

Reducing complexity, constructing identities and ascribing capabilities. Making transboundary risks governable

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Abstract: This paper explores how complex and ambiguous issues are made governable. The point of departure is that regulation and rule-making consist of processes in which borders of society, science and nature intersect and are renegotiated. The regulation of four kinds of environmental issues is analysed: protection against oil pollution in the Baltic Sea, mobile phones and radiation protection, genetically modified crops and climate change adaptation. In these four areas, different actors’ articulations, strategies and practices and how they act trying to render an issue governable are investigated. In particular, attention is devoted to three aspects namely how the complexity of rather vague and multifarious issues are reduced, how spatial demarcations are made in order to territorially anchor the issue, and how certain actors are perceived as relevant for regulating the issue. In short, by reducing complexity, constructing identity and ascribing capabilities of an issue, a regulatory object is created suitable to be politically managed.

Keyword: environmental regulation, transboundary risk, governance, expertise, discourses, framing

1. Introduction: regulating transboundary issues

During the last three decades a number of environmental problems have been conceptualised by the international community as problems possessing a threat to human existence, and thus demanding global concerted action. Through regulation, organisations try to make these issues governable. By making authoritative rules, certain actors attempt to restrict what they view as harmful activities while simultaneously enabling others to take action aimed at preventing or at least diminishing the harm. However, whereas some actors may try to advance claims about the need for regulating an issue, others may try to prevent an issue from becoming perceived as threat in need of regulation. And even in those cases where the vast majority of actors agree on the need for regulation, the type of regulation may be hotly contested; debated matters include the style, character and size of regulation as well as more fundamental issues such as its objects and who should have the power to construct, exercise and alter rules.

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This paper explores how complex and ambiguous issues are made governable. The point of departure is that regulation and rule-making consist of processes in which borders of society, science and nature are intermingled and renegotiated. Earlier demarcations are transgressed and new ones are configured. Some actors are put in the shadow and given limited power whereas others come forward – or are sometimes even invented – as central for regulating certain activities. Some knowledge is defined as policy-relevant, whereas other knowledge is seen as less relevant or in some cases is ignored. And while some aspects of a problem may be organised into politics through rule-making, others are organised out, left aside from negotiation, deliberation and decision-making. Thus, regulatory processes reveal the construction of what is worthy of protection, whom to protect, for what reason, and in what way; thereby framings and discourses come to the fore when analysing regulation.

The empirical analysis draws on a recently conducted study on regulation of four policy areas: oil transports at sea, mobile phones and radiation protection, climate change adaptation, and genetically modified crops (Lidskog, Soneryd & Ugglå 2009). Drawing on regulation theory, discourse theory and science and technological studies, different actors' articulations, strategies and practices and how they act trying to render an issue governable are investigated. The area studies are mainly conducted within a Swedish context, but it is done without leaving other relevant organisations and actors for rule-making aside (the European Union, United Nation and other relevant instances).

Our analysis of this empirical material is interpretative, implying that we are interested in what oil protection, radiation protection, genetically modified crops and climate change adaptations mean to the actors involved in the regulatory work (as opponents, advocates or ambivalent participants). Through constructing and using different ways of framing, actors make sense of rather complex phenomena, and the frames shape the remedies proposed and which actors are seen as having capabilities and competence to develop regulation.

The paper consists of five sections, including this introduction. In the next section, the theoretical approach will be elaborated by discussing what regulation means by emphasising its performative dimension. The third section presents the four empirical areas. In the fourth section, attention is devoted to three aspects, namely how the complexity of the rather vague and multifarious issue is reduced, how spatial demarcation is made in order to territorially anchor the issue, and how certain actors are perceived as relevant for regulating the issue. In short, how complexity is reduced, identity constructed and capabilities ascribed. The fifth and

concluding section situates the result in a wider discussion on regulation, and discuss why it seems so hard for citizens and environmental NGOs to influence the regulation.

2. Transboundary risk governance

Politics concerns the power to influence society – to steer it by restricting certain activities and enabling others. To a large extent this is done by developing regulation. Viewing regulation as a kind of risk management does not imply that the task is to eradicate risk, but rather to make uncertainty manageable by drawing boundaries for what is acceptable and developing systems for controlling risk (Baldwin and Cave, 1999: 138; Hood et al, 2001: 3; Hutter, 2001: 4; Lidskog, Soneryd & Uggla 2005). To conceptualize an object as a risk means that it is seen as manageable and governable. Risk creates space for action as it opens the future for calculation, deliberation and decision-making. In this sense, regulation ‘enrols’ futures and shapes policy formulations (Wynne, 1996).

However, regulation not only concerns the question of how to manage an already defined reality, regulation is also a part of the construction of this reality. Regulation not only governs specific objects, but is also deeply involved in the construction of these objects. Explicitly or implicitly, regulation creates demarcations and draws boundaries that make objects appear hazardous or harmless, safe or risky, natural or unnatural, important or unimportant. In that sense, regulation should be understood as discursively constituted (e.g. Rose, 1999; Fischer, 2003; Hajer and Wagenaar, 2003), implying that analyses of regulatory processes should direct attention to how various actors conceptualize and understand reality. From this perspective, politics can be understood as a struggle for discursive hegemony in which actors attempt to promote their definitions of reality. If successful, discursive steering means that subjects are made governable by influencing the construction of reality and the meaning different actors attach to specific objects.

During the last couple of decades, regulation has increasingly broadened its scope to not only focus on how organizations deal with technically defined risk, but also about the legitimacy of the regulatory organisation. The reason for this is an increased awareness of *how* organizations deal with issues of trustworthiness – actualised by stakeholders’ claims, public opinion and media attention– as a source of risk in the sense that other actors’ understanding could pose a threat to the legitimacy and stability of existing ways of governing risk (Power 2007). Thus, rule-making concerns not only rules about what is acceptable in terms of how we

should mitigate or accept for example a certain environmental hazards or health risks, but rules regarding the process itself and how actors evaluate the legitimacy of this action.

However, it is important to note that these actors and their interactions are situated within institutional contexts which enables and restrict their scope of action. Thus, even if regulatory objects are created in social and political processes in which actors struggle to produce and distribute their way of framing the issue at stake and propose relevant solution to problem associated with it, this struggle does not occur in a social vacuum. Instead, risk regulation is embedded in a specific social context. Therefore “risk regulatory regimes” is used to denote that there is a complex of institutions, norms, practises and knowledges that heavily influence the regulation of a particular risk (cf. Hood et al. 2001).

To sum up, regulation is to a large extent is a form of risk management; it is performative – not only inventing rules but also regulatory objects; it is not only directed towards regulating objects, but also organisations and people; and it is embedded in a wider form institutional structure. This means that an important aspect in analysing regulation is to investigate how complex and ambiguous issues are made governable by reducing their complexity and dissolving uncertainties associated with the issue. Another important aspect is to investigate how issues are spatialised. In a word organised through geographical borders, issues have to be related to this borders. Thus, to become political manageable an issue needs to get a spatial identity. A third important aspect is to investigate which actors are assign capabilities to act. In the regulatory processes, some actors are single out as having the capability and responsibility to take effective action, whereas other actors has not (lacking competence and resources) and should therefore not be given possibilities to influence the design of regulation. Thus, regulation also includes fundamental question concerning the actor’s mandate, scope of action and attributed responsibility.

3. Four risk regulatory regimes

At surface, the four studied regulatory fields may be seen as very different, but they also share a number of similarities that makes them relevant to compare. The selection of these areas is motivated because they provide material for a discussion on rule-making processes associated with issues involving different sets of actors and different types of regulation. All of the selected areas concern regulation of risk to the environment and health, and all are areas that have received media attention and varying degrees of public attention. Furthermore, expertise

is seen as crucial to gaining knowledge on the future effects of current action or inaction, as well as in acquiring sufficient knowledge to draft relevant rules. Finally, all of the chosen areas are transboundary issues in the sense that a number of actors are involved in negotiating and constructing the rules, and that single governments have to negotiate and cooperate with other actors in order to construct rules. They are also subordinate to international regulation in that sense that in developing rules the regulatory organisations have to consider already existent institutional regulatory frameworks. Besides these similarities, the regulatory fields differ concerning the breadth of the application of rules, the types of regulatory arrangements and expertise involved, and how the public is included.

Regulating oil transport in the Baltic Sea

The history of modern international Law of the Sea may be understood as a continual endeavor to balance two fundamental but opposing principles (Brown 1994: 6). The first is the principle of territorial sovereignty of the nation state and the second is the principle of the freedom of the high seas. In the twentieth century sea transportation has resulted in obvious pollution, such as oil discharges and waste dumping. In the late 1950s oil discharges from vessels became one of the first environmental issues to be subjected to comprehensive international regulation (Ebbesson 1999). In the course of regulation tanker accidents have functioned as a catalyst for increased environmental protection and stricter rules that appear to challenge the principle of the freedom of the high seas. In the early 1990s the concept of Particularly Sensitive Sea Area (PSSA) was established by the International Maritime Organization (IMO) for protection of areas especially vulnerable to damage by international shipping activities (IMO 1991). This regulatory concept has on some occasions been used to contest and challenge the boundary between territorial sovereignty and the freedom of the high seas as established in international law. Since the approval of the first PSSA guidelines, the concept has been under recurrent discussion and redefinition. Not least was the designation of the Western European waters as a PSSA in 2004 intensely debated within the IMO (Detjen 2006, Roberts 2005, Uggla 2007).

In recent decades, the environmental situation of the Baltic Sea has received political and public attention. With nine state bordering the Baltic Sea, whereas one – Russia – is not a member of European Union, have made it difficult to reach binding agreements and implement measures (GCR 2008: 118).

In Sweden, politicians, public authorities and environmental organizations all portray the Baltic Sea as a unique, fragile and threatened inland sea that merits special protection, not least due to increased Russian oil exports. To this end, the formal concept of PSSA was put forward as a way to strengthen environmental protection in the area. The Baltic Sea with the exception of Russian waters was designated as a PSSA by the IMO in 2005. The designation was preceded by discussions and deliberations within IMO, primarily concerning the size of the proposed area. Consideration of the Baltic Sea as a PSSA also prompted internal political debate in Sweden. The Swedish debate basically concerned who should be the legitimate interpreter and spokesman in the matter – politicians, environmental movements or judicial expertise.

The concerns relating to the process of establishing the Baltic Sea as a PSSA to large extent became confined to debates about the boundaries of these existing legal frameworks. Not even the environmental NGOs that advocate more radical ways to regulate oil transport in the Baltic Sea questioned the overall framing of the issue. As a result, all of the actors involved were eager to defend their standpoints with reference to the authority of IMO and the established regulatory framework. The existence of a well-established regulatory framework and actors that as a whole supported the bid for a Baltic PSSA, meant that there were few opportunities for discussion of other types of regulatory measures. Furthermore, because of basic agreement on the problem definition and the choice to pursue a PSSA designation, the issue was primarily framed as a judicial matter.

Regulating mobile phone radiation

Many radio-frequency technologies have since the 1960's been the target of public concern (microwave ovens, television, radio broadcast towers, video display terminals, radar systems and power lines etcetera). Institutional responses to public concerns in this policy domain have varied internationally and depending on which radiation generating technology has been under scrutiny. In the 1990's the controversies around mobile phone infrastructure have been in focus and especially in conjunction with the introduction of a new, third generation (3G) net, in Europe (Stilgoe 2004). Radiation protection and regulation of radio-frequency generating technology in general, provides a backdrop to the understanding of this particular conflict.

In contrast to oil protection of the Baltic Sea the main tension in the Swedish debates over the building of a new mobile telephone network, was that between how the issue was framed according to whether it was connected to local or national concerns. While the concerns of municipalities related to the desire to maintain greater control over the activities, i.e. the building of mobile telephone masts, the national authorities framed the issue as a risk issue and science was consequently placed in the centre of discussion and debate over regulation. Public concerns did not necessarily relate to risk, but this was how the national authorities interpreted the massive protests against the building of the network. Thus, in this case an established regulatory framework – including international standards and formal organizations densely populated by expertise – was challenged on various grounds, but the debate in municipalities and national authorities took very different turns. The role of the international body, the International Commission for Non-ionizing Radiation Protection (ICNIRP), was debated, and its capability to provide authoritative knowledge was questioned by active groups of citizens mobilized to stop the building of the new mobile telephone network.

International regulations, scientific evidence, and the meaning and usage of the precautionary principle became subject to testing, contestation and renegotiation (cf. Timotijevic and Barnett, 2006). While the definition of ‘scientific evidence’ framed the entire discussion in the national project between authorities and stakeholders, the local initiative to establish low-radiation zones, was an example of a different type of power structure, in which science was important but did not take centre stage in the discussions.

Thus, the regulatory conflict did not primarily concern a process in which new rules and regulations were to be set, but was on how existing rules should be understood and on which knowledge and concerns they should be based. The responsible agency privileged certain knowledge as a basis for efficient risk regulation, and even if it was questioned by actors who oppose a new mobile telephone network or by actors who associate their own illness with EMFs, it did not affect the regulation.

Regulating genetically modified crops

Since late 1980’s, the EU has step by step introduced regulations aiming to distinguish genetically modified (GM) crops from their conventional and organic counterparts. The special treatment of GM crops in the EU is explained by regulatory challenges caused by ‘food scares’ and pre-existing uncertainties related to agricultural biotechnology. Concerns

about the risk of admixture of genetically modified organisms to neighbourhood plantations and wild relatives, is not only raised in relation to consumers' real possibility to choose GM free products but also to biodiversity in a long term perspective. In order to prevent unintentional or adventitious gene flow, the European Commission decided that each member state should, by the end of 2005, present a co-existence strategy; that is, rules concerning co-existence between GM, conventional and organic agricultural production (EC 2003). At the same time the EC recommendations stated that measures should *not* be more far-reaching than necessary. Boundaries between GM and non-GM products are drawn by earlier regulatory measures, such as threshold figures of GM material and rules concerning traceability of the transformation event during the production chain. This co-existence discourse claimed that different types of agriculture can exist side by side without having an impact on each other, and claims that GM cultivation does not raise any new questions, but is a mere extension of already existing technology and earlier plant breeding methods

Rules on coexistence were thought to ensure the existence of all types of agriculture and at the same time allow for consumers and farmers to choose. Since rules of how to take into consideration the risks to the environment and health were already in place in several EU regulations, the European Commission framed the coexistence issue as a regulatory measure that would address economic risks (EC 2003: 39). A spread of GM crops to conventional or organic farming areas (and vice versa) may result in great economic loss for those farmers, and this was the problem that rules on coexistence aimed to tackle.

In the Swedish case, the task of formulating regulatory measures on coexistence was delegated in 2002 to the Swedish Board of Agriculture (SBA 2003). The Board is an organization with a history and tradition of being a closed expert authority. One implication of this was that the risk was narrowly defined and that science and calculative practices became decisive in the Board of Agriculture's handling of the issue (Lezaun & Soneryd 2007)

The treating of GM crops as a traditional agricultural issue was however challenged by environmental NGOs which claimed that agricultural biotechnology raises completely new types of ethical considerations, and therefore the precautionary principle should be central for the regulation of GMO crops. A contamination discourse, which not only restricts the issue to be of economic character (economic loss because of changes in consumer behaviour) but widens it to also include environmental and health risks. Not least Greenpeace International heavily emphasised that GM contamination constitutes a great risk (Greenpeace 2007: 4), and this criticism was referred to in the Swedish debate. However, despite the attempts to broaden the

scope and understanding of the problem, the proposed regulation was established implying a technical defined risk and overarching coexistence discourse.

Regulating climate change adaptation

The main policy responses to climate change, as established in the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, are mitigation and adaptation. Mitigation concerns reduction of GHG emissions and enhancement and protection of sinks and reservoirs, while adaptation concerns various responses to experienced or expected consequences of climate change. Thus far, the bulk of the climate policies concerns mitigation, whereas the issue of adaptation has only recently become a concern for the UN, EU and single countries (Adger et al. 2005, Tol 2005). The request for national and regional climate adaptation programs has until recently been disregarded in most Western countries (EEA, 2004). The expert body in this area is the Intergovernmental Panel on Climate Change (IPCC). The IPCC represents authoritative knowledge of relevance for the political community's engagement in climate change policy (Adger 2006).

In the absence of political commitment and public opinion, a number of government bodies in Sweden formed informal partnerships and developed policy initiatives. The unrestricted nature of this regulatory field, partially due to the inclusive understanding of what constitutes adaptation measures, ranging from simple inertia (i.e. acceptance of expected damage) and capacity building to more tangible measures, opens an arena for different actors to set the agenda. Hitherto, this policy formation has been initiated by authorities and local and regional actors, themselves defining the issue as within their field of responsibility.

In the UN Framework Convention on Climate Change (1992), the distinction between human-induced climate change and natural climate variability constitutes the key dividing line between those who are eligible for financial support and those who are not (Verheyen, 2002). This strict interpretation of the regulation appears to be problematic, however, and recent interpretations seem to have lessened this distinction in that COP decisions include climate variability as well as climate change in discussions on climate adaptation. However, in Sweden this distinction became important, when it comes to clarify roles and responsibilities and initiatives to address the issue of adaptation.

An obvious complication with the distinction between climate change and climate variability is the inability to draw the boundary in practice and the uncertainty regarding possible

consequences of climate change (Pielke 2005). This obstacle was in some cases managed by reference to authoritative knowledge, e.g. climate modelling and scenarios from IPCC and the governmental agency Swedish Meteorological and Hydrological Institute (SMHI). In other cases, the actors involved, e.g. local planners, call for more specific recommendations and guidelines, e.g. from the national public agencies. This strategy is based on the simplification and standardization of a complex and uncertain set of knowledge.

Another strategy is to take a pragmatic view and use the present as the starting point. This practical approach is more likely in cases where state subsidies are not involved, since in these cases the local actors are in a sense more independent in relation to the national authorities. At the same time, irrespective of any requirement for state subsidies, figures and numbers established by national public agencies seem to become authoritative in the local process.

4. Making risk governable

The regulatory processes within the four studied areas differ. In the case of oil protection of the Baltic Sea, the discussion were subordinated to the established regulatory framework in which an intergovernmental agency (IMO) had a central role; in regulating mobile phone radiation and in regulation genetically modified crops there were struggles between competing discourses and regulatory framework, in the former concerning the proper interpretation of established rules and in the later about the rules themselves. The regulation of climate change adaptation took place in a political vacuum in which governmental agencies voluntarily start to develop rules, but faced great problems because boundaries drawn in the international regulation was not hard to use in practise. In the following we will turn attention to how these four areas were made governable.

Reducing complexity, managing uncertainty

Environmental problems are increasingly understood as complex and ambiguous phenomena associated with great uncertainty (Beck 1992, Irwin & Michael 2003, Lidskog 2008, Renn 2008). To make this kind of vague and multifarious phenomena manageable, their complexity needs to be reduced and the uncertainties associated to them need to be dissolved or at least made manageable.

A central way to reduce the complexity is to privileging particular knowledge claims, not least scientific ones. Through calculative practises, the rather complex issue of genetically modified crops, electromagnetic field and climate change was transformed to risk issues; issues that were possible to calculate about safety distances, accepted level of emissions and exposure. However, this scientisation means also a de-contextualisation, in which universal standards and rules were created. In the case of EMF and GMO, universal safety distances and levels were seen as a way to dissolve uncertainties, whereas in the climate change adaption case, the standardised knowledge – in form of models and scenarios – produced by IPCC and the SMHI was not relevant when facing practical issues such as which measures should be develop to make places and communities less vulnerable for consequences of a climate change. Thus, a scientisation does not necessarily imply a dissolving of uncertainty, but other strategies may be invoked to make an issue manageable.

By transforming the issue to one of risk, the complexity of the issue was reduced. By calculative practises, standardised way of measurement and modelling, and regulatory object was constructed and stabilised and direction of action was determined.

It should be noted that in the case of Baltic Sea Protection, unlike the other regulatory areas, risk never became an issue *per se* in the discussions of environmental protection of the Baltic Sea. Contrary, it was framed as a judicial issue, in which the interpretation of law became central, and the role of science was downplayed. However, that science did not get a pivotal role in this regulation does not mean that it was more open for environmental NGOs or citizens to influence the regulation, but only that another kind of expertise became central. By reducing the issue of oil protection of Baltic Sea to concern the judicial status of the area and measures connected to this status, a regulatory object was created.

The proposed regulation was contested in two of the cases (EMF and GMO), but opponents did not succeed to influence the framing of the issue and construction of the regulatory object.

Within all four regulatory areas, expertise was central to reduce the complexity. By different kind of expert knowledge, regulatory objects were invented and stabilised. Within some areas, a reduction was made by scientising the issue (through standardisation and calculative practises), whereas in other areas it was made by de-scientising it, for example by making an issue to concern valid interpretation of law or by adhere it to concern certain fundamental principles and values.

Constructing spatial identities

Environmental problems are increasingly understood as transboundary matters, transcending borders of nation state (see e.g. Beck 2006, Harvey 1996, Held and McGrew, 2007, Lidskog & Elander 2009). In a world of territorial organised politics, issues need to be territorially anchored to become manageable. By ascribing a problem a specific spatial characteristic, actors may advocate a certain handling of the problem as well as who should be responsible and take part in the regulatory process. This ascription of a spatial identity is a performative act; to localize or globalize an issue make sense, provides with meaning and creates opportunities for political action (cf. (Czarniawska & Joerges 1996: 21)

Through shaping the spatial identity of a problem, a certain environmental issue can be handled as a matter of international priority, as the sole responsibility of domestic politics, or as a local problem for municipalities to deal with. Actors vie to bind issues to a specific spatial identity, thereby creating incentives for certain types of political action or inaction, and expectations regarding accountability are placed on certain actors.

The four regulatory areas all show the importance of spatial demarcations and how constructed spatial identities opened up specific spaces for political action, at the same time as they closed other. In the case of EMF, action groups tried to localise the issue and claimed that the siting of mobile phone masts raised fundamental democratic rights and also about the meaning of local self-governance. This counter-discourse was strong on local level, but did not succeed to influence the international and national regulation of EMF. In the GMO case, the problem was framed as a national and regional problem, developing national and European measures for controlling unintentional spread of GMO crops to neighbourhood plantations. At the same time, environmental NGOs tried to contextualise the problem, claiming that local specifics have to be considered when discussing the risk of admixture. In the case of climate change, there was no contestation concerning the need for local action, but the gulf between global and regional climate models and local consequences of climate change constitute a major obstacle for regulating climate change adaptation. In the oil transport in Baltic Sea, the constructing of a particular geographical area to protect – the Baltic Sea – ran the problem that Russia did not accept the need for protecting the issue. Thus whereas a spatial identity was created by Sweden and many other Baltic Sea countries, Russia obstruct the possibility to create effective regulation of this area.

A specific kind of spatiality was created in the case of radiation protection of mobile phone and the oil protection of the Baltic Sea. In both these cases, certain areas were demarcated for

stricter regulation. In the EMF case, low radiation zones were created. This was a way for local politicians and citizens to use existing regulation to resolve a situation they were unhappy with but had little chance of changing on an overall basis. In Baltic Sea case, the PSSA concept was pursued to protect a certain area, whereas oil shipping in other areas was not included in the regulation.

Thus, spatial demarcations are made in order to make issue politically manageable. Through different kind of scale-making exercises, actors try to relate issues geographical borders and thereby constructing regulatory objects. Thus, to define an issue to be of transboundary character does not make space meaningless, but contrary raises the need to draw spatial demarcations.

Ascribing capabilities, allocating responsibility

Environmental problems are increasingly understood as cross-sectorial problem in which actors' responsibility are blurred (Stoker, 2000). Traditional top-down ways of managing environmental problems are questioned, and governance – policy-making that involve a wide range of actors (public and private) at different policy levels – is put forward as more feasible and efficient way to handle transboundary risks ((Benner et al. 2004, Winter 2006).

To make an issue manageable it is therefore not enough to reduce its complexity and construct a spatial identity. There is also a need to identify which actors are best suited to take action and be responsible for the development and implementing of rules. As been seen above, to reduce the complexity and construct a spatial identity of an issue, involves a drawing a boundaries and making of demarcations. These boundaries influence which tasks, mandate, responsibilities and identities are ascribed to different actors, resulting in that certain actors are seen as central in the regulatory work, whereas others are simultaneously seen as unimportant.

Concerning climate change adaptation, the widely defined domain area, the inclusive understanding of what constitutes adaptation measures and the lack of political and public attention opened up an arena for a number of actors that claimed to have a stake in or responsibility for this task. This led to that a number of actors established expertise within the field. In contrast to this, the regulating of GM crops was treated primarily as an agricultural matter, implying the need for a certain kind of expertise causing limited opportunity for other actors than the Swedish Board for Agriculture to be seen as competent and relevant in the

regulatory work. In the case of mobile phones and radiation protection, an international community of experts had great authority in setting rules – rules that Swedish authorities chose to rely on. On local level a number of actors tried to challenge the regulation, but on national level there was limited opportunity for other actors to be perceived as legitimate actors in the regulatory work. In regulating the Baltic Sea, the overall judicial framing of the issue condensed the debate in a way that partly obscured the initial environmental concern. Instead, the internal Swedish debate came to centre largely on the character of the various actors involved, e.g. in terms of responsibility, qualification, commitment and ability to act. In the international negotiation, the Swedish government relied heavily on the Swedish Maritime Administration, and other voices from the internal debate – not least that from Greenpeace – was considered as irrelevant and deemed also to be unrealistic when approaching the international negotiations.

The studied regulatory areas show that various actors made efforts to influence both the regulatory processes and the outcome of these processes. In achieving this, they explicitly or implicitly position themselves in relation to other actors. Thus, when the actors involved in a regulatory process convey their view on the need for regulation and how they perceive the regulatory process, they also say something about their view of themselves and ‘the other’, that is, the construction of agency and responsibility is enacted through both identification and discrimination. Thus, regulation provides with spaces in which actors’ identities are negotiated and shaped, resulting in a allocating of mandate and responsibility for regulating the issue at stake.

5. Conclusion: downstreaming risks and excluding citizens

This paper concerns how an issue is rendered governable. We have argued that regulatory objects are not stable or complete entities. Adopting this perspective means that attention must be paid to how actors shape regulatory entities. Actors can ascribe an issue certain characteristics such as being of local or global concern, being a calculable risk or indeterminate object, curable or incurable, robust or vulnerable. In doing this, they also make assumptions about appropriate remedies, relevant knowledge and how to distribute responsibilities.

In an international perspective, Sweden has far-reaching environmental ambitions. However, in the studied cases, it was only in the area of oil protection of the Baltic Sea, that Sweden

was a driving force, and worked to create new rules and more effective regulation. In all the other three areas, Sweden, only applied existing rule and had not any ambition to create new rules or interpret existing rule more radically. A reason for this is that some of these areas are intimately connected to economic growth. In contrast to environmental NGOs, Swedish authorities primarily perceive the areas of biotechnology and new communication technologies to be of great economic importance to the country's national economy, and thereby they did not promote stricter regulation. As concerns climate change, adaptation measures can be seen as too costly and an economic burden. Obviously, it can be argued that improvements in infrastructure will create a more robust society and that it will be economically beneficial in the long run. However, from a short-term perspective, these infrastructural investments are expensive and there is no certainty that they will be efficient from a climate change adaptation standpoint. Contrary to these areas, Sweden promoted stricter regulation in the case of oil transport. These transports had no important effect on the domestic economy in Sweden. At the same time as Sweden made claims about the need for new rules, it had to find way to cooperate with other countries at the Baltic Sea, and Russia, which was largely dependent on the oil transport, did not become a part of the designing of Baltic Sea as a PSSA.

Thus, the embeddedness of these activities and technologies in the economy, make them hard to regulate; when a single nation-state perceive an activity to be of importance for economic growth, it have limited interest to restrict this activity, and also may work to oppose other nation-states' work to restrict it. In those case regulation take place, it is mainly to alleviate negative consequences of an activity, and not to discuss restriction on the activity as such.

This leads to another finding of our study. In our four studied areas, more general discussion on technical, economic and scientific developments and fundamental assumptions regarding the purpose and need for certain activities was rarely raised. Instead, the regulatory discussions focused on the consequences of seemingly unquestionable activities. This resulted in privileging a scientific risk discourse in which science and other kinds of expertise got a dominant role in the regulatory processes. The regulatory discussions largely concern downstream risk, i.e. presumed adverse impacts of activities, and not upstream risk, i.e. technical and economic developments that underlie the activities and generate these impacts (cf. Wynne, 2005). A result of this is that many issues of concern, such as concerns over technical, economic and scientific development and fundamental assumptions on the purpose

and need for certain activities to a large extent were excluded from regulatory discussions, or deemed in the discussion to be irrelevant.

An implication of this down-streaming is that issues of public participation and stakeholder involvement are excluded from regulatory discussions and negotiations. The “we” in regulation often referred to a small community of political, economic and scientific elite. Thus, there seems to be a risk that issues of public participation and stakeholder involvement (at least when it comes to less powerful stakeholders) run the risk of being subordinate to an instrumental frame of regulating the adverse consequences of activities. This means either that government agencies are seen as legitimate spokesmen for public concerns, or that the participation of a broader set of actors primarily functions to legitimize the regulatory process. When environmental organizations tried to introduce an upstream perspective in the regulatory discussions – such as in the case of genetically modified crops and the case of protecting the Baltic Sea – this perspective was firmly rejected by the public authorities formally responsible for the regulation. Thus, excluding some forms of perspectives and knowledge simultaneously also excludes certain categories of actors.

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