suffer from this. They cunningly <i>use loopholes in legislation</i> , and there are cases when representatives of peoples from a completely different, southern part of our country, start fishing (Posted: 10/22/10 20:23)
saami.forum24.ru	We agree when they say that there is a problem in the society of the indigenous peoples, when indigenous peoples themselves sometimes <i>admit to their ranks people who are not related to the traditional way of life</i> . For 10 years we have been writing that we need a mechanism for determining nationality, we need to develop certificates for indigenous peoples. (Posted: 22.10.10 20:23)
saami.forum24.ru	Special complaints are caused by the <i>competitive allocation</i> of fishing grounds for implementation, I will call it simpler, traditional fishing and allocating aquatic biological resources <i>to meet personal needs</i> provided on application. [] In addition, we have artificially divided the population into those who have <i>the right to receive quotas</i> fish for their own needs free of charge - these are small indigenous peoples, and for those who do not have such a right - the <i>non-indigenous residents</i> . Although <i>they live in the same conditions</i> . (Posted: 12.02.11 21:21).

saami.forum24.ru	Current legislation so far provides for citizens of Russia practically free and unrestricted fishing for personal consumption. And only representatives of the indigenous and minority peoples of the North have received an "advantage", they must have permission for fishing. (Posted: 28.09.12 01:00)
7x7-journal.ru/post	The proposals of the elected representative body of the Indigenous people of the Murmansk region, the Saami Public Organization of the Murmansk Region, are simply <i>ignored</i> . (Posted: 21.11.14 12:07)
7x7-journal.ru/post	[Union of Russian Saami] will unite ALL Saami organizations into one legally defined structure! that ALL adult Saami through "their" organizations or as individuals were members of the Union! [] they would define how to live, who and what will do! (Posted: 26.11.14 15:05)
7x7-journal.ru/post	Regarding the situation with the quota for salmon [] in fact, it was impossible to catch salmon for everyone, only half of those who had applied and passed "competitive selection." [] repeated visits to BBTU and consultations with specialists throughout July-August did not give a clear picture of what is allowed and what is not allowed, since the law contains twofold formulations, in particular, the question of the development of quotas by set-nets. (Posted: 31.10.12 22:46)
monsaami.livejournal.com	It hurts to look at old people who ask about quotas and fish, but it is not there. Since they have nationality in the passport "lapp" however the old people cannot sign the same way as in the passport 40 years ago. (Posted: 12.08.11 15:01).



Figure2. Operating mechanism for regulating traditional fisheries