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# Navigating Towards Effective Fishery Management? Exploring the Dynamics of Compliance

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## Abstract

This paper deals with compliance in the European and Swedish fisheries management regimes. It takes on a theoretical exploration of the dynamics of institutional compliance, and extracts six hypotheses based on theoretical approaches focusing on the links between compliance and *individual level trust*, compliance and *institutional trust*, and compliance and *norms*. More specifically, the hypotheses suggest (1) that fishermen experiencing that governmental authorities perceive them as cheaters will be more prone to accept rule violations that others; (2) that the inclination of individual fishermen to accept regulations depend on their perceptions of the behaviour of other fishermen; (3) that fishermen feeling that they and their Swedish fellows are put under stricter regulations and supervision than fishermen in other countries are more tolerant against violations; (4) that those experiencing that fishermen's knowledge is valued among other parties are more positive to the prevailing regulations than others; (5) that fishermen with experiences from stakeholder participation in the fisheries regime are more negative to rule violations; and (6) that there is a moral distinction implying that rule-violations are accepted as long as they are considered as an expression of need rather than greed. The empirical test of these hypotheses are beyond the scope of this paper. Having presented the six hypotheses, a descriptive section on European and Swedish fishery closes the paper.

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# Silent Ocean, Loud Debate

Through an intense debate about Isabella Lövin's book *Silent Ocean* (2007), the prevailing disagreement among parties involved in, and subjected to, Swedish fishery politics has yet again been elucidated. Particularly professional fishermen seem to be at clinch with other actors, including scientists, policy-makers, journalists, environmentalists and civil servants. Lövin deals with the global challenge of fish stock depletion from a Swedish horizon, and with a particular focus on the ecological collapse of the Baltic Sea. A good deal of the blame is thrown on regime institutions and – not least – the community of professional fishermen.

Spokesmen of Swedish fishermen, however, frequently express other views about the scope and nature of the overexploitation problem. They challenge scientists' estimations of stock-sizes, they are dissatisfied with quota sizes, with the supervision they are put under, and with the general – yet unfair – image of fishermen as notorious rule-breakers.[1] To illustrate, in a response to Lövin's book, the chairman of the Central Organization of Swedish Fishermen (SFR), Henrik Svenberg, argues that Lövin "…exalts the WWF and the green party to heroes whereas fishermen are depicted as zero-rating pirates."[2] It is close at hand to suspect that the dissatisfaction, both with other parties' positions, as well as the very content of the current policy, is strongly associated with the fact that Swedish fishermen suffer economically from the regulations and limitations of fishery-rights. The outspoken discontent with prevailing regulations relates to a problem of concern to scholars within several fields, such as economics, sociology and political science, namely what makes people comply with – rather than violate – laws and state regulations.

The economic understanding of appropriators' readiness to comply with prevailing regulations enjoys firm theoretical support, in terms of a straightforward model where choices of action depend on economic incentives and risk assessments. According to this view, non-compliance occurs at the prospect of high profit, combined with a low risk of getting caught.[3] In contestation to this rational model of compliance and institutional efficiency rooted in the economic literature, stands a body of research which has evolved primarily within political science and sociology, that stresses procedural, distributive and other normative aspects of compliance.[4] Of importance is for instance the sub-categorisation of social justice theory preoccupied with the problem of citizens' consent with political decisions; one underlines the importance of *procedural fairness*, and another underlines the

[1] An illustrative example can be found in *Göteborgs Posten* (2006-03-20). For survey-results on attitudes of Swedish fishermen see Eggert & Ellegård (2003).
[2] Yrkesfiskaren, September 7, 2007, p.6.
[3] Eggert & Ellegård (2002).
[4] Levi (1997); Dietz et al (2003); Ostrom (2005); Gezelius (2002, 2004, 2006).

importance of *distributive justice*.[5] Moreover, Levi (1997) presents a typology of compliant behaviour where compliance is considered dependent on appropriators' assessments of 1) government trustworthiness, and 2) the contributions made by others (such as for instance members in the community).[6] In addition to approaches emphasising procedural and distributive matters, there are also theoretical arguments about the impact of norms as important to understand prevailing levels of compliance with state regulations.

Contrary to the economic model, these approaches have in common that they, more or less outspokenly, assume a link between compliance and legitimacy.[7] They assume that legitimacy, as an inherent quality of a management system and/or as appropriators' evaluations, impacts appropriators' consent and thereby the level of compliance. These views suggest, in other words, that also when non-compliance imply economic benefits, appropriators could still decide to comply on the basis of normative considerations about procedure, justice and social values. Research both in other policy fields and explorative research in the field of fishery management have also generated interesting findings in line with these approaches.

However, the explanations for compliance and non-compliance generated from these approaches are not as straightforward and specified as in the economic model. The aim of this paper is therefore to set out a number of hypotheses based on these theoretical approaches, with the ambition to contribute to a more fully fledged understanding of the dynamics of compliance. In the end, but beyond the purpose of this particular working paper, those hypotheses will be empirically tested with data from a survey to professional Swedish fishermen.

The paper is divided into a descriptive and a theoretical part. The theoretical part starts with a brief introduction to the field of management of common pool resources, followed by sections that explores the links between 1) compliance and individual level trust, 2) compliance and institutional trust, and 3) compliance and norms. The descriptive part concerns the structure of Swedish fishery policy as an integrated part of EUs Common Fishery Policy (CFP), discusses how compliance can be measured, and introduces ongoing reforms within fishery management in the EU and Sweden.

[5] Grimes (2006:17).
[6] Levi (1997:23-26).
[7] Levi (1997); Dietz et al (2003); Grimes (2006); Jentoft (1999).

## Swedish Fishery as a Tragedy of the Commons?

Fish-stocks may be described as a common pool resource, and with this characterization comes the insight of a prevailing social dilemma.[8] There is a tension between the long term collective good (i.e. preservation of fish-stocks), and appropriators' short-term benefit (i.e. maximizing profit from fishery). Fishery politics aims at increasing the productivity of the branch, to reassure sufficient income-levels for fishermen and to guarantee the supply of consumers' demands. The prospects of reaching these goals obviously depends on the mere existence of fish, so successful governance is therefore largely synonymous with an institutional arrangement that guarantees the long term preservation of fish-stocks.

As will be described in more detail later, the Swedish fishery regime contains a number of regulations such as quotas, fishing stops, protected areas, and limited fishing periods, as well as a system of catch landing controls and satellite monitoring of larger vessels.[9] These regulations are guided by insights of a prevailing social dilemma in the sense that they intend to limit opportunities for short term economic profit from extensive fishery. Key to successfully upholding sustainable fishery through such regulations is, however, that appropriators actually comply with them, which is not necessarily always the case. A study carried out by the EU Commission, based on inspections in the Baltic Sea 2005/2006, shows a difference of twenty percent (21.42) between landings of inspected and not inspected Swedish vessels.[10]

This discrepancy implies, of course, that excess catches beyond the allowed quotas are distributed on a black market and hence that fish resources are overexploited. Cheating (misreporting of catches) is the most probable - but not the only – possible explanation for this discrepancy. And even though far from all Swedish vessels are part of this, it is one of many indications of that the Swedish management system fails when it comes to reaching a sustainable fishery. The Swedish fishery regime is also widely criticized for its inefficiency. A few years ago, an editorial column in the leading Swedish newspaper Dagens Nyheter even depicted the administration of Swedish fishery as "a bureaucratic tragedy" in a state of "complete breakdown". The more recent critique raised in Lövin (2007) appoint the Swedish Board of Fisheries (SBF, i.e. "Fiskeriverket") as an organisation that represent, rather than supervise, Swedish fishermen.[11] From this stand-point, Swedish fishery, more than anything else, seems like a good

[8] The distinguishing characteristics of common pool resources are a) high costs of exclusion of potential beneficiaries, b) subtractability of resource units, i.e that any resource unit used by one appropriator is non- available for others (Ostrom 2005; 79-80).

[9] Skr. 2005/2006:171. SOU 2007:20.

[10] "Evaluation report in catch registration in Baltic-sea member states" (January, 2007). For the sake of comparison, in Poland the difference was 48 percent and in Latvia 8 percent.

[11] DN 2004-02-29. Lövin (2007).

illustration of "the tragedy of the commons" – to be further discussed in next section.

## The Economic Model vs. Governing the Commons

The risk of over-exploitation and degradation of common pool resources (CPR), such as fish stocks, has most famously been captured in Garrett Hardin's metaphor "The Tragedy of the Commons" where "freedom in the commons brings ruin to all".[12] Analyses based on such free-rider models most frequently arrive at the conclusion that the resource appropriators could be moved out of the dilemma by creating centralized management regimes and/or implementing market-solutions that removes, or at least reduces, the incentives for fulfilling short-term self-interests at the expense of the collective good. As already made clear, fish-stocks may be seen from this point of view, and, as previous section illustrated as well, the Swedish fishery regime does not pose as a success in trying to solve the dilemma. Hanging on to the economic approach when trying to improve institutional efficiency suggests a further focus on monitoring and credible (harsher) sanctions, since fishermen are likely to violate regulations as long as there are economic gains in cheating and a low risk to get caught.

However, starting with Elinor Ostrom (1990), CPR-research have brought about rather bad news when it comes to the usefulness of top-run management systems. In her seminal study *Governing the Commons*, Ostrom criticises the two most commonly suggested ways out of the social dilemma; market solutions and interventions of an external authority.[13] She objects both against the theoretical presumptions of the game-theoretic models as such, and to the treatment of "the tragedy" as an empirical fact. Moreover, she shows how appropriators within a geographically demarcated fishery can achieve a sustainable usage of the resource, by establishing local arrangements and agreements. Thus, when local users are responsible for the management of the fish stocks, one can expect that their enthusiasm to comply with the rules, as well as their capacity to adapt to changes in the eco-system, rises.

Ostrom has been followed by a number of studies, separable in a co-operative and a co-management approach, of how various institutional arrangements can produce successful management practises for fish stocks (and other CPRs).[14] The breakthrough of the co-operative and co-management approaches has brought along a shift in the understanding of appropriators' behaviour. In addition to economic incentives and the assessment of the risk of being caught, these

[12] Hardin 1968:1244.
[13] Ostrom (1990).
[14] For studies in a Swedish context, see for example Rova (2004) and Píriz (2004).

approaches point at social and political conditions as well.[15] They both differ from traditional top-down perspectives, and relate to approaches that underline social values and procedural and distributive matters, in the sense that they take non-coercive compliance mechanisms into account.[16] To these approaches, the distinction between *consenting* and *complying* with policy becomes important.

Consent and compliance are related, but not necessarily the same. One might comply with regulations without necessarily consenting with it - for instance if non-compliant behaviour inherits the risk of sanctions. Not consenting with policy is also something one may do silently, without taking action. Margret Levi argues that non-compliance is more serious than non-consent in the sense that it is a behavioural response which raises the cost of implementation, and thereby always challenges policy.[17] Consent and compliance are nevertheless related in the sense that not consenting with a policy might increase the likelihood of non-compliant behaviour. The link between consent and compliance makes *legitimacy* an important matter, in the sense that legitimacy encourages consent.

What legitimacy actually means, and how institutions and policy become legitimate, are contested issues. For instance, there is the question of whether legitimacy is "in the eyes of the beholder", or an intrinsic property of the object as such.[18] There is also the complex issue of legitimacy as dependent on both legality and morality. To specify, only legal support seem to be an insufficient condition for institutional legitimacy, which instead rely on justification also on the basis of social and moral values.[19] In the case of fishery management, this suggests that regulations need to make sense, or at least not contradict, principles that may be highly valued within fishing communities. Moreover, this illuminates the potential link between legitimacy and trust. In case a management system (or a policy) contradicts strong community values, this may undermine appropriators' trust, and make regulations illegitimate.

This paper has already pointed at the circumstance that the Swedish management system is considered inefficient when it comes to securing fish-stocks. According to the views just briefly introduced, and the fact that representatives of Swedish fishery express such severe discontent with current conditions, the management system also seems to be afflicted by low levels of legitimacy. Thus, the crisis in the

[15] A specified distinction between these approaches can be made: In the co-operative perspective, rather than securing the resource through coercion, self-management depends on participants accepting regulations as just or legitimate. In the co-management perspective, even though this approach implies a larger involvement of state authorities, appropriators' influence on the decision-making process as well as their capacity to make and implement regulatory-systems is emphasized (see Honneland, 2002). See also Ostrom, Dietz & Stern (2003).
[16] Honneland (2000).
[17] Levi (1997:17).
[18] Jentoft (2000:143).
[19] Jentoft (2000:142).

management system could also be understood as a matter of declining legitimacy. The coming sections in this paper will explore this further, and specify a number of hypotheses. The most immediate step, however, is to specify a hypothesis guided by the idea of "the power of metaphors".

There is a striking difference between the economic model and the management model when it comes to the inherent view of appropriators. Simplified, the economic model point at appropriators as potential free-riders, whereas the management model treat them as potential problem-solvers. These pictures of appropriator qualities may have a substantial impact since they provide a basis for models serving as guiding-devices of policy. The fact that the Swedish Fishery regime up until a few years ago in all relevant aspects has been a top-down regime guided by the economic model could provoke negative feelings in the fishery collective (those subjected to the regime) since they are depicted as potential free-riders.[20] When the chairman of SFR accuses Lövin for depicting fishermen as "pirates" (see above), this could be read as an indication of such feelings.

If this goes beyond rhetorical tricks of a single spokesman, as an experience rooted among a large majority of fishermen, it could potentially impact their inclination to accept regulations. There are also some indications that this could be the case, as one fisherman has put it in a previous survey: "Remarkably many devote their interest to such a small occupational group. We constantly appear as bandits and ruthless exploiters making a lot of money".[21] As a first theoretical specification to the forthcoming empirical study, we suggest that it could be worth assessing the extent to which the models' point of departures have been transmitted to the policy-field. If fishermen experience that they are mostly monitored, corrected and suspected, rather than involved in decision-making processes, this may render feelings of not being trusted or respected as a group. Under such conditions, they are not likely to consider the regime as legitimate, and may be more inclined to violate rules than otherwise.

## Individual-level Trust and Compliance

The breakthrough of the management-approaches in the study of common pool resources has brought the concept of trust into the analysis of compliance and regime efficiency.[22] Basically, trust is expected to impact regime efficiency by reducing the costs of implementation. With lower levels of trust comes the risk of increased levels of rule violations. Both trust among individuals, and trust in institutions are considered important. Why these types of trust are important in order to uphold compliance is further specified below.

[20] For a similar line of critique, see Ostrom (1990); Jentoft (2000: 147).
[21] Ellegård & Eggert (2002).
[22] Ostrom (1990); see also Putnam (1993); Offe (1999).

Trust among individuals in a group (or between groups) is expected to have a positive impact on the level of compliance in the sense that people become more inclined to contribute to the common good. If each competing party trusts that the competitors will follow the rules of the common use of a natural resource, then this presence of trust will increase the likeliness that all parties will comply and thus generating more collective goods in the longer term.[23] Trust among (unrelated) individuals, has also proven important for peoples' willingness to contribute to the general welfare, e.g., by paying tax.[24]

This general dynamic can be applied on the case of fishery management. In terms of individual-level trust, it is reasonable to argue that if a single fisherman X, knows or reckon that his (*most* seldom her) neighbouring colleagues ignore, e.g., the quotas set for X's specific activities, then X is probably less inclined to follow the quotas himself. To quote Ostrom "No one wants to be a 'sucker', keeping a promise that everyone else is breaking"[25]. This line of reasoning is, however, not only valid for members within a community, but could also concern fishermen in other parts of the country, or fishermen from abroad.[26] To clarify, if there is a widespread belief among Swedish fishermen that Polish fishermen violate EUs regulations for cod fishing in the Baltic Sea, this could impact the degree of propensity to which Swedish fishermen comply with these regulations. In other words, a firm belief that no one else follows prevailing regulations undermines an already weak incentive to spare the resource for the future. In sum, as a second theoretical specification, we suggest that under such conditions are Swedish fishermen not likely to consider the regime as legitimate, and may be more inclined to violate rules than otherwise.

The scenario depicted above is not necessarily only a matter of individual-level trust, but could also be considered as a matter of a lack of institutional trust (which is to be discussed further in the next section). Swedish Fishery Politics as a part of European Fishery Politics brings about bargaining between member-states about total allowable catch (TAC), and other management measures. Each member-state is also responsible of monitoring of their fleet and within their territorial water. Presumably, Swedish fishermen evaluate whether the Swedish Government makes a good job in reassuring that Swedish fishermen get their fair share in relation to fishermen of other nationalities. If Swedish fishermen experience that they face an unfair share of the burden compared to fishermen in other European states, or that they are represented by a government hostile to the fishing industry in general,

[23] See Torgler (2004); Roth *et al.* (1989).

[24] Yamagishi & Yamagishi (1994); Scholz & Lubell (1998); Frey & Torgler (2006); Andreoni et al (1998), Torgler (2003a, 2003b, 2004); Komorita & Parks (1994).

[25] Ostrom (1990:44).

[26] C.f., Uslaner 2002 for an illuminating more general discussion about similarities and differences between individual-level trust among strangers and within social groups (e.g., Hells Angels).

this may impact their level of trust in those responsible of the regime, and increase the level of conflict with fishermen of other nationalities. In sum, as a third theoretical specification, we suggest that there is a relationship between this evaluation and the assessment of the regime (as legitimate or not), which may impact the inclination to violate regulations.

## Institutional Trust and Compliance

Empirical findings suggest that trust in institutions, including the legal system, the government and public officials, also has a significant positive effect on policy compliance.[27] The logical reasoning behind this is as follows: If the institution has, for instance, emerged properly, is founded on appropriate knowledge and principles, is adequately administered, with the effects designated, then an agent is more inclined to accept the regulations it is subjected to. On the other hand, if the agent has reasons to believe that the institution performs badly, then the agent become less inclined to follow the regulations it involves.

Also when discussing trust in (formal) institutions, there are reasons to believe that certain dynamics are applicable to the fishery case. Today, fishery is rather thoroughly regulated, and these regulations are constituted by a variety of policy instruments, everything from allowable catches to limited fishing periods, and equipment restrictions. Thus, to begin with, as a single fisherman, there are quite many policies to have an opinion about, both regarding how they have been determined, how they are managed and how effective they are. As will be made clear later on in the paper, the Swedish Board of Fisheries (SBF, i.e. "Fiskeriverket") has a rather unique mandate in terms of specifying policy instruments.

Furthermore, marine biologists play crucial roles in SBF exercise of authority- SBF even has its own marine laboratories. For one thing, the link between the scientific input (stock assessments) and the policy outcome is still not always self evident (e.g., to regulate number of fish rather than allowing unregulated catches during a limited period of time). Moreover, for members of a fishing community it might not be perfectly obvious that regulations of fishery should be designed primarily on the basis of scientific knowledge, without taking the knowledge and experiences of professional fishermen into consideration. This relates to the previous discussion about how a theoretical model directs policy and what this might signal to those subjected to policy.

Alcock (2004) argue that assessments made within the frames of management institutions tend to be more influential in those institutions than in external stakeholder communities. Extra-institution assessments are generally more

[27] See e.g. Scholz & Lubell (1998); Torgler (2003a, 2003b, 2004).

influential in the external communities than within the management institutions. Assessments made by actors embedded in the institutions are hence vulnerable to stakeholder resistance, and decreasing legitimacy among stakeholders. This risk is strongly reverberated in the well known and widely documented conflict between scientists' and fishermen perceptions of stock conditions (Dobbs 2000).

The flip-side of the scientific influence is that groups with an alternative knowledge-basis, deviating from scientific principles, may feel overrun and even patronized in a "dialogue". This is especially the case when combined with the experience that they are expected to adjust their behaviour in accordance with scientific knowledge. Thus, if fishermen experience that their view of the problem is not taken into account we hypothesise that this may impact their level of trust in those responsible of the regime. In sum, as a fourth theoretical specification we suggest that fishermen are less likely to consider the regime as legitimate, and more inclined to violate rules when they experience that their knowledge is marginalised.

## Evaluating Efforts to Establish Trust

The importance of taking appropriators' views into account is an aspect which has been given much attention in recent years. As the descriptive part of this paper reveals, the Swedish fishery management is in a process of re-organisation.[28] Along with traditional control-methods, the management regimes are currently endowed with new methods aiming at establishing trust between stakeholders and a sense of "ownership of the rules". An essential part of this reform strategy is the launching of Regional Advisory Committees (RAC), i.e. stake-holder organizations composed of representatives from the fisheries sectors, and other interest-groups affected by the CFP.[29] Sweden is not only an advocate of this EU-reform, but has also initiated a number of local management projects in coastal areas and lakes within the framework of its national policies.[30]

The immediate purpose of these advisory bodies and local management arrangements is to give fishermen - and others involved - a say in the decision-making processes. They are intended as arenas for dialogue through which mutual trust between actors can be built. Expanded appropriator participation is also assumed to instigate a feeling of "ownership of the rules" among fishermen.[31] As joint owners of the rules, the argument goes, fishermen will be more inclined to

[28] In March 2006, the government stated that the reforms and alterations of laws pursued since 2003 have not had the desired effect. See *Regeringens Skrivelse* 2005/06:171.
[29] European Commission COM (2003) 607.
[30] See Fiskeriverket (2007)
[31] European Commission Press Release 2003-10-20. See also Fiskeriverket 2004

comply with them.[32] In short, what is at stake here is a political attempt to substitute distrust among parties and/or institutions, for trust through dialogue, with improved regime efficiency as a consequence.[33]

The most obvious way to explore this political attempt would be to test whether the RAC-reform leads in the intended direction, i.e. whether the level of compliance will improve. However, the reform has only recently been initiated and it might take several years before we can assess whether it has had any effect on compliance. This study will instead evaluate whether involvement in any kind of local management initiatives and/or in the advisory boards changes the inclination to consent with regulations and/or the disposition of trust among participants. As a fifth theoretical specification, we suggest that fishermen that have been engaged in co-management initiatives are more critical against rule-violations.

## Norms and Compliance

The degree to which fishermen consent and comply with regulations may also be considered from the perspective of existing social expectations about behavior, i.e. norms in a community. From this standpoint, high levels of compliance can grow out of a set of norms that prescribes compliant behavior as the appropriate course of action. Compliance is hence connected to the threat of social disapproval and informal sanctions that comes with violating prescribed behaviour.[34]

Given this potential impact of norms on action, state regulations can be expected to be more efficient in those cases where the prevailing set of norms correspond with the regulations. Thus norms in a given social system, such as for instance a fishing community, can both support and undermine regulations depending on whether they prescribe a morality which condemn or justify rule-violations.

One version of how a moral system may undermine state authority is literal religious belief. This has also been clearly illustrated through the broadcasting of Swedish Fishermen, from a fishing community in the Western part of Göteborg – the man expressed his belief that the goods within God's creation were to be "worn out". Apparently, if one firmly beliefs that it is a God-given duty of man to exploit the world's natural resources, any policy the Swedish government may

[32] On his opening speech of the North-Sea RAC Jörgen Holmquist, the directorate-general for Fisheries puts it this way: "The idea is that the fishing Industry, along with other players concerned by the fisheries rules, share a sense o ownership towards these rules. This should encourage a common desire to see them fully implemented and to act accordingly. Better application of the rules will doubtless mean more effective measures, thus enhancing the conservation of fish-stocks and, as a result, strengthening the economic base of the industry."

[33] See Rothstein (2003).

[34] Levi (1996); Gezelius (2002); Risse et al. (1999).

want to maintain for the sake of sustainability might look slightly less important. This particular interview is horrifying to most stakeholders, but has nevertheless left an indelible impression of Swedish fishery among the public. Thus, religious fundamentalism might not explain most part of the degree to which Swedish fishermen consider violations of regulations acceptable. Still, it is an aspect worth exploring. In addition, conducted research has illuminated also other kinds of morality at work in fishing communities.

Gezelius' (2002, 2004, 2006) studies of norms and compliance in fishing communities reveals the presence of collective morality, both in terms simply of an obligation to "obey the law", as well as loyalty with the group. Moreover, these norms are underlying causes to the gossip and social degradation that follows when someone within the community is taken to break against regulations.[35] These norms support the prevailing regulations in the sense that violating rules might lead to informal sanctions from members of the community. However, another normative distinction is also spotted *within* the community – between what was considered "satisfactory" and "maximizing" of economic profit from fishing. Breaking regulations are not considered as acceptable if they become classified as a fishing-crew seeking to maximize their economic profit, but can be accepted if they instead are understood as a necessary mean for maintenance. As a consequence, individuals strategize regarding how to frame their violations as necessities rather than seeking to maximizing of economic profit. This dynamic within a moral grey-zone illuminates how the moral evaluation of a community is more flexible than the legal principles when it comes to acceptance and condemnation of behavior.

Interestingly enough, the presence of this distinction in moral meaning, between "fishing for food" and "fishing for money", have been traced in fishing communities in both Norway and New Foundland. In terms of fisheries, New Foundland is nowadays mostly known for the collapse of the cod stock, and other ground-fish species, that occurred in the early 1990s. The stocks have not recovered, which has brought about a complete closing down of cod fisheries. Along with the established explanations for this collapse, such as inadequate science and management, many fishermen point at the large offshore trawlers as being responsible for the collapse through over-fishing. The trawlers are even seen as "manifestations of human greed."[36] Moreover, to accept the ban on fishery is considered a moral obligation for the sake of protecting a common good. Although this obligation is considered absolute in the sense that no free riding is acceptable, to catch what is needed for the own household is nevertheless considered a right as well.

[35] Gezelius (2002:309).
[36] Gezelius (2004:623).

The field research carried out by Gezelius has generated findings both regarding the link between the morality of a community and compliant behavior, as well as the conduct of strategic behavior within a certain moral context. In a concluding analysis, Gezelius suggests that the different normative evaluations of "fishing for food" and "fishing for money", and how it affects the morality of compliance, is an expression of a more general system based on a distinction between moderation and excess.[37] To further reveal the underlying normative principles that promote or undermine compliant behavior seems like an important piece for further exploration. For one thing, it might be of interest to find out to what extent there is a clear difference in moral evaluation between rule-breaking on the basis of what is considered necessity, as oppose to greed. As a sixth theoretical specification, we suggest that the inclination to accept rule-violations depends on moral distinctions and evaluations regarding the reasons for this behavior.

## Theoretical Specifications: Dynamics of Compliance

This paper has so far searched for available theoretical understandings – complementary or competing with the economic model – of appropriators' compliance with state regulations. This exploration has generated six hypotheses summarized below.

1. Perceived as a cheater makes a cheater?

The first hypothesis departs from the insight that the economic model and the management model contain very different expectations when it comes to appropriators' qualities – they are either potential cheaters or potential problem-solvers. More precisely, we point at the risk that entertaining apprehensions might make them come true. Possibly, since the management regime largely has been guided by the underlying assumptions of the economic model, this might have had the unintended, yet negative, impact of making fishermen dissatisfied. This theoretical specification is empirically supported in case fishermen who experience that other agents look at fishermen as cheaters distrust other parties and are more prone to accept rule-violations for a variety of different reasons than those without this experience.

2. Refusing to be the only sucker at sea?

The second hypothesis departs from the theoretical suggestion that peoples' inclination to accept regulations depend on their beliefs on whether other do so. Consequently, in case the belief is widespread among Swedish fishermen that "others" break against regulations this could lead to a much more tolerant attitude against violations (since they frequently violate regulations themselves). This theoretical specification is empirically supported in case fishermen who belief that

[37] Gezelius (2004:625).

rule-violations are very frequent also accept rule-violations to a larger extent and for a broader variety of reasons, than those who do not hold this belief.

3. A fair share of the burden?
The third hypothesis departs from the theoretical suggestion that people's inclination to accept regulations depend on their assessments of the capacity of the institution. To specify, in case Swedish fishermen experience that prevailing regulations are unjust in the sense that they have to endure stronger regulations than fishermen in other countries they might also have a much more tolerant attitude against violations (since they frequently violate regulations themselves). This theoretical specification is empirically supported in case fishermen who evaluate the Swedish government's performance as bad when it comes to defending the rights of Swedish fishermen in the CFP also accept rule-violations to a greater extent and for a broader variety of reasons, than those who do not hold this opinion.

4. Discrediting "pen-pushers"?
The fourth hypothesis departs from the theoretical suggestion that people's inclination to accept regulations depends on their assessments of institutional performance. In case Swedish fishermen experience that their knowledge is largely ignored this might they might be much critical against the fishery regime. This theoretical specification is empirically supported in case those who experience that the knowledge of Swedish fishermen is valued among other parties are more positive to the prevailing regulations than others.

5. Speak your mind – then obey?
The fifth hypothesis relies on theoretical insights regarding the importance of involving stakeholders when constructing the regime. This theoretical specification is empirically supported in case those who have participated in a co-management initiative are more positive to the prevailing regulations than others. While the previous hypotheses focus on knowledge-related issues, this hypothesis emphasis procedure for participating.

6. Break the law – but don't be greedy?
The sixth hypothesis departs from the theoretical suggestion that norms within a community might impact its members inclination to accept or violate regulations. To specify, there might be a moral distinction which leads to the acceptance of rule-violations as long as they are not considered as an expression of greed. This theoretical specification is empirically supported in case there is a clear difference in the acceptance of rule violations based on this distinction.

These hypotheses will be empirically evaluated through data collected by a mail survey sent to all licensed fishermen in Sweden. The response rate is 45%.

## Who's compliance - with what? The Regime and its Participants

In this section we briefly describe the different regimes that present Swedish fishery is placed under. In the subsequent section, the most typical characteristics of the current Swedish fish fleet is introduced

The professional exercises of Swedish fishermen are essentially regulated from Brussels. The EU's Common Fishery Policy (CFP) covers all aspects of fisheries – from sea to consumption – and is incorporated into national regulations such as the fisheries act and the directions of the Swedish Board of Fisheries.[38] The CFP is traditionally divided into four major elements. This study mainly concerns the *resource management* element, which aims at recovering and preserving the resource stocks. Catch limits, quotas, protected areas, restricted access zones, effort limits and gear restrictions are important instruments in the resource management policies.[39]

Even though the CFP makes up the general framework for Swedish fishery management, there are good reasons to direct special attention to the national level. Each nation is responsible for the vessels flying their flag, and manages policy implementation, monitoring and distribution of quotas within the national fleet. Member states may also apply special preservation measures or emergency measures within their territorial waters (12 nautical miles from the coast), and (until 2012) reserve the territorial waters to their own inshore fishing fleet.[40] Finally, the CFP is after all the result of national governments negotiating with each other, and the performance of each government in these negotiations might influence the prospects for successful implementation in individual countries.

The CFP and the national complements involve two kinds of regulations. One group of rules specifies the way in which fishery should be *conducted*- i.e. which type of fishing that is considered as lawful fishing. These regulations involve gear restrictions, protected areas, quotas, minimum sizes on fish, limits on fishing efforts, by-catch rules etcetera. The other group of rules bears more *administrative* characteristics. For example, fishermen are obliged to, without delay (often within 48 hours), register and report data on catches, landings and reloads to the National Board of Fisheries. Other administrative rules state that licenses and permits shall be kept on board, captains shall allow inspectors access to the vessels for controls, and ships over 15 meters in length must have VMS (Vessel Monitoring System), a satellite monitoring system, installed.

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[38] Sweden is also tied by a number of international treaties and regional agreements with, for example, Norway and Denmark.

[39] The other elements are *structural* policies, which aims to adapt (read: reduce) the aggregated fleet capacity to current conditions of fish stocks. *Market* policies deals with trade, prices, quality and consumer issues, and the last policy element deals with *relations with the third world*.

[40] The restricted access paragraph is a formal exception from the CFP, valid until 2012.

The problem with this system is that non-compliance is difficult to detect. Hence, every effort to assess the level of compliance – aggregated or on individual level – run into problems. Reports from the Swedish Board of Fisheries, the Coast Guard and public court records can serve as an indication of the "minimal" level of non-compliance. Between 2001 and 2005, the Swedish Board of Fisheries took legal procedures in 150 cases of rule infringement. 120 of these cases are settled, and around 80 of them ended in conviction (SOU 2007:20). A closer look at the period 2003-2006, reveals that slightly more than 80 cases of fishing crimes were decided in public courts. Somewhat more than fifty percent of these regarded unlawful fishing. The most common infringements were fishing in spite of hold-ups or prohibition, and fishing of species for which Sweden has no quota. There were also a number of cases of fishing without correct permits and licenses, fishing with prohibited gear, and infringements of report obligations.

As said, it is difficult to assess to which degree the statistics above gives a fair picture of the level and composition of non compliance. How much do the current controls detect? The picture of the control regime is multifaceted. On the one hand, survey quotes and media statements from fishermen breathe profound tiredness with bureaucracy, rules and controls. On the other hand, the European Commission have formally criticized Sweden for severe ineffectiveness in controlling, detecting and sanctioning infringements to the CFP.[41] Earlier surveys report that the median fisherman encounters only two landing controls each year and zero controls at sea.[42] With such intervals, there is plenty of room for potential cheaters.

As already indicated, the CFP and its Swedish elements is largely a centralized top-down regime. Decisions are made by political assemblies and authority HQs in the top of the hierarchy, and channeled to users who are supposed to act in accordance with the decisions. The regime relies on scientific advice delivered to the decision makers, (even though loud voices claim that the advice is often disregarded). Considering the conditions of commercially crucial fish stocks, and considering the over-capacity and low level of trust in the centralized top-down regime, many loud voices speak of a complete failure- or at least highlight the severe risks of failure. Partly as a response to such warning signs, reforms have created institutions for stakeholder participation, which are supposed to mitigate some of the most severe legitimacy and compliance shortcomings. From the perspective of our study, and especially when seen from our hypothesis five ("Speak your mind- then obey?"), it is thus interesting to evaluate whether there are any differences in institutional trust between those fishermen who are involved in such stakeholder participation, compared with those who are not.

[41] Member states are obliged to make random inspections on vessels, take measures to prevent infringements of rules, and provide for investigation judicial follow-up and sanctions for infringements.

[42] Ellegård and Eggert (2002).

The EU has launched six Regional Advisory Councils (RACs) of representatives of the fisheries sector (fishers, ship owners, process industries etc) and other stakeholders such as anglers and the environmental movement.[43] The immediate function of the RACs is to advice the European Commission on current decisions and the future developments of CFP, even though the commission has no obligation to follow the RAC advice. The long term purpose of the RAC reform is to increase the level of user participation in decision making, and to increase the legitimacy of CFP by creating "a feeling of ownership of the rules".

Besides the macro-regional RACs, there are a number of local co-management arrangements in member countries, including Sweden. With institutional support from and under supervision of the National Board of Fisheries, local user communities have arranged harvesting routines in order to achieve a sustainable fishery. Again, the contemplated causal logic is that participation in the making of institutions create an ownership of rules and that the local management provide solidarity, norm sharing etc (Ostrom 2005). Swedish authorities are currently investigating the prospects for extending the autonomy of co-management initiatives and for increasing the number of such arrangements overall. On a more general level, the National Board of Fisheries has a permanent consultative network with participants from the fisheries sector, the environmental movement, consumers etc. Also these emerging co-management initiatives are of great concern for our study since they provide an opportunity to evaluate our hypothesis number five ("Speak your mind- then obey?").

## Swedish Fishermen: Fleet, Organization and Conflicts

Sweden is not a great power when it comes to fishing. The Swedish fishing fleet consists of around 1500 vessels, carrying around 1900 licensed professional fishermen[44], that harvest about 270 000 tons each year. This makes Sweden the 47th fishing nation in the world and number seven among the EU countries.[45] The fleet is very heterogeneous, involving everything in the range from small net-boats to large and hypermodern pelagic trawlers.[46] In organizational terms,

[43] 2/3 of the council seats are allocated to the fisheries sector, and 1/3 to other interests. The six RACs cover the a) Baltic Sea, b) Mediterranean Sea, c) North Sea (including Skagerack and Kattegatt), d) North Western Waters, e) South Western Waters. The sixth RAC deals with pelagic stocks (excluding the Baltic and the Mediterranean Sea).

[44] The exact employment rate is difficult to measure, since some of the licensed fishermen are inactive, and captains hire crew without own license.

[45] Numbers refer to 2004, FAO 2004.

[46] The fishing fleet are generally divided into different groups, *segments,* based on vessel size and type of fishing. The performance of each segment can be measured by catch volume, the value of the landed catches, and the processing/refinement value (a measure of the profitability referring to the sum remaining after running expenses). A vast majority (somewhat more than 1000 vessels) are smaller boats under 12 meters, catching salmon, crayfish, lobster, cod and other species with net or pots. The segment of boats *under 12 meters fishing for cod* makes up 40 % of all vessels in the fleet,

Swedish fishermen are connected by the nationwide organization Sveriges Fiskares Riksförbund (SFR). SFR is subdivided into 27 geographical departments as well as 7 special segment (type of fishing) committees for prawn fishers, pelagic species fisheries etc.

Although they are colleagues by profession, the fishers' community is conflict-laden and divided along both geographic and segment lines. Earlier surveys report that a majority of fishermen consider the central organization SFR too powerful compared to the local branches.[47] Small scale fishers frequently express anger over the "ravages" of larger trawlers and purse seine vessels from the west coast (Gothenburg area).[48] Actually, one of the most popular suggestions of protective measures among fishermen is to prohibit trawling and "industrial fishing" in the Baltic sea, clearly indicating a conflict of interest between small scale (often east and south coast based) and large scale (often west coast-Gothenburg based) fishing.

Earlier research also report quite straightforward expressions of intra-community suspicion and distrust. Not only do the small scale fishers articulate serious suspicions towards the trawlers when it comes to cheating. No less than 71 % of the fishers do not trust the fisher community to manage the control by themselves.[49] They simply do not trust each other. This could obviously be interpreted as a supportive or favorable condition for the traditional dilemma explanations and also these tentative results are of concern for our hypothesis number two ("Refusing to be the only sucker at sea?").

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and 25% of all fishermen. The value of the landed catches is no more than 7 % of the total, but the segment has the highest refinement value in the whole fleet. More numbers: there are around 55 *pelagic trawlers and purse seine vessels over 24 meters* in length, and around 60 *such under 24 meters*. The segment of > 24 meter vessels employ around 15 % of all professional Swedish fishermen, harvest wholly 80 % of the total catch volume, and provide the highest landing value in the fleet. However, the refinement value of the catches are among the lower in the Swedish fleet. 60 *prawn trawlers* with an average length of 19 meters operate around the (west) coast, as do 90 *crayfish trawlers* with an average length of 14 meters. There are also *trawlers specialized in demersal species*, mostly cod. 16 of them are more than 24 meters long, 70 of them are under 24 meters.

[47] Ellegård & Eggert (2002)

[48] Purse seine= ringnot/snörpvad

[49] Ellegård & Eggert (2002)

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