

Institutional fragmentation in fisheries management

The case of the North Atlantic Ocean

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Abstract

When speaking in terms of institutional fragmentation in global environmental governance one might rather immediately notice that a certain degree of said fragmentation probably is a perennial characteristic in this context and, arguably, preferable. However, the degree varies rather widely in time, space and issue areas. Fisheries being an example of a relatively high degree of fragmentation, since fishery resources are found under national jurisdiction, in international waters or, as often is the case, in some kind of combination of the two, e.g. under regional agreements.

This thesis will be a case study of the fisheries in the North Atlantic Ocean, being an example of both varying degrees of institutional fragmentation and several collapsed fish stocks. However, institutional fragmentation itself is arguably not a negative phenomenon, but rather the degrees of said fragmentation. It is therefore relevant to ask which parts of fragmentation and which levels of fragmentation could result in overall ineffectiveness of the fisheries management.

Key words: Fisheries, institutional fragmentation, North Atlantic, effectiveness, core norms

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Table of contents

1. Introduction	
1.1 Goal and problem formulation	1
1.2 Thesis structure	3
2. Method	4
2.1 Material	6
3. Theory	
3.1 What is fragmentation?	7
3.2 Governance architectures	8
3.3 Fragmentation of governance architectures	8
3.4 Consequences of fragmentation	10
3.4.1 Speed of reaching agreements.....	11
3.4.2 Level of regulatory ambitions.....	11
3.4.3 Level of participation.....	12
3.4.4 Equity concerns.....	12
4. The case of the North Atlantic	
4.1 Background	13
4.1.1 Overfishing	13
4.1.2 Overcapacity	15
4.1.3 Illegal, unreported and unregulated fishing.....	16
4.2 Regional fisheries management organizations	17
4.2.1 Institutions	17
4.2.2 Actors.....	18
4.2.3 Core norms.....	19
5. Results and discussion	
5.1 Results	22
5.2 Discussion	23
6. Conclusion	24
7. References	25

Table of abbreviations

CITES Convention on the International Trade in Endangered Species

EEZ Exclusive Economic Zone

FAO The Food and Agriculture Organization of the United Nations

ICCAT International Commission for the Conservation of Atlantic Tunas

IUU Illegal, unreported and unregulated fishing

JointFish Joint Norwegian-Russian Fisheries Commission

MSY Maximum Sustainable Yield

NAFO North West Atlantic Fisheries Organization

NASCO North Atlantic Salmon Conservation Organization

NEAFC North East Atlantic Fisheries Commission

RMFO Regional Management Fisheries Organization

TAC Total Allowable Catch

UNCLOS United Nations Convention on the Law of the Sea

UNFSA United Nations Fish Stocks Agreement

1. Introduction

1.1 Goal and problem formulation

Can the ineffectiveness of the fisheries regimes, involving a series of norms, principles and rules being either implicit or explicit, in the North Atlantic Ocean be explained by the institutional fragmentation? This is the question I aim at answering in the presumptive thesis. The institutional phenomenon of fragmentation is a core challenge of modern environmental governance. Seemingly perpetually ongoing legislations, regulations and management has led to a growing level of diversity of institutions and, often in combination, lack of coordination among them. A certain degree is inevitable when governing the global environment and is undoubtedly a perennial characteristic. Nearly all environmental regimes share this trait. However, the degree of institutional fragmentation varies regarding issue area, time and space. There are hardly any consensually accepted, structured, systematic scheme by which a certain environmental issue area can be managed. In contrast, the global environmental system of governance is a complex scene with a number and different sorts of actors, institutions and networks, all interacting in some way or another. While some regimes have a level hardly mentionable, others have high level of institutional fragmentation, fisheries regimes arguably being the best example of that. This is due to the fact that fisheries resources are found under national jurisdiction, in international waters, or as often is the case, in a combination of the two, e.g. governed under a regional agreement. This is the case throughout the world. However, this thesis will focus on the case of the North Atlantic Ocean. In the North Atlantic alone there are three regional organizations, only active in that area. These are the North West Atlantic Fisheries Organization (NAFO), the North East Fisheries Commission (NEAFC) and the North Atlantic Salmon Conservation Organization (NASCO). In addition, there is the International Commission for the Conservation of Atlantic Tunas (ICCAT), active in the whole Atlantic. This thesis, however, will focus on the regional agreements of The North Atlantic. For several years the North Atlantic has struggled with fish stock and vessels rapidly decreasing. Although some has shown signs of recovery, many of the core fish stocks remains at low levels.

Note that I, in this presumptive thesis, in no way take stand for whether or not institutions are to be perceived as the main reason for ineffectiveness in this context. There are believably a number of plausible reasons and naturally these cannot be excluded. I nevertheless aim at analyze if the institutional fragmentation can be assumed as one of these. According to Frank Biermann, Fariborz Zelli, Philipp Pattberg and Harro Van Asselt, a non-fragmented institutional arena has proven impossible to conceive, although being theoretically perceivable. They argue that, when speaking in terms of governance architecture, a meta-level of governance between the concepts of regimes and international order, fragmentation is a common trait among all parts of global politics, environmental or otherwise. However, the degree of fragmentation varies from case to case, in time, space and issue area. The degree can be explained through a scheme, in which the fragmentation can be categorized as synergistic, cooperative or conflictive. When the level of fragmentation can be categorized as synergistic or cooperative, the different institutions, their main norms, in according to which they operate, and different actors are, respectively, largely synchronized. When being conflictive, however, the institutions, norms and actors are largely unsynchronized. Therefore, institutional fragmentation itself does not lead to negative outcomes, but rather the degree of fragmentation.

This thesis will focus on the core norms, being synergistic, cooperative or conflictive, of the different institutions presented above and thus manifest if said part of institutional fragmentation and its consequences are plausible explanations for the ineffectiveness of the fisheries managements in the North Atlantic.

My research question is: *How can institutional fragmentation explain the ineffectiveness of the fisheries management in the North Atlantic Ocean?*

1.2 Thesis structure

Following the method chapter, in which I manifest the methodological considerations relevant for case analyses in general and this case analysis in particular and In order to get an understanding of the subject around which this thesis will be built, I will make an account for the theories, which I have chosen to implement in this thesis. In focus stand Frank Biermann, Fariborz Zelli, Philipp Pattberg and Harro Van Asselt's theories regarding governance architecture. These will also include fragmentation of governance architecture and consequences of fragmentation.

In the section following, I intend to display the ineffectiveness of the fishing in the North Atlantic. When speaking in terms of ineffectiveness in environmental politics, one may of course assume a different interpretation of the word, largely depending on the context in which the research is conducted. Notwithstanding, I will in this context choose to implement a three-parted interpretation of the word, on some levels interdependent; one can arguably not understand one part without the others. These are overfishing, overcapacity and illegal, unreported and unregulated fishing (IUU).

The third section includes official documents of the different institutions and organizations relevant for this thesis, all of which are available for everyone who wishes to take part of them. This is important part of the intersubjectivity, or transparency, that arguably ought to permeate all research, academic or otherwise. The official documents will be studied in the lights of the theories. I thus intend to study the official documents in accordance with the theories regarding institutional nesting, actor constellation and core norms and analyse what levels of fragmentations these parts have reached.

The thesis will be summarized in the last section, in which I compile the results and subsequently conclude them.

2. Method

When implementing an analysis of some sort the importance of being aware that the result partly is a reflection of the method, on which the work is built, can not be highlighted enough. The method of choice is controlled by the empirical phenomenon on which the thesis is built. This thesis is a case study of the North Atlantic and the method is largely based on official documents from various commissions and organizations, as well as literature relevant for the subject. I am aware that large part of nearly all academic research is to have generalizing ambitions, by which we aim at explaining something generally true and to find connections and patterns (Esaiasson 2012, p. 27). However, the consequences of executing a case analysis are that complications regarding the claiming general conclusions may occur. It is, in my case, impossible to prove that all cases of institutional fragmentation result in ineffectiveness in the issue one intend to govern. In my opinion, notwithstanding, it is important to study individual cases. The explanation is twofold. When intending to study using general ambitions, the conclusions as to be applicable on individual cases. Furthermore, it is essential to continue the academic discourse. For no knowledge is born in solitude. The questions and problems on which future research is based do not emerge spontaneously, but through an academic dialogue, sharing and receiving, with earlier research. It is thus required to study something individual in the lights of something general (Teorell & Svensson 2007, p. 40-41).

The level of generalizing ambitions furthermore manifests yet another relationship, namely that between two research ideals and the point on which these two can meet. The first ideal, the so called nomothetic ideal, can be traced back to classic scientific perceptions, in which one intend to identify general rules and mechanisms, that not only determines the terms of nature but also society. In contrast to this perception stands the belief of the possibility of changing the terms, without the interference of a predestined mechanism, on which the second ideal relies. The goal is not necessarily general explanations, but rather understanding and interpretation of the individual phenomenon. However, there is a common ground. If the goal is studying something that generally is the case, the unique and individual events have to be accounted for. Vice versa, it is required to implement general explanations if we are to understand and interpret the individual events (Teorell & Svensson 2007, p. 40-41). This presumptive thesis is no exception.

The ineffectiveness regarding the fisheries in the North Atlantic can, naturally, be responded to in a number of ways. However, it is clear that a causal relation is being studied in this context, by answering the question regarding what has led to the fisheries being ineffective. The only thing we know beforehand, given the current approach, is that the ineffectiveness is the dependent variable. We assume that the ineffectiveness is a result of some phenomenon. What this phenomenon is undoubtedly requires a methodological consideration (Teorell & Svensson 2007, p. 222). Thus, what I intend to do is trace plausible cause mechanisms. This is a crucial moment in a explanatory case study. As previously mentioned, I aim at identifying the central explanatory variable, the independent variable that is, sometimes simply referred to as x , and its properties which affects the dependent variable, sometimes simply referred to as y , and subsequently identify other plausible intermediate variables (Teorell & Svensson 2007, p. 247). It is of course not sufficient to solely conclude that the concept of institutional fragmentation in fact *can* be used to ineffectiveness, but also *why* it can be used. If both these parts are not implemented, the thesis only includes a finding of the cause and not an explanation of the cause (Teorell & Svensson 2007, p. 246).

The case analysis will in this case largely be based on studying official documents, such as convention in the lights of the theories presented. Moreover, I intend to conduct a text analysis of said conventions, focusing on the core norms. By doing so, I will, in accordance with the theories, be able to identify if the core norms are synergistic, cooperative or conflictive and thus be able to answer what sort of effect, positive or negative, it has lead to. The same sort of analysis will be conducted regarding institutional nesting and actor constellation.

When studying institutional nesting I intend to identify the level of incorporation and interdependency between them. This will include studying their respective regulatory area, the geographical area in which the institutions are active, and possible shared management of key fish stocks. This will enable me to later manifest what level of fragmentation the institutional nesting has reached and subsequently analyse possible consequences of the given level of fragmentation.

When studying the actor constellation, I intend to study differences regarding actors possibly supporting different institutions. By doing so, I will be able to analyse the consequences of the level of fragmentation regarding actor constellation.

2.2 Material

The material used in this thesis is largely based on official documents. These documents can in turn be divided into two different categories. First, since I mainly intend to search for core norm conflicts among the Regional Fisheries Management Organizations (RFMOs) active in the North Atlantic, 5 in total, in this context also including the International Commission for the Conservation of Atlantic Tunas (ICCAT), I will study the different conventions and thus conduct a text analysis. When doing so, I am searching for key components in accordance with theories presented above. The key components will be how the different institutions address the problem and subsequently what actions are suggested. This will enable me to study if the core norms of the institutions are synergistic, cooperative or conflictive.

Second, since a large part of this thesis is proving the ineffectiveness of fishing in the North Atlantic, I will study the non-biased performance reviews of the different institutions. This will account for one of three parts of the ineffectiveness of the fisheries. The ineffectiveness will in this context also include overcapacity and illegal, unreported and unregulated (IUU) fishing. However, these are arguably interdependent and are therefore to be studied in the light of each other.

The reasons for basing these parts of official documents are rather simple. First, if a text analysis is to be conducted, as in this case, in order to search for possible norm conflicts, one must rely on first-hand material in order to study the original means of expression and thus avoid any changes that may occur in second-hand sources.

Second, arguably the main reason, all research, naturally including this, should be practiced in accordance with the principle of intersubjectivity. As stated above, the words used in any research ought to have a generally viable meaning and the observations should subsequently be repeatable for others. This need for transparency is hopefully satisfied by the use of official documents, available for anyone with the desire to partake.

3. Theory

3.1 What is fragmentation?

The development of the institutional phenomenon that is fragmentation includes a seemingly perpetually ongoing process of legislation and regulations, resulting in institutions overlapping and often being loosely coupled regarding for example form, constituencies, scope and subject matter (Zürn & Faude 2013, p. 121). This results in a somewhat complex web of institutions and associated norms, laws and principles developed at different times and often including different actors. This is a common occurrence in global governance. Historically, states as well as other actors have cooperated in a range of functional and regional issues, leading to a variety of different independent rules and laws (Young 2009, p. 480). This seemingly more and more rapid development has been particularly manifested in the last two decades (Young 1996, p. 1).

The term fragmentation, often being addressed and managed differently, can also be interpreted by using a different terminology, according to political science professors Michael Zürn and Benjamin Faude. By also applying the theoretical approach of diversification one is able to achieve a large grasp of the number of different case of fragmentation. When implementing this distinction in the discourse, three different types of fragmentation appear. First, segmentary fragmentation manifests that same tasks are often performed in different territories. This is especially the case with regional agreements. Second, stratificatory fragmentation points to institutions often being part of hierarchical relationships, although being geared to the same issue. This is especially the case with the framework conventions and protocols of multilateral environmental agreements. Third, functional fragmentation manifests the contrasting relationship, regarding issue area and measurements, between different kinds of institutions, for example economic versus environmental institutions (Zürn & Faude 2013, p. 120-122).

However, the usage of this theoretical approach does not exclude the possibility of implementing others, for example the theories of governance architecture, manifested further below, perhaps better suited to explain a certain individual case or phenomenon as different forms of fragmentation exists in parallel to each other (Zürn & Faude 2013, p. 123).

3.2 Governance architectures

According to Frank Biermann, Fariborz Zelli, Philipp Pattberg and Harro Van Asselt, governance architectures, by them defined by an overarching structure of various institutions, private and public, that are relevant, active and valid in a certain issue area. Furthermore, architecture can be interpreted as a sort meta-level of governance, a centric/poly-centric perspective. They locate this meta-level between two other concepts regularly used in global environmental discourse: “regimes” and “order”. On the one hand, the concept of architecture is more extensive than the concept of regimes. The reason for that being that architectures allow for analysis of situations of both synergy and conflict between key elements, such as norms and principles, behind different sorts of regimes or institutions. Furthermore it makes studies of these overarching norms and principles, which permeates the various regimes and institutions possible (Biermann *et al* 2009, p. 15-16).

On the other hand, the concept of governance architecture is narrower than the notion of international order, since it takes a specific issue area into account. Although both covering the overarching governance system that goes beyond individual regimes, international order mostly reflects the entire system of international relations, while the concept of architecture focuses on one given issue area. Moreover, the concept of international order is seemingly to be perceived as having a rather optimistic and somewhat naive bias regarding the coherence and coordination of the international system. Architecture, on the other hand, takes a more neutral stand, also taking dysfunctional, non-intended undesirable effects into consideration. Therefore, architecture does not assume a normatively loaded standpoint when interpreting the global order (Biermann *et al* 2009, p. 15-16).

3.3 Fragmentation of governance architectures

Bierman *et al*, together writing about the architecture behind global environmental governance, note that all institutional architectures are fragmented to a certain level. They all contain essential parts or mechanisms hardly integrated or coordinated. However, they note that non-fragmented institutions are hypothetically possible. Architecture can be assumed universally if all concerned countries are part of the same framework; cooperate in the same procedures; and agree on a number of shared commitments. Notwithstanding, this has been proven empirically impossible to achieve (Biermann *et al* 2010, p. 16-17). Instead, institutional fragmentation is a frequently reoccurring phenomenon and key component

in global environmental governance (Biermann *et al* 2010, p. 16). Furthermore, there is a general, overarching architectural design of global environmental governance, described in the table below.

	Synergistic	Cooperative	Conflictive
Institutional nesting	One essential institution often incorporated with others.	Essential institutions with others in some way incorporated.	Different institutions and lack of coordination between them.
Norm conflicts	Important norms of the institutions are synchronized.	Non-conflictive norms.	Core norms are contradictory or otherwise conflictive
Actor constellations	All concerned actors support the same institutions.	Some actors cooperate while still remaining outside the institution.	Major actors support promote different institutions

Table 1 (Biermann *et al* 2010, p. 18)

As stated through the table above, there are mainly three different types or levels of fragmentation. Thus, what matters is in no way the size of the institutions, but rather the synergistic, cooperative or somewhat conflictive nature of the linkage between them. Furthermore, when studying fragmentation, there are three different variables that are taken into consideration. These are institutional nesting, norm conflicts and actor constellation. First, when speaking of institutional nesting there is synergistic fragmentation, when one core institution, with other institutions often being closely integrated, in a detailed and effective way provides principles necessary to regulate or otherwise govern a certain environmental issue area. There is cooperative fragmentation when speaking in terms of a few core institutions, with others loosely integrated. However, when these

institutions are largely unrelated and uncoordinated, the institutional nesting are to viewed as conflictive (Biermann *et al* 2010, p. 18-19).

Second, when speaking of norm conflicts, there is synergistic fragmentation when the core norms, rules and principles of the institutions are closely integrated and synchronized. If it is a case of cooperative fragmentation, the core norms are slightly different, but not conflictive. If the fragmentation, in this regard, is conflictive, the core norms are contradictive and unsynchronized (Biermann *et al* 2010, p. 18-19).

Third, regarding actor constellation, there is synergistic fragmentation when all the relevant and concerned actors support the same institutions. If some major actors choose to remain outside the agreement, although maintaining cooperation, the fragmentation can instead be categorized as cooperative. However, a conflictive level of fragmentation is achieved if the major concerned actors support different institutions (Biermann *et al* 2010, p. 18-19).

3.4 Consequences of fragmentation

Different degrees of fragmentation subsequently result in different results and consequences regarding the performance of governance. High level of integration in governance architecture may in theory guarantee positive outcomes and thus solving the main problem of the given issue area. However, this claim is contested. Frank Biermann, Fariborz Zelli, Philipp Pattberg and Harro Van Asselt, for example, emphasize the potential gains from the existence of several agreements, institutions and approaches within a generally fragmented architecture. Fragmentation, therefore, does not necessarily exclude positive outcomes (Biermann *et al* 2009, p. 24).

Biermann *et al* conceptualize four main aspects of the consequences of synergistic fragmentation on the one hand and conflictive fragmentation on the other hand. These consequences are speed of reaching agreements, the level of regulatory ambition, the level of participation of actors and the equity concerns (Biermann *et al* 2009, p. 24-25).

3.4.1 Speed of reaching agreements

A synergistic form of fragmentation, with one essential institution closely integrated with others, an unambiguous level of membership and highly synchronized norms level or even a cooperative form of fragmentation, with different levels of memberships, loosely integrated institutions and common core norms, may result in faster negotiations and subsequently an increase of the speed by which the agreements enter into force. Fragmentation in its synergistic or cooperative form could therefore theoretically secure a positive outcome of the governance architecture. It is however dubious whether or not high-speed agreements actually improve the performance of the governance architecture. Governance architecture with a cooperative or conflictive degree of fragmentation may produce solutions only suited to the needs of only a few of the concerned actors. The actors could therefore assume a strategy in which they sign agreements in accordance with their interests. Furthermore, if the essential elements of the agreement have not been acceptably resolved, a high-speed agreement may actually counter the overall effectiveness of the governance architecture (Zelli *et al* 2009, p. 26-27).

3.4.2 Level of regulatory ambition

A synergistic or cooperative form of fragmentation, both forms incorporating synchronized and subsequently non-conflictive norms, are likely to increase the incentives and the opportunities for the concerned actors to sign agreements and therefore improve the overall performance of the governance architecture. However, a conflictive form of fragmentation, including contradictive and therefore conflictive core norms, does not necessarily exclude the possibility of gaining positive outcomes. Contrasting, competitive regulatory ambitions may make the development of different solutions in different regulatory contexts possible. This may in turn create an environment in which the highest developed regulatory framework, including norms and principles, will endure. This, notwithstanding, is a utopia, as diversity, regarding the regulatory ambition, does not unite the actors in one coherent and consistent framework and subsequently causes confusion and reducing the overall performance of the governance architecture (Zelli *et al* 2009, p. 27-29).

3.4.3 Level of participation

It is possible that a high degree of fragmentation may reduce the entry costs for actors with the incentive to participate in the given agreement. A synergistic or cooperative degree level of fragmentation could also make circumventing of negotiation stalemates possible among actors that may have been the result of trying to create a universal agreement (Zelli *et al* 2009, p. 30).

However, severe complications may occur as a conflictive level of fragmentation could lead to major actors pulling in opposite directions, creating a deadlock in the agreement. A slightly lower degree of fragmentation, on the other hand, assists the forming of a stable and effective agreement (Zelli *et al* 2009, p. 30).

3.4.4 Equity concerns

A fragmented architecture may make solutions that are designed to better suit the need of an individual region and thus increase equity possible. Some also argue that a high level of fragmentation in international law is the result of accommodating the different interests of the concerned actors. Subsequently, tailored regime designs may better take the interests of the different actors into consideration and gaining a higher level of compliance, thus creating equity and fairness (Zelli *et al* 2009, p. 30-31).

Notwithstanding, equity and fairness is in no way automatically gained by this procedure. Larger and more influential actors may have more bargaining power when creating an agreement. As a result, a high level of fragmentation allows for the major actors to opt for a mechanism in accordance with their individual interests (Zelli *et al* 2009, p. 31).

4. The Case of the North Atlantic

4.1 Background

4.1.1 Overfishing

For several years, the regional fisheries management organizations (RFMOs) of the world have witnessed an overall failure to prevent the exploitation of fisheries and secure responsible and sustainable fishing within the ad hoc design, or soft law, United Nations Convention on the Law of the Sea (UNCLOS) regime (Young 2009, p. 484). This is especially the case in the North Atlantic. Although previously being viewed as an endless resource, a core challenge of today for the community of nations within this region is to allocate and conserve the fish stocks that can be found beyond the Exclusive Economic Zones (EEZs) that are under national jurisdiction of every coastal state. Some of these highly migratory and straddling fish stocks are depleted to a dangerously low level (Limburg & Waldman 2009, p. 955). Even though a majority of the fish stocks are taken within the two hundred mile area of the EEZs, some particularly important fish stocks, such as the cod and the pelagic redfish, straddle these areas as well as the adjacent areas of the high seas. Some fish stocks, such as tuna and swordfish, pass through the high seas and a great number of coastal states each year. All these fish stocks are instead often within the soft law jurisdiction of the RFMOs (Chasek *et al* 2009, p. 237-238).

As for the tuna, the Food and Agriculture Organization (FAO), estimates that the North Atlantic tuna fish stock declined by approximately 80 % between 1970 and 1992 and fluctuated between 21 and 29 % ever since (Boon 2013, p. 1). In 2010 however, the hope for the tunas, particularly the Atlantic Bluefin tuna, continuous survival was temporarily restored as the Convention on the International Trade in Endangered Species (CITES) debated whether or not the Atlantic Bluefin tuna should be transformed from being categorized as seafood to being categorized as wildlife and subsequently be listed as endangered species. Although there was little doubt that the Bluefin tuna met the criteria under CITES the transformation was never completed as many major fishing states, such as Japan and Tunisia, objected it and convinced West African nations and the Arab bloc to object it as well (Boon 2013, p. 5-7). These opposing countries argued that the International Commission for the Conservation of Atlantic Tunas (ICCAT) was able to provide to the necessary mechanisms to manage the tunas. Historically, notwithstanding, the ICCAT has set the Total Allowable Catch

(TAC) to levels contrasting scientific recommendations. Although changing the TAC to recommended levels in 2010, the ICCAT is still unable to avoid illegal, unreported and unregulated fishing (IUU), as the real annual catch is three times higher than the TAC (Boon 2013, p. 6). If the tuna were to be categorized as wildlife, it would be able to enjoy the same protection as the Atlantic sturgeon, categorized as wildlife by CITES (CITES 2013, p. 32).

Regarding the Atlantic cod, managed in particular by the North West Atlantic Fisheries Organized (NAFO), it is divided into three major fish stocks, two of which are currently under moratorium, a complete cease of fishing. The first stock, called Division 2J3KL, has been under moratorium since 1993, with a temporary reopening for Canadian artisanal fishing in 1999. The second fish stock, called Division 3NO, has been under moratorium since 1994. Nevertheless, this particular stock is considered low and shows little signs of improvement. The third fish stock, called Division 3M, was under moratorium between 1994 and 2009, with fisheries reopening in 2010. This fish stock is slowly recovering, although being viewed as low (NAFO 2011, p. 51-52).

Another major species covered by the NAFO is the Greenland Halibut, also managed by the Joint Norwegian-Russian Fisheries Commission (JointFish), which is active in the Norwegian Sea and the Barents Sea, both technically parts of the Atlantic Ocean. The Greenland Halibut is one of the most frequently fished species in the Atlantic. As a result, a rebuilding plan was adopted in 2003 and the biomass stock subsequently increased between 2004 and 2008. Since then, however, the stock biomass is constantly decreasing due to weaker year classes being recruited to the fishery (NAFO 2011, p. 51-52).

The American plaice, a major specie also covered by the NAFO, is divided into two fish stocks, both of which being under moratorium since 1994 respectively 1995. Despite this, both stocks are considered dangerously low and are showing very little signs of improvement (NAFO 2011, p. 51-52).

The pelagic redfish is, due to the specie being categorized as a straddling fish stock, managed both by the NAFO and North East Atlantic Fisheries Commission (NEAFC). However, the view on the status of the stock biomass differs. According to the NAFO, the stock biomass is to be considered healthy and in accordance with its unspecified Maximum Sustainable Yield (MSY) and its Total Allowable Catch (TAC) of 6000 tons (NAFO 2011, p. 51-52). In contrast, the NEAFC estimates that the current stock biomass size is low compared to the levels of the yearly 1990's due to significant IUU catches (NEAFC 2011, p. 25, 28).

Regarding the other major pelagic fisheries covered by the NEAFC, the Atlanto-Scandian herring and the North-East Atlantic mackerel, is the stock biomass status for the two different. The stock biomass of the herring as increased from a historically low level in the 1970's to nowadays being

dramatically improved and having full reproductive capacity. For the mackerel, however, is the status contrasting, although uncertain. The International Council for the Exploration of the Sea (ICES) estimates that the stock has declined since 1992 and that it now is at a never before observed low level (NEAFC 2011, p. 25-26).

For the Rockall haddock, another of the major species managed by the NEAFC, is the exploration rate also unknown but the stock biomass is nevertheless considered to be low, although perhaps recovering slightly since its lowest observed levels in 2002 according to ICES (NEAFC 2011, p. 26). The Atlantic salmon, managed by the North Atlantic Salmon Conservation Organization (NASCO), is, as is the case with some of the important species covered above, highly migratory. Its natural migration areas extend from North America to southern as well as northern Europe and the Norwegian Sea, with main feeding areas in West Greenland. In the North Atlantic, covering all these areas, the known exploitation and nominal catch of wild Atlantic salmon remains at low levels since the time series started in the 1960's, contributing to the salmon having full reproductive capacity. However, the overall indices among the Atlantic salmon have declined and are now at a low level. If this is due to environmental factors rather than IUU fishing is uncertain, but it does contribute to low abundance of wild Atlantic salmon to a historically low level (NASCO 2011, p. 70-72/Limburg & Waldman 2009, p. 960).

4.1.3 Overcapacity

Although overfishing is not modern phenomenon, in fact it can be traced back to the early 1900's, the problems associated with overfishing have become more apparent in the last decades (Hilborn & Hilborn 2012, p. 12). This is due to what is categorized as overcapacity. The modern problem of overcapacity basically includes major fishing states having more fishing vessels and more boats with more advanced technology, contributing to the excessive global fishing (Chasek *et al* 2009, p. 243). The industrial fishing continually diminishes existing fish stocks. This process facilitates by modern fishing techniques, starting with the transition from sail to steam and later high-power boats. Because of this major fishing states are able to, with a never before observed level, allocate and exploit the fishery resources of the high seas much more aggressively (Boon 2013, p. 16-17).

Nowadays, there is a consensus regarding that the increasing number of fishing fleets tied to an increasing number of fishing states, with access to a more advanced technology, have resulted in diminishing commercial fisheries resources on a global scale. Both developing countries and

developed countries are parts of the problem (Villasante & Sumaila 2012, p. 720-721).

4.1.2 Illegal, unreported and unregulated fishing

Illegal, unreported and unregulated (IUU) fishing is a global phenomenon faced by the actors of the management and conservation of fishing resources. IUU fishing includes fishing that in some way violates current laws or regulations enforced by a state or international or regional agreement, catches that are not made in accordance with national or regional authority or fishing that undermines the conservation of marine species and ecosystems. In some areas of the world is the IUU fishing accountable for up to 30 percent of the total catch. The combined annual global economic loss is estimated to be close to \$9 billion. However, since IUU per definition is unreported, the exact number is difficult calculate (Chasek *et al* 2009, p. 243-244).

In 2001, the Food and Agriculture Organization of the United Nations (FAO) and its department of fisheries and aquaculture presented the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IOPA-IUU). This voluntary instrument, in accordance with the FAO Code of Conduct, was, as the name suggests, designed to implement measures to avert and eradicate IUU fishing globally (FAO 2001, p. 1-2).

In 2007, the FAO followed up on non-binding nature of IOPA-IUU and started a process, which were similar to its precursor, with the exception of being legally binding instrument (Chasek *et al* 2009, p. 244).

Notwithstanding, RFMOs still faces complications as a result of IUU fishing. The ICCAT in particular is struggling with IUU fishing. Failure to report catch and collect data regarding the stock biomass hampers their ability to manage and rebuild stocks (Chasek *et al* 2009, p. 243-244). Furthermore, The ICCAT also faces numerous organized criminal activities. The reason is simple. Non-aspiring entrants can engage in these activities in order to secure quick economic gains. On the open market, a Bluefin tuna can be sold at a price close to \$100,000. Subsequently, the estimated real catch of tuna was three times higher than the TAC of 13,500 tons. This in turn leads to inaccurate estimations of stock assessments and quotas. The states engaged in IUU are believed to play a major role in the scarcity of the Atlantic tuna (Boon 2013, p. 6, 16-17).

IUU fishing is also a conceivable factor to stock biomass of North Atlantic being relatively low despite its low exploitation rate (NASCO 2011, p. 71-72).

However, since IUU fishing still is largely undetectable, this is uncertain (Chasek *et al* 2009, p. 244).

Furthermore, IUU fishing is believed to be the major explanation to the NAFO and the NEAFC estimating the stock biomass of pelagic redfish differently (NEAFC 2011, p. 28).

4.2 The Regional Fisheries Management Organizations

4.2.1 Institutions

As previously mentioned, there are three institutions active only in the North Atlantic Ocean. These are the North East Atlantic Fisheries Commission (NEAFC), the North West Atlantic Fisheries Organization (NAFO) and the North Atlantic Salmon Conservation Organization (NASCO). Still, this thesis also includes two other institutions. These are the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Joint Norwegian-Russian Fisheries Commission (JointFish). When studying these together and therefore comparing them to each other, I intend to search for level of incorporation and interdependency between them. This will include studying their respective regulatory area, the geographical area in which the institutions are active, and possible shared management of key fish stocks.

First, the NASCO and the ICCAT, managing the whole North Atlantic respectively the whole Atlantic Ocean, naturally share regulatory area with the other institutions covered in this thesis. Furthermore, the NEAFC share regulatory area with the JointFish as the Norwegian Sea and the Barents Sea are parts of the North Atlantic in general and the North East Atlantic in particular. The NAFO and the NEAFC, however, covering different parts of the North Atlantic, does not share area of competence (NAFO 2004, p. 1; NEAFC 2005, p. 5).

Regarding possible shared management of key fish stocks, for example due to these being straddling or highly migratory, both the NASCO and the ICCAT are independent as they only manage one fish stock each, salmon and tuna, and neither of these are covered by any other of the institutions. Also, the NEAFC does not cover straddling or highly migratory fish stocks in so far as they are covered by any other RFMO (NEAFC 2005, p. 5). Despite claiming this in the convention, the NEAFC share management of the pelagic redfish, being categorized as a straddling fish stock, with the NAFO (NAFO 2011, p.

52). The NAFO, on the other hand, also share management of key fish stocks with the JointFish, both covering the cod and the Greenland halibut.

The level of incorporation and interdependency between the RFMOs are, thus, highly inconsistent, the management of straddling and highly migratory fish stocks being the best example of that. The NEAFC, for example, claims to exclude these fish stocks from their management as far as they are managed by another RFMOs. Yet, they share management of the pelagic redfish with the NAFO. NAFO, on the other hand, share management of the cod and the Greenland halibut with the JointFish, despite JointFish being within the regulatory area of the NEAFC and not the NAFO.

4.2.2 Actors

In this section of studying the RFMOs covered in this thesis I intend to focus on the states concerned by the different agreements. Moreover, I will focus on the actor constellation in the RFMOs and thereafter compare my findings. Naturally, it may be rather difficult to cover all the actors. For example, since the ICCAT covers the entire Atlantic Ocean it includes a great number of member states. Therefore, this section will only include the major states: those with the larger proportions of the combined catches and thus those whose membership status is crucial for the effectiveness of the RFMO in question.

When studying the actor constellation in the different conventions it seems conclusive at first. However, when comparing the conventions of the NEAFC and the NAFO differences regarding supporting actors appear: Canada is not a member of the NEAFC (NEAFC 2005, p. 3). Certainly, it may be in Canada's interest to be a signing member an organization only active in the northern-western part of the Atlantic Ocean rather than an organization only active in the northern-eastern part. However, while countries such as Norway and Russia are members of both the NEAFC and the NAFO, Canada is only a member of the NAFO, although being a cooperative non-member of the NEAFC (NEAFC 2005, p. 3; NAFO 2004, p. vi-vii). Seemingly then, the actor constellation has not reached conflictive levels. However, due to the RFMOs being formed in accordance with the ad hoc design, or soft law, United Nations Convention on the Law of the Sea (UNCLOS), states can opt out of the agreement, making the RFMOs stand on fragile grounds (Borg 2012, p. 114-115).

4.2.3 Norms and objectives

As previously mentioned, there are three RFMOs active only in the North Atlantic. These are the North East Atlantic Fisheries Commission (NEAFC), the North West Atlantic Fisheries Organization (NAFO) and the North Atlantic Salmon Conservation Organization (NASCO). Also included in this thesis is the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Joint Norwegian-Russian Fisheries Commission (JointFish). This section will focus on the norms, being in the spotlights when speaking in terms of institutional fragmentation, of these institutions. Norms will in this context include the main objectives on which the activities of these institutions are built. These two terms will therefore be treated as synonyms. When studying this, I have chosen to work in accordance with three main questions:

1. Do the core norms between the institutions differ?

If so:

2. To what extent do they differ?

If not:

3. To what extent are they similar?

Starting with one of the biggest RFMO of the ones only active in the North Atlantic, covered in this thesis, speaking in terms of the number of member states, the core norm of the NAFO is to:

“Promote the conservation and optimum utilization of the fishery resources of the Northwest Atlantic area within a framework appropriate to the regime of extended Coastal State jurisdiction over fisheries, and accordingly to encourage international cooperation and consultation with respect to these resources.”

(NAFO 2004, p. 1)

Regarding the NEAFC, sharing the management of some straddling fish stocks with the NAFO, the core norms are similar. The main objectives of the NEAFC are namely to:

“Promote the long-term conservation and optimum utilization of the fishery resources of the North-East Atlantic area, and in doing so to safeguard the

marine ecosystems in which the resources occur, and accordingly to encourage international cooperation and consultation with respect to these resources.”

(NEAFC 2005, p. 4)

Being closely related and sharing management of some key straddling fish stocks, for example the pelagic redfish, the NAFO and NEAFC, as seen above, share core norms as they both intend to promote conservation and optimum utilization and they both wish to advocate international cooperation by doing so. One difference, however, between the two is that the NEAFC includes safeguarding the marine ecosystems in their objectives, whereas the NAFO does not.

Worth mentioning is also that the term optimum utilization and what it includes, remains unspecified in the two conventions.

As the Norwegian Sea and the Barents Sea are both included in the NEAFC area of competence, the JointFish and the NEAFC also share some key fish stocks, for example the Greenland halibut. Notwithstanding, the core norms of the two RFMOs differ. While the main objective of the NEAFC is to promote conservation and optimum utilization, the main objective of the JointFish is simply to:

“Provide efficient joint management of the most important fish stocks of both countries, in the Barents Sea and the Norwegian Sea.”

(JointFish)

Although Norway and Russia are both key members of the NEAFC, the Norwegian Sea and the Barents Sea are both parts of the NEAFC area of competence and the JointFish and the NEAFC share management of the Greenland halibut, the main objectives of the two RFMOs are, as stated above, widely contradictory.

The NASCO, covering the entire North Atlantic in their management of the Atlantic salmon, also promotes conservation, as is the case with the NAFO and NEAFC. However, while the two latter promote conservation and optimum utilization, the main objective of the NASCO is to:

“Promote the conservation, restoration, enhancement and rational management of salmon stocks in the North Atlantic Ocean through international co-operation.”

(NASCO)

Regarding the ICCAT, covering the entire Atlantic Ocean in their management of tuna and tuna-like species, the main objectives are stated as following:

“The International Commission for the Conservation of Atlantic Tunas is responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and adjacent seas.”

(ICCAT)

Seemingly, the core norms of the different RFMOs covered in this thesis are similar to some extent. They all, except for the JointFish, wish to promote conservation of the fisheries species covered in their management of their respective area of competence. However, the level of regulatory ambition differs widely, resulting in core norms being contradictory. While the ICCAT simply intends to work for the conservation of tuna, the NASCO promotes conservation, restoration, enhancement and rational management of the Atlantic salmon and the NAFO as well as the NEAFC promotes conservation and optimum utilization. Furthermore, the JointFish and the NASCO both promote management. Notwithstanding, their interpretation of the term management differs somewhat; while the JointFish advocates efficient management, the NASCO advocates rational management.

It is thus clear that all these RFMOs share a common trait regarding the core norms with at least one other RFMO. However, the usage of these norms is inconsistent. Combined then, when studied in the lights of each other, the regulatory ambitions, in accordance to which the fisheries managements are performed, are contradictory.

5. Results and discussion

5.1 Results

This thesis has manifested the institutional fragmentation in the North Atlantic fishing based on three different areas distributed on three different levels, in accordance with the theories developed by Frank Biermann, Fariborz Zelli, Philipp Pattberg and Harro Van Asselt. They define the levels of institutional fragmentation as synergistic, cooperative or conflictive, regarding the institutional nesting, the actor constellation and the core norms. This thesis has focused on the latter. When studied in the lights of each other, with the theories presented above in focus, the usage of core norms are inconsistent; the level of regulatory ambition varies widely. While the ICCAT's main objective is to work for the conservation of tuna, the NASCO promotes conservation, restoration, enhancement and rational management of the Atlantic salmon and the NAFO as well as the NEAFC promotes conservation and optimum utilization. Furthermore, the JointFish and the NASCO both promote management. Notwithstanding, their interpretation of the term management differs; while the JointFish advocates efficient management, the NASCO advocates rational management. It is thus clear that despite all these RFMOs sharing a common trait regarding the core norms with at least one other RFMO, the usage of these core norms are inconsistent. This irregularity in regulatory ambitions has subsequently reached conflictive levels.

However, while the core norms seemingly are conflictive and therefore pulling in opposite directions, the institutional nesting and actor constellation are arguably not. Starting with the institutional nesting, although the interdependency between the RFMO are uneven, the institutional nesting are not to be categorized as conflictive, as some of the institutions share management of some key fish stocks. Regarding the actor constellation, it can probably best be categorized as being on the borderland between synergy and cooperation. This is due to Canada only being a member of the NAFO and not the NEAFC, although being cooperative with the latter. Norway and Russia, on the other hand, are signing members of both these RFMOs. Because of this, the level of fragmentation regarding the actor constellation, arguably, cannot be categorized as conflictive. However, due to them being formed in accordance with a soft law design, the RFMOs does stand on fragile ground regarding actor constellation, as the design allows

the state to opt out of the agreement, potentially affecting the effectiveness. Notwithstanding, the current levels of fragmentation regarding institutional nesting and actor constellation have arguably led to positive consequences of the institutional fragmentation. Therefore, the ineffectiveness of the fisheries management in the North Atlantic cannot be explained by these variables. Be that as it may, the differences regarding core norms among the RFMO, reaching conflictive levels, seemingly pulling in opposite directions, are plausible explanations.

5.2 Discussion

It is plausible that core norms being unsynchronized and contradictive and thus reaching conflictive levels of institutional fragmentation could have negative impacts on the overall effectiveness of the institutions. However, a conflictive form of fragmentation, including contradictive and therefore conflictive core norms, does not necessarily exclude the possibility of gaining positive outcomes. Contrasting and subsequently competitive regulatory ambitions may in fact make the development of different solutions in different regulatory contexts possible. This may in turn create an institutional environment in which the highest developed regulatory framework, including norms and principles, will be lasting. This, nevertheless, is unlikely, as diversity regarding the regulatory ambition does not unite the actors in one coherent and consistent framework and therefore causes confusion and reducing the overall performance of the governance architecture, as seen in the case of the North Atlantic Ocean. It is possible that the regulatory framework within the fisheries management, although currently being incoherent and vague could, through a scenario similar to survival of the fittest, develop to levels of synchronized core norms and thus being synergistic or cooperative. However, the current situation of conflictive core norms is likely to have caused confusion among the concerned actors, thus affecting the overall performance negatively.

The actor constellation and institutional nesting being at synergistic or cooperative levels of the institutional fragmentation are, nevertheless, likely to result in positive consequences. Regarding actor constellation, synergistic or cooperative levels may make circumventing of negotiation stalemates possible. As to institutional nesting, in this case not being conflictive, it is possible that RFMOs sharing management over key fish stocks are possible solutions to the problem of overfishing. However, if the RFMOs sharing the management have unsynchronized, contradictive and thus conflictive core norms, in turn causing confusion, this is unlikely to happen.

6. Conclusion

This thesis has shown that institutional fragmentation itself is in no way necessarily a negative phenomenon. Certain conflictive levels may affect the overall performance and effectiveness of an institution negatively. However, lower degrees of fragmentation, synergistic or cooperative, may in fact lead to positive outcomes. Thus, it is not the institutional fragmentation solely, but rather the degrees of said fragmentation, which affects the overall effectiveness of an institution. I have, in coherence with Frank Biermann, Fariborz Zelli, Philipp Pattberg and Harro Van Asselt, manifested institutional fragmentation in form of institutional nesting, actor constellation and core norms, focusing on the latter, being synergistic, cooperative or conflictive. In the case of the fisheries management in the North Atlantic Ocean, the area of focus in this thesis, the degree of institutional fragmentation varies. Therefore, I intended to research how the institutional fragmentation, core norms in particular, can explain the overall ineffectiveness of the fisheries management, being defined as overfishing, overcapacity and illegal, unreported and unregulated (IUU) fishing. When studied in the lights of each other, with the theories presented above in focus, the usage of core norms are inconsistent; the level of regulatory ambition varies widely. It is thus clear that despite all institutions sharing a common trait regarding the core norms with at least one other institution, as presented above, the usage of these core norms are inconsistent. This irregularity regarding regulatory ambitions has subsequently reached conflictive levels, causing confusion among the concerned actors and therefore affecting the overall performance negatively.

The actor constellation and institutional nesting, being at synergistic or cooperative levels, may result in positive outcomes. For example, institutions sharing management over some key fish stocks may reduce the ineffectiveness. However, if the institutions sharing the management have contradictive or otherwise conflictive core norms, this is not a probable scenario. Modern problems such as overcapacity and illegal, unreported and unregulated may be major factors of the fisheries management being ineffective, the solution to which is in no way found within the current inconsistent and vague regulatory framework.

7. References

- Berg, Simone, 2012. *Conservation on the High Seas*. Cheltenham: Edward Elgar Publishing.
- Biermann, Frank, et al, 2009. "The Fragmentation of Global Governance Architectures: A Framework for Analysis". In: *Global Environmental Politics*, 9 (4), 14-40.
- Biermann, Frank, et al 2010. "The architecture of global climate governance: setting the stage". In Biermann, Frank, Philip Pattberg & Fariborz Zelli (Editors). *Global Climate Governance Beyond 2012: Architecture, Agency and Adaptation*. New York: Cambridge University Press, P. 15-24.
- Boon, Kristen E. "Overfishing of Bluefin Tuna: Incentivizing Inclusive Solutions". In: *University of Louisville Law Review*, 52 (1), 1-38.
- Chasek, Pamela S., et al, 2010. *Global Environmental Politics*. Philadelphia: Westview Press.
- CITES, 2013. *Appendices I, II and III*.
- Esaiasson, Peter, et al, 2012. *Metodpraktikan: Konsten att studera samhälle, individ och marknad*. Stockholm: Norstedts juridik.
- FAO, 2001. *International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*.
- Hilborn, Ray & Ulrike Hilborn, 2012. *Overfishing – What Everyone Needs to Know*. New York: Oxford University Press.
- ICCAT, 2006. *ICCAT Manual*.
- JointFish. *The Fisheries Commission*.
Available: <http://www.jointfish.com/eng/THE-FISHERIES-COMMISSION>
- Limburg, Karin E. & John R. Waldman, 2009. "Dramatic Declines in North Atlantic Diadromous Fishes". In: *BioScience*, 59 (11), 955-965.
- NAFO, 2004. *Convention on the Future Multilateral Cooperation in the Northwest Atlantic Fisheries*.

NAFO, 2011. *Performance Assessment Review*.

NASCO, 2011. *External Performance Review*.

NASCO. *The Convention for the Conservation of Salmon in the North Atlantic Ocean*.

NEAFC, 2011. *Performance Review Panel Report of the North East Atlantic Fisheries Commission*.

NEAFC, 2007. *Convention on the Future Multilateral Cooperation in the North-East Atlantic Fisheries*.

Teorell, Jan & Torsten Svensson, 2007. *Att fråga och att svara*. Malmö: Liber.

Villasante, Sebastian & Ussif Rachid Sumaila, 2010. "Estimating the Effects of Technological Efficiency on the European Fishing Fleet". In: *Marine Policy*, 34, 720-722.

Young, Margaret A., 2009. "Fragmentation or Interaction: The WTO, Fisheries Subsidies, and International Law". In: *World Trade Review*, 8 (4), 477-515.

Young, Oran R., 2006. "Institutional Linkages in International Society: Polar Perspectives". In: *Global Governance* 2, 1-24

Zelli, Fariborz, et al, 2010. "The consequences of fragmented climate governance architecture: a policy appraisal". In Biermann, Frank, Philip Pattberg & Fariborz Zelli (Editors). *Global Climate Governance Beyond 2012: Architecture, Agency and Adaption*. New York: Cambridge University Press, P. 25-34.

Zürn, Michael & Benjamin Faude, 2009. "On Fragmentation, Differentiation and Coordination". In: *Global Environmental Politics*, 13 (3), 119-130.

