

# Chapter 6

## Transferable Quotas in Norwegian Fisheries

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**Abstract** Since 1990, the Norwegian fisheries management system has gradually moved towards a market mode where quotas are bought and sold. The end goal of the system was unclear at the outset and developed incrementally in a way that the fish as opposed to the fisher was of key focus and concern, thus transforming previously open access groundfish fisheries into a closed rights-based system. Norwegian authorities were, however, not willing or able to move fully to a privatized ITQ system. The opposition to such a system was too strong and support for it reluctant at best. Instead, fisheries authorities played a balancing act between resource conservation, economic efficiency and regional distribution. This explains the outcome: an extremely complex system with numerous checks and balances in order to keep the market mechanism under control. How successful has this system been in riding these three horses? How much failure can this system handle before major reforms are necessary?

**Keywords** Individual Transferable Quotas • Norway • Fisheries Governance • Regional distribution • Relational Networks

### 6.1 Introduction

The concept of total allowable catches (TACs) has been introduced so as to reduce fishing pressure globally. Likewise, free and open access to fisheries resources have come to an end, often resulting in common pool fisheries being closed. While these restrictions may have reduced fishing effort and hence pressure on the resources, additional measures such as buy-back programs, gear restrictions and initiatives to combat IUU (Illegal, Unreported and Unregulated) fishing have been necessary to ensure cost-efficient fisheries. Distributional concerns have been addressed in the form of quota arrangements portioning TACs to fishing participants, one of them in the form of individual transferable quotas (ITQs), thus replacing political- or

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administrative-driven allocation of quotas and fishing rights, moving the fisheries governance system instead towards privatization and market control.

This development has placed more importance on economic efficiency and cost-reduction at the expense of the overall well-being of local communities (Ban et al. 2009; Smith et al. 2009; Bromley 2009; Ostrom 1990). Private property rights regimes have also transformed social relations within the fishing population, for example replacing a traditional share system with a capital ownership and wage-labour system (Cardwell and Gear 2013; Høst 2015). Thus, quota management mechanisms are not merely technical instruments but have social and political implications that have not gone unnoticed.

The controversies related to ITQs illustrate the multi-dimensionality of fisheries governance and management and the complex goal structure usually associated with it (Bromley 2009; Pauly 2008). ITQs have become a matter of dispute and perceived by many to be a “neoliberal approach” to fisheries management and governance. Debates around transferable quotas are “often polarized and fuelled more by ideology than reality” (Ecotrust Canada 2009). The debate is as much about the goals of fisheries management and governance as it is about their means. The recent move towards a human rights approach to fisheries management (Allison et al. 2012) involves a broader perspective on fisheries rights and suggests that there are other relevant concerns besides those for biological sustainability and economic efficiency, and that certain market-based quota arrangements may undermine these other rights.

While advocates admit that ITQs are not applicable to all situations and contexts (Lynham et al. 2009), they are being adopted throughout the world and in settings that one would think are not amenable to privatization and marketization of fishing rights. This suggests that ITQs are part of a larger trend that is occurring globally (the penetration of neo-liberalism) where markets and market thinking is seeping into both national and local discourses as to how best to handle problems such as over-fishing, resource degradation, and economic inefficiency. But they are also illustrative of the general tendency to frame and define the problems of fisheries in light of preconceived ideas about what the solution is (Jentoft and Chuenpagdee 2009).

Essentially, fisheries governance is a social mechanism involving the configuration of a set of relationships between natural resources, people, communities, states, and markets. It requires institutionalisation of nature-people-society relations that are partly legal, partly organisational, partly cultural, and partly economic. In democratic settings effective fisheries governance must also be fair, legitimate, and work within administrative structures that are inclusive and transparent.

From a theoretical standpoint, fisheries governance arrangements can be seen as sub-optimal because they will always be modified by a material and political reality in a particular context, namely that of a fishery or a country (Jentoft 2007; Jentoft and Chuenpagdee 2009). This given material and political reality is our starting point for this paper. We analyse how particular market devices, in this case transferable fishing quotas, social processes within the fishing industry, and governance mechanisms such as stakeholder involvement arrangements affect each other. We are particularly interested in the conflict between market and society and whether

market instruments such as transferable fishing quotas have to be antagonistic to communities.

The rest of the paper examines in detail the quota system in Norwegian fisheries management. We ask how the system is designed to secure a broader set of political goals than usually are associated with ITQs. How does the system mitigate the potential conflict between market and society? It should be noted that fisheries management in Norway has its own special history and must be understood within its particular institutional context. This is also how people within the industry always saw it. Quota systems were never perceived as merely a technical instrument. In fact, what characterises the Norwegian quota system is its deliberate effort to cushion some of the negative social impacts, and specifically those regarding regional and social distribution and community well-being. This paper details how this quota system was developed, how it is currently constructed, what steering mechanisms have been put in place, and how successful they have been.

The paper is structured as follows: in the next section, we present the theoretical and methodological framework through which we analyse the Norwegian quota management system; section three highlights the main features of the Norwegian quota system and is followed by an overview of the organizational, technological and managerial development in the Norwegian fishing fleet. In section five, we discuss the possible lessons to be learned from the Norwegian experience.

## 6.2 Theoretical Perspective

Quotas are common in fisheries, agriculture, and in pollution and climate control policy. Transferable Fishing Quotas, which may or may not be allocated to individuals as a property right, and quota markets are seen by economists in particular as the most effective form of adapting fish capture capacity to available resources (Arnason 2008; Hannesson 2004; Gallic 2004). Many scholars use Hardin's (1968) famous theory pertaining to the 'Tragedy of the Commons' as a guiding metaphor for human – resource relationship, and hence conclude that Individual Transferable fishing quotas (ITQs) are necessary tools for an efficient institutional reorganisation aimed at more sustainable resource exploitation. For them, moreover, the solution is the privatization of common resources through use of quotas as devices for creating markets (Callon et al. 2007), which in turn will work to rationalize/optimize the fishing effort used in the fishery.

Others, like Gallic (2004), point out that instruments such as quotas are impacted by the particular organisational frameworks they are embedded in and that outcomes may vary accordingly. Thus, it is only in an imagined world that theories and models can be assumed to work perfectly. In the real world policies based on them can in fact do a lot of harm if they are not sufficiently contextualised, that is adapted to the particular ecological, political, social and cultural environment within which they are supposed to operate. Idealized models and metaphors can be no blueprint for action (Ostrom 1990) but can still be performative. Quota systems cannot just

aim at cautiously changing these particular environments, but most also somehow mirror them while considering their diversities, complexities and dynamics (Kooiman et al. 2005; Bavinck et al. 2013).

In reality, fisheries systems are more or less firmly organized social relationships and activities responding to their social and natural environment. Inevitably, new elements such as quota regulations will interfere with the established order that exists within this network, and consolidate, modify, or radically transform it. The established order will also impact on the nature of the regulatory framework. As within actor-network theory (ANT), fisheries systems are viewed as relational networks between objects without fixed properties, but where the attributes are outcomes of the interactions between the objects (Latour 2005; Holm 2001; Johnsen 2005). Fisheries are neither an empty institutional space, nor a fixed structure immune to agency and change (Ostrom 1990; Jentoft and Mikalsen 2004). Rather, they are a tangle of relationships shaped by institutions such as organizations, laws and regulations that are works in progress but that nonetheless work as instruments for socialization and adaptation. Together fisheries networks form a space where economization tools, socialization instruments and governance modes exist side by side and respond to each other, creating a dynamic process with often unpredictable outcomes. Fisheries management can therefore be seen as a process of cyborgization where natural resources, humans and technology are more or less deliberately woven together in a 'cybernetic' organization (Brattland 2014; Johnsen et al. 2009a, b, 2011), that makes governability possible (Bavinck et al. 2013). The cybernetic character of the fisheries is partly visible in the development of fishing vessels into technologically sophisticated harvesting machines. But cybernetic relationships are more than just technology, they are also characterized by new, formalized and feedback oriented social relations such as quota systems. Quota systems are in this respect instruments that contribute to shaping these relationships and the interactions that they give rise to, but quotas are also impacted by these relationships, institutional frameworks and interactions (Johnsen et al. 2009b; Johnsen 2014). Consequently, although transferable quotas are market devices "cooked up after a certain recipe" (Holm and Nielsen 2007) with a specific agency (Callon et al. 2007), they are not necessarily clearly defined objects with a priori properties. ITQs, like most objects within fisheries, take up forms, with variable ontologies, which mean that they get their ontology through continuous interactive and dialectic production of relations, realities and representations of these realities (Mol 2002; Latour 2005).

ITQs, consistent with ANT, are seen as constructed within a network of relationships. While ITQs have an impact on network relations, the network also gives content, shape and direction to the quota system (Holm and Nielsen 2007). The aim here is to identify what kind of properties the ITQs have assumed within the institutional framework of Norwegian fisheries, and how they have been affected by socialization and cybernetic mechanisms for governance. How have ITQs interacted with, or changed, these mechanisms and does the ITQ system work in the way it is intended to do? We examine the situation when the system was introduced, describe how it was designed and works, and how it interacts with the existing order.

The information used for analysis has been obtained from central government policy documents and through a review of research literature. Other written materials used were newspaper articles, chronicles, and letters to the editors. Official reports and news updates from the Norwegian Parliament and Government and from the Norwegian Fishers' Association were also important sources of information.

### 6.3 Paradigm Shift

Traditionally, a mix of law and the presence of formal organizations have existed so as regulate the influence of market forces in Norwegian fisheries (Hallenstvedt 1982; Holm 1995). Except for deep sea trawling, which has been a licensed fishery since the 1930s, other fisheries were open access until the collapse of the herring fishery in the mid-1960s. From 1964 onwards, declining returns for fishing fleets were countered with subsidies that made it possible for continued open access entry into fisheries and resulted in overcapacity in the fleet. However, restrictions on trawling were introduced based on the idea that capital investments in the fishing fleet, especially by interests outside the fishing sector, had to be limited (Hersoug 2005). The collapse of the herring fishery led to the first general closure of a major Norwegian fishery (Johnsen 2014). While the restrictions on trawling were aimed at protecting coastal fishers against capitalists, the restrictions on purse seining tried to protect the fish from the fishers.

Participation in commercial fishing has been, and still is, free for all Norwegian citizens,<sup>1</sup> but commercial fishing has to be undertaken from a fishing vessel registered in the fishing vessel registry.<sup>2</sup> In addition, the owner has to hold a permit to undertake commercial fishing with a particular vessel. The permit for commercial

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<sup>1</sup>Recreational and subsistence fishing and small scale fishing for sales up to a certain value limit and with a maximum quantity for arctic cod of 1000 kg, are free for all Norwegian citizens/residents who are not registered as professional fishers. Only passive gear can be used and there are limitations on the amount of gear that can be used by a person. Moreover, there might be regulations on different species, seasonal or area regulations that have to be followed. You can also work as a crewmember without being registered in the fishers' register, but will then not earn rights to participate in closed fisheries.

<sup>2</sup>Registered fishers are regarded as self-employed in Norway, which means that they fall under a different tax, pension and social security regime than people who are not self-employed, in addition to their privileges to qualify for access to closed fisheries. While anyone can register at any time, an evaluation takes place at the end of each year to exclude those who have not fulfilled the requirement to be treated as fishers the current year. Those who meet the criteria remain in the register, while persons without fishing activity or with income over a certain level from other sources than fishing, will be excluded from the register and cannot claim to be taxed as a fisher, to have earned pension rights as a fisher or other social benefits for fishers. However, they can re-register if they plan to fish the following year. Persons over the general pension age (67 years) have to register as part-time fishers, due to the fact that their main income (the pension) will be higher than the maximum income allowed for full-time fishers.

fishing with a vessel over 15 m can be issued to any registered fisher who can document that they have fished for at least 3 years. There is no minimum fishing requirement for fishing with a vessel under 15 m. The idea behind the commercial permit is to ensure that the owners of larger fishing vessels are active fishers. This rule was put forward by the Norwegian Fishers' Association during World War II in order to prevent capitalists from buying fishing vessels (Finstad 2014). It was stipulated that fishing vessels should be owned by active fishers in order to secure the latter's independence and control of the means of production. This became a permanent requirement in 1972 with the passing of the so-called Participation Act. Until 1990, all groundfish fisheries in Norway were open access, where each and every person with a registered vessel and a commercial permit could participate. Until the 1990s, the regulatory framework rested on two very different pillars: fishers' freedom, and protection of fishers against capital interests. With the 1990 reform the protection of resources against fishers came in as a third pillar.

In Norway the first measure aimed at general limited access and Individual Vessel Quotas (IVQs) was the license system, which was introduced in 1973 for the herring fisheries (Gullestad et al. 2014). By then, the herring stock had nearly been decimated and rarely migrated beyond the 12 mile (22.2 km) national fisheries zone, and hence remained under the jurisdiction of the national government (Hersoug 2005). However, the herring fishery was still seen as an exception to the rule, and open access principles still dominated Norwegian fisheries (Holm et al. 2000). Apart from the herring stock, all other fisheries resources exploited by Norwegian fishers were beyond the territorial boundaries of the nation and could be fished by anyone. In 1976, the joint Norwegian – Soviet fisheries commission for management of shared resources was established, and from 1977 the 200 nm EEZ came into effect. Hence, from 1977, the Norwegian fish resources came under national jurisdiction or joint jurisdiction with our neighbours, making it possible to establish a more effective governance regime. Most of the resources are in fact under joint jurisdiction. However, the real change came after the collapse of the north-east arctic cod stock (*Gadus morhua*) at the end of the 1980s. This collapse brought to an end both the open access regime and the subsidy scheme in Norwegian fisheries (Gullestad et al. 2014).

## 6.4 The Quota System: Basic Principles

On April 18, 1989, the Norwegian Fisheries Directorate decided to close the North-east Arctic cod fishery due to the alarmingly poor condition of the cod stock as reported by the Institute of Marine Research. The Directorate's decision took people in the fishing industry by surprise (Jentoft 1993). For 2 years, cod had not been as abundant as usual along the Norwegian coast, and many small-scale coastal vessels were unable to benefit from this commercially important stock. The Directorate's action, well-intended or not, was, in fact, too late (Holm and Nielsen 2007; Finstad et al. 2012). Fishers raged. While few questioned the need for regulation of the

following year's fishery, the question was how it should be done? In the debate that followed, time closures, closed seasons, gear restrictions and gear quotas, regional quotas, maximum quotas and individual vessel quotas (IVQs) were proposed. These alternatives were presented to the Regulatory Council (RC), an advisory committee chaired by the Fisheries Director with representatives from industry and the authorities (Mikalsen and Jentoft 2003). Regional quotas were seen as inconsistent with common ownership of resources, while gear quotas were seen as adverse for the coastal fleet, which traditionally had switched between different gear types from one season to the next (Reguleringsrådet (RC) 1989). The solution proposed by the RC involved a mix between use of vessel- and group quotas, with other measures like closed seasons, technical regulations and time closures suggested as more flexible instruments that could be used in particular situations. Over the next couple of decades, the system was amended several times. Today the regulation system rests on the following main pillars.

The need for allocating the Total Allowable Catch (TAC) between trawlers and conventional<sup>3</sup> vessels. Since the 1930s, trawlers have been the licensed group in cod fisheries, with a privileged right to fish cod<sup>4</sup>, haddock and saithe with trawl nets, but with no right to shift to other gears. Since 1976, trawlers have been limited by IVQs for the different species (White Paper (St.meld.) nr. 93 (1982–83)). Although in the past and more recently during the 1990 crisis, many coastal fishermen wanted to ban trawling altogether, the government and the processing industry viewed trawlers as an important part of the fishing fleet that could compensate for the fluctuating landings of the coastal fleet. In addition, in some fisheries dependent areas in Norway such as Finnmark County, the processing industry depended primarily on trawler landings. This later became the rationale behind the significant allocation of quotas to trawlers, popularly known as “the Trawl Ladder” (Hersoug 2005; Standal and Hersoug 2015), which was determined in negotiations between the Norwegian Fishermen's Association, representatives from the trawling industry, and conventional gear fishers. The fisheries in Norway are mostly targeted towards single species and bycatch is not a big problem. When there is bycatch is a problem, bycatch either has to be covered for through the vessels ordinary quotas or through a system with allowed percentages of bycatch. Discards are banned and selection devices are mandatory. A system for real time closures are in place. The skipper is responsible for following the bycatch regulations in the different fisheries (for more about bycatch and discard see Johnsen and Eliassen 2011). A guaranteed IVQ for coastal vessels that had caught more than a prescribed minimum of cod, in one of the 3 years immediately prior to 1989, thus indicating a dependency on cod. Annual

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<sup>3</sup>In the Norwegian fishing regulations, all kinds of fishing gear except trawl and purse seine are regarded as conventional fishing gear. Purse seine is banned in Norwegian cod and haddock fisheries.

<sup>4</sup>The Norwegian society owns the living marine resources in Norway and the Parliament has given the State the responsibility to manage the marine resources for the benefit of the Society. The Marine Resources Act states that commercial fishing is illegal without a licence or a permit. Thus, a fishing right in Norway is not a property right, but a limited privilege given on certain conditions for commercial exploitation of fish resources. See also footnote 9.

permits are given for the right to fish, tied to a particular vessel. The quota allocated to that vessel is based on the vessel length. The permit holder has to be a full-time fisher, or a legal entity like a company. In practice, a permit and participation in the fishery for a year qualifies a fisher to get a new permit and quota the next year as long as the holder meets the criteria and the resource situation allows for it (Standal and Hersoug 2014).

A limited maximum (competition) quota for fishers who do not qualify for a participation permit in the closed group. This is in principle open for all registered fishers with registered fishing vessels under 11 m of length who do not have an IVQ (Jentoft and Johnsen 2015).

In 2003 the Parliament approved a new structural policy to reduce fishing capacity. This policy was revised in 2008 when the government changed. The structural policy institutionalised regional markets for fish quotas.

Hence, in principle fishing rights (in form of licences and permits) have not been tradable commodities in Norway. They have been transferred through administrative decisions by the fisheries authorities in accordance with formal rules strongly supported by the Norwegian Fishers' Association (NFA). However, in practice, the system worked different. Because the rights would be reissued as long as the new owner was qualified, the price of the boat would be lower if the seller chose to keep the rights. Thus, in practice, the rights were traded when vessels were bought and sold, thus inflating the price of the vessel to the extent that the real value shifting hands is related to the fishing rights and not the vessel. The market forces played a role. Moreover, the NFA has changed its official view in line with this evolving practice and is now in favour of a bounded transferability of quotas related to fishing vessel transactions. Thus the structural policy introduced in 2008 formally institutionalised the previously informal use of market forces as a capacity reduction measure. This can be seen as a break with the administrative and institutional perspective that had dominated Norwegian fisheries policy in the past. The following section takes a closer look at how this became possible.

## 6.5 Quota Transactions

When a vessel is replaced, it is usually sold or decommissioned. The owner(s) applies to the authorities to transfer the licence (and fishing rights) to a new vessel, which can be purchased or built anew. The old vessel must then be moved out of the fishery while the new one enters, all within a defined period of time varying from case to case. Additionally, the owner must apply for a new permit for commercial fishing for the replacement vessel, a permit that is mandatory for all types of fishing regardless of the particular fishery. Issuing of the permit is an administrative routine and the permit will normally be given without any objection if the owner and the vessel fulfil some standard criteria, for instance regarding participation and capability. Fishing licences, on the other hand, regulate access to particular fisheries. In



closed fisheries they are normally only available when fishers decide to sell and exit the fisheries.

### 6.5.1 *Off-shore Fishing*

In the licensed off-shore fisheries (trawling and purse seining), it became standard practice that vessels could be sold with the licence (and the corresponding IVQ). Formally, the licence was revoked by the fisheries authorities and reissued to the new owner, who both had to apply for a new commercial permit and reregister the vessel and apply for the new licence in the closed fishery. In practice, as long as the new owner met the criteria for participation in the particular fishery, he would not be denied a license in the closed fishery. Even if the licence formally was withdrawn and reissued, it was in practice a transfer of the right to a new owner. This system, however, could not control fishing capacity, but only ownership transfer and, therefore, other measures were needed. Due to a rather limited market<sup>5</sup> in the purse seining sector, the transfer of licenses resulted in the spatial concentration of vessels in two Norwegian counties (Hersoug 1985). Moreover, after the licensing of the off-shore purse seining fleet in 1973, and as a measure to reduce the capacity of this fleet, owners with two vessels were allowed to merge licences on a permanent basis, on the condition that they decommissioned one of their vessels. Consequently, a market for merged licenses and fishing vessels emerged, and as a consequence the number of active units decreased.

In off-shore trawling, merging of licences was allowed only in prawn trawling. However, in 1990, due to the collapse of the cod fishery a limited unit quota system (UQ) was established as a capacity reducing measure for the fresh and frozen/factory offshore cod trawlers. The UQ system divided the trawler TAC into a number of quota factors based on the number of trawlers in the group that had quotas the previous year.<sup>6</sup> The quota factor of a vessel is the vessel's share of the total group of vessel's share of the TAC. The system allowed the transfer of quota factors from one vessel to another, as long they belonged to the same owner and the same vessel group. Vessels without quotas had to be removed from the fishery and the owner could keep the transferred quota factor for 13 years before they were redistributed to all the vessels in the group. If a vessel was decommissioned, the owner could keep the transferred quota for 18 years. To avoid over-concentration of quotas, an upper limit was set on the number of quota factors that each vessel could hold (1.5

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<sup>5</sup>One of the reasons that the markets for trawlers and purse seiners were limited was that the buyers had to be fishers and that only a small number of fishers actually had the necessary financial strength to buy a vessel and to pay for the licence in addition.

<sup>6</sup>Quota factors are today a cornerstone in the Norwegian management system that rests on long term allocation keys. Each vessel group in closed fisheries has a limited number of quota factors that are distributed to the vessels based on length. Thus the individual vessel does not have a quota, but a quota factor that gives a specific quota at certain TAC-levels. The basic quota factors the vessels are given on basis of length (and gear) is in practice a permanent right.

for a small trawler and 2.0 for larger trawlers). Quotas could not be traded from small trawlers to factory trawlers and vice versa: trades had to take place in the same vessel group.

The system was extended gradually to include all trawlers. A similar system was also introduced in off-shore purse seining. The purse seining fisheries had one market and also limits on the number of quota factor that one vessel could hold. Compared to the earlier practice in which licenses could be traded, now quota factors could be traded. Although the UQ system reduced the number of vessels, technological changes contributed to an increase in the actual capture capacity because the quota factors usually were transferred from older and less effective to newer and more effective vessels (Standal and Aarset 2008).<sup>7</sup> In principle and in practice, trawlers and purse seiners now had an ITQ system.

### **6.5.2 *Inshore Fisheries***

In 1991, based on the need for further capacity reduction in the cod sector, the Fisheries Ministry proposed an ITQ system as the basic model for rights allocation in Norway. With the negative Icelandic ITQ experience fresh in their mind, a huge majority among the fishers and their organisations, however, rejected ITQs for the coastal fleet. Instead, as mentioned above, a non-transferable IVQ system was established with support from NFA. In practice, the coastal fleet adopted similar principles to those that the off-shore fleet had institutionalized: quotas could not be sold directly but could be sold indirectly by way of selling the vessel. Consequently, in the 1990s a market for quotas developed in the coastal fleet segment.

### **6.5.3 *The Structural Quota System***

In 2003, the Ministry proposed the “Structural Quota System” (SQS) as a legal framework for formalising ITQs in the coastal groundfish fisheries. This time the NFA was in favour of the change. The SQS entered into force in 2004, and from 2005 the UQ system in the offshore fleet was replaced by a new SQS. In the new SQS, the offshore fleet were permitted to keep their structure quotas. When the government changed, the whole system was revised and legally amended in 2007 by the Parliament (NOU/Official Norwegian reports 2006: 16; White Paper (St. meld) nr. 21 (2006–2007)).

In short, an offshore fleet owner of a licensed vessel can buy another vessel, transfer the quota factors from one vessel to the other, decommission the second vessel and keep the transferred quota factors for 20 years in addition to the basic

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<sup>7</sup>The system is even more detailed than we have described, merging of licences have been allowed for some vessel groups in period, in combination with the UQ system.

quota factors the vessel holds. If the transaction took place before 2007, the quota factor can be kept for 25 years. The vessel owner can buy and transfer quota factors only up to a certain limit (in 2015 the limit was four quota factors). If an owner has more quota factors than he can fish with his active vessels, he can apply for a permit to split the factors so as to sell them to others. Once the 20 year period is over, the quota factors go back to the group and are redistributed on a permanent basis to the remaining vessels in the group. All vessels in the group will get more quota factors. The same can in principle happen if an owner goes bankrupt or if a vessel sinks and the owner is not able to replace the vessel.

In the licensed offshore fleet there is one national market with regional boundaries and restrictions (Standal and Hersoug 2014). Quota factors cannot be transferred from a trawler registered in the three northernmost counties to a trawler registered in southern Norway. Likewise, in purse seining there will always be a certain curtailment of the quota factors depending upon which county they are transferred to. This measure is intended to limit regional concentration of fishing capacity and operations.

For Coastal Vessels (With a Hold Capacity Under 500 GT) participation permits and quota factors are distributed to groups based on the length of the vessels, starting with 11 m vessel groups and ranging up to vessels with a holding capacity of 500 tons. Each group has a certain number of quota factors that are distributed between the vessels. To avoid large vessels from outcompeting smaller vessels, the SQ can only be transferred between vessels in the same length group. Vessels might be longer or shorter than the actual length group they belong to because the length group is defined on the basis of the public warranted length (in Norwegian *hjemmelslengde*) that the vessel had on a certain cut-off date. Prior to 2007 it was possible to increase a vessel's quota by increasing the length of the vessel before a specified cut off day (usually November 1). The groups are based on authorized lengths (the quota factors were fixed for the groups). For vessels longer than 15 m and beyond the following rules apply. When a vessel is bought the buyer can keep 80% of the quota factors as SQ that can be fished in addition to the basic quota. The remaining 20% goes back to the group so that all vessels in that group benefit from the restructuring. The SQs can be kept for 20 years. The Norwegian Parliament will in the fall 2017 decide what will happen with the SQs after 20 years.

Quota factors in the pelagic fisheries (herring, mackerel) can be transferred across county borders, while factors in the groundfish sector cannot be transferred from the three northernmost counties in Norway to the south and vice versa. Vessels that are longer than 15 m can have a maximum of two SQs in addition to their basic quota factor in a fishery. For vessels under 15 m in length, the system is basically the same, but with a maximum of one SQ in each fishery in addition to the basic quota factor.<sup>8</sup>

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<sup>8</sup> Until 2015, quota transfer has only been allowed between vessels owned by the same owner. Consequently, if a vessel holds licences in different fisheries and the owner wants to sell out from one fishery, but to continue in the other fisheries, a complicated procedure involving applications for permits for sale, quota transfer and resale must be conducted. From 2015 it will not any longer

## 6.6 Discussion

The starting points of our analysis are the fundamental changes that the Norwegian fishing industry and governance system have gone through since the first serious resource collapse of a fish stock in the late 1960s when the Atlanto-Scandic herring stock (*Clupea harengus*) collapsed and the subsequent collapse of cod stocks in late 1980. The changes that took place after the collapse, such as closures, introduction of quotas, and so on, signalled the beginning of a partly “invisible” resource management revolution that contributed to a restructuring and reorganization of technical, political, social and cultural relationships of the Norwegian fisheries sector (Holm 2001; Johnsen et al. 2009a; Johnsen 2005).

As we have illustrated in earlier sections, the Norwegian quota management system is complex and intricate, and requires a highly technically competent bureaucracy to monitor, manage, and amend. A common witticism in fisheries circles goes as follows: “Rumours say that only two persons, the Fisheries Director (in Bergen) and God (in Heaven), know all the details about the quota system but that God is now giving up!” The reason that the quota system is so complex is because it was not established with defined goals and procedures at a specific point of time, but rather developed gradually and incrementally, often in response to crisis, and legitimized as a much needed and rational reform. There was at the outset strong resistance, even within the Norwegian Fishers’ Association, to adopting an Icelandic type model. When the quota system was introduced in 1990, it was perceived as a preliminary arrangement that would be abolished when the crisis subsided. By the time the crisis subsided, people within the industry had changed their mind about the system.

The system therefore remained and matured through a process of path dependency. Learning by feedback through broad participation of fisher stakeholders, most prominently the Norwegian Fishers’ Association, led to further fine-tuning. However, fundamental change and redistribution of quotas between different user groups was difficult. Thus, the principles that were laid down in 1990 are basically still intact after more than 20 years. It took a while for the government to admit (which happened around 2008) that the system was indeed an ITQ system. Quotas became the real commodity, not vessels, as the changes in the participation act actually suggest. The use of the market made it possible to reduce fishing overcapacity, but there has been an attempt to regulate market forces in such a way that there are several markets based on region, vessel size and gear and license type. Moreover, there are limits to how many quota factors can be merged on one vessel.

The system has now been consolidated and institutionally entrenched, and is therefore unlikely to undergo radical change in the near future. Managers and fish-

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be required that the vessels have the same owner. Two individual owners can together own a vessel after one of them applies to the authorities to be allowed to form an agreement about quota transfer without selling vessels.

ermen have been disciplined to act as co-producers and be responsible, and mutually committed to the present quota system (Johnsen and Vik 2013). The system by and large enjoys support of the Norwegian Fishers' Association, and the general public because it is perceived as having "saved" the cod stock from collapsing. Critical but scattered voices are heard in the media and academic community, largely because the system is seen to have led to geographical concentration of fishing capacity or the de facto privatisation of quota rights. This is seen subsequently to lead to wealth accumulation within a dwindling fishing population. These voices of protest, however, have found it difficult to convince others that the system is in pressing need of reform.

The incremental development of the quota system has meant that market forces have been gradually released in Norwegian fisheries. Nonetheless, there was a need also to curb these forces in order to secure certain regional demands and to maintain a small-scale livelihoods fishery. However, there is continuous pressure to free the market and remove restrictions in the way of creating a one quota market. This may favour the financially strongest companies, but also, according to conventional resource economics, may produce the foundations of a resource tax system (NOU (Green Paper) 2014:16).

For this to happen, the Norwegian system will have to be redesigned as it will compromise regional allocations. One important aim should be to secure the public ownership of fisheries resources, which is stated to be a basic principle of the 2008 Ocean Resources Act. It is for this reason that the time limit on quotas is instituted as part of the regulatory system. Quota rights in Norway are not allocated as private property but as a privileged entitlement of individual vessel owners.<sup>9</sup> Thus, the quota system is the result of a balancing act between different but conflicting concerns: resource utilization and conservation, economic efficiency and individual user-profitability through capacity reduction, and regional distribution by means of restrictions on transactions. The system seems to have succeeded in terms of resources management as most Norwegian resources are in a good shape. In terms of profitability the system has also been successful as profit margins have increased on average while the capture capacity has been reduced. Whether increased profitability is also due to other factors, such as an increasing TAC, is another matter.

Fleet distribution between counties has been relatively stable despite the reduction in the numbers of vessels, while the increased concentration of quotas within counties has meant that some fishing municipalities have benefited at the expense of others in accordance with quota system limitations that allow transactions to occur within but not between counties. However, the system has led to a significant decrease in numbers employed in the industry. In fact, since 2000, the number of

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<sup>9</sup>In a verdict of 23.October 2013, The Supreme Court of Norway ruled that fish resources are publicly owned and that fishing permits and quotas are not perpetual. Consequently, holders of fishing rights have to accept that, after proper procedures, political organs have competence to change the rules of the game. (<http://www.domstol.no/upload/HRET/saknr2012-1548> (plenum) pdf. Accessed 8.2.2015.

fishers in Norway has been halved (Johnsen et al. 2013). Some might consider this as collateral damage, unfortunate but unavoidable, and that the alternative would have been worse, namely a bankrupt fishing industry. Whether that would have been the case, however, is a matter of dispute and frequently debated within the media. It is for instance often argued that the path dependency of adapting this system has left Norway with fewer options than would have been available if it had followed a different route. However, given technological capacity development and fishers' eagerness to invest, there was a fear that an open access system would have ruined the resource base, while a completely unregulated market based system would have privatized resources and concentrated wealth in a few regions. Thus, the system has tried to navigate between two "evils". The outcome is a new system in which the social and cultural constitution of fisheries employment systems has changed from being intimately connected to local communities to one of professional sector networks extending far beyond them (Vik et al. 2011; Sønvisen et al. 2011). Crew used to be recruited locally, and were typically family and kin. Now, particularly in the large-scale sector, crew come from distant regions both within and outside Norway (Sønvisen et al. 2011), as is also the case in other Scandinavian countries such as Denmark (Høst 2015). Vessel size has increased and gear and other fish-finding technology is as modern as can be. Fisheries in Norway are highly organized with the Norwegian Fishermens' Association playing a new professional (as opposed to informal) role aimed primarily at looking out for the economic interests of its fishers (Mikalsen et al. 2007). Indeed, the "disenchantment of the world" that Max Weber wrote about and feared has arrived in Norwegian fisheries (cf. Linke and Jentoft 2013).

This brief explanation of the Norwegian fisheries quota system illustrates that the government and industry saw it as a collaborative way to tame and control market forces. How successful it has been depends on whose perspective one emphasizes and what and whose concerns are given priority. Compared to most other countries that have walked this razor edge, Norway has done well. Norwegian fisheries are not in a resource and economic crisis, and government is largely living up to its international commitments vis-à-vis FAO's Conduct for Responsible Fisheries (Pitcher et al. 2009). But the system has its winners and losers, and the future of scattered coastal communities remains uncertain. Young people are migrating out, something that is likely to continue. However, the quota system cannot take the blame for all that is happening to these communities. The quota system has no doubt made entry into the fisheries more cumbersome and expensive, as quotas come at a high price. But the industry has in periods faced a fierce competition from a booming offshore oil industry and a related maritime service sector whose salaries far outweigh those in fisheries (Johnsen and Vik 2013). For the moment (2015), the competition is quite low because the unemployment in the oil- and gas related industries are now increasing, due to lower oil prices. Oil and gas exploration, aquaculture and other types of industries that permanently occupy ocean space also compete with the fishing industry about ocean space, but so far this have not constrained the Norwegian fishing industry too much. Nonetheless, for those who remain in the

fisheries, the situation is quite lucrative (Johnsen and Vik 2013). The challenge these fishers face is finding young recruits.

The Norwegian fisheries industry and its governance structure looks better from afar than from close up. There are negative social and cultural impacts that are not visible unless one goes into these communities and studies how they have tried to adapt. Such impacts are usually not factored into profit-loss calculations. The real costs that the fisheries sector worries about are those related to financing an increasing debt-burden that the quota system has led to, which has made the fleet more vulnerable to market price fluctuations for the export of fish products (Trondsen 2013).

Some critics claim that the Norwegian system is a mix of the worst of the market system and the worst of a planned system (cf. Hersoug 2005). Others take the opposite view, namely that a mixed market-based quota system helps society and made Norwegian fisheries a lucrative industry for Norway as a whole, ridding it of the previously heavily subsidized industry. Norway has avoided what both parties see as the worst scenario: the Icelandic and EU experience.

The pressure to continuously reform the system will remain given the importance of Norwegian fisheries to the nation and local communities. Currently, there is pressure to abolish the restriction on vessels under 11 m from participating in the TQ system. On the other hand, in the last Seafood report presented by the Ministry to Parliament, the idea of reversing the quota right (reversionary right) is mentioned (in Norwegian: *hjemfallsrett*) (White Paper (Meld. St.) 22 (2012–2013)). This would mean that one could once again dispose of one's right when the allotted time is up. A reversionary right emphasizes the collective nature of fisheries resources as opposed to rights being fully privatized. If such a revisionary right is introduced again, it would also be aimed at regional dispersion. Any reconsideration of vessel size restrictions or reversionary rights would require radical change.

Major institutional reform in Norwegian fisheries has always been triggered by some crisis that delegitimizes the current order and begs for a new one. Currently, no such crisis exists and hence there is no demand for reform in the industry. Since 1990 when the principles for the current quota system were laid down, the Norwegian fisheries management system has been adaptive in nature. As long as the state of the resource and the economic situation in the industry remain relatively healthy, as now, and the people leaving the fishing industry and their home communities have alternative employment or the welfare state to rely on, there is little reason to expect any major overhaul to the system unless the politics of a new government necessitates it.

## 6.7 Conclusion

The more or less continuous and incremental evolution of the Norwegian fisheries quota system over several decades reflects a political process where multiple stakeholders and shifting governments all leave their marks. It is hard to predict

what direction this process will take even if the general trend is clear. Different instruments such as technical regulations, quotas and market mechanisms have been introduced as means to fine-tune the system in order to improve governability within a given overall TAC that has clearly defined economic and social goals. However, over time these instruments have structured, disciplined and regulated the actors within the system, namely the fish, fishers and managers, towards certain actions and outcomes (Johnsen et al. 2009a). System relations have become increasingly cybernetic, with feedback and response mechanisms structuring interactions in accordance with what the governing system defines as rational, efficient and economic (Johnsen 2014). This has led to the closure of the political process, where certain solutions become institutionalized and locked into the governance system. This then develops into a machine-like system – a cyborg – isolated from open political debate. In this sense, cyborgisation also becomes a process of de-politicisation, where fisheries governance is left to market instruments to structure social interactions. Ironically, cyborgisation is compatible with, and indeed reflective of, a neoliberal ideology, namely the conviction that markets are more efficient for allocation than the political process, even if markets themselves need government regulation. Notably, the institutionalization of the quota system where rights to fish have become tradable would not have developed without the authorization of the government. As Robbins (1965) noted, the invisible hand is the government.

When market instruments such as ITQs gain momentum in fisheries and become the system, they change social relations and interactions. Even if it is stated that the ownership to the resources are with the people of Norway, the transformation of fish from a free-for-all good to a limited fishing right, may change the fishers' image of fish from a common good to something individual fishers have a special "ownership" to. This is a feature many right based approaches to some extent share (Allison et al. 2012; Ruddle and Davies 2013). In addition, transferability turns the right into a tradable good, from which some individuals can benefit more than others can. Establishment of ITQs may under certain conditions detach economic value from the fish as a physical object, and turn fishing rights from being an instrument for combining control of fishing effort with economic security for fishers, into a financial derivative. Market instruments are therefore not neutral and non-political; they are introduced and maintained as a political act, and thus a matter of dispute within Norwegian fisheries as elsewhere. Markets perform an ideology that is converted into policy, which over time shapes the governance system in a way that creates the impression that its design is non-political. Markets are then no longer perceived as a social product and therefore a political formation, but as an "objective reality" (to paraphrase Berger and Luckmann 1967), which humans take for granted as the only rational type of system.

While market instruments can be useful for allocative purposes and reducing capacity (not necessarily effort), they come with costs. Instruments such as ITQs tend to concentrate rights in certain regions at the expense of other regions. Hence, if we use them, we need to control them. Therefore, policy makers must acknowledge that neither market instruments nor other instruments that contribute in config-



uring the cybernetic fisheries governance system are neutral. As one problem is solved (like over-capacity), another is created. Neither do markets replace politics. Moreover, the success of market instruments must be empirically evaluated. Otherwise, they risk bringing permanent harm to those values that are traditionally associated with fisheries and are still considered worthwhile. The fisheries governance system, therefore, still needs a political process where basic principles and mechanisms can be subject to public scrutiny and debate.

**Acknowledgments** The authors acknowledge the constructive comments by Ajit Menon and the support of the *Too Big To Ignore* small-scale fisheries research network ([www.toobigtoignore.net](http://www.toobigtoignore.net)).

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