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Limits of governability: Institutional implications for fisheries and coastal governance ☆

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Abstract

Drawing on some recent developments in so-called "interactive governance theory", it is argued that fisheries and coastal governance is basically a relationship between two systems, which could be termed a "governing system" and a "system-to-be-governed." The former system is social: it is made up of institutions and steering mechanisms. The latter system is partly natural, partly social: it consists of an ecosystem and the resources that it harbors, as well as a system of users and stakeholders who form political coalitions and institutions among themselves. Obviously, we need to be concerned with the relationship and interaction between the governing system and the system-to-be-governed, which forms a system in its own right. According to governance theory, these systems share similar structural attributes: they are diverse, complex, dynamic and vulnerable. In order for governance to work they must somehow be compatible, in order to be mutually responsive. This is not a matter of natural mechanism but of institutional design by societal actors such as legislative bodies, planning agencies and civic organizations—alone, or in concert. What conditions, mechanisms and institutions are conducive to creating a better rapport between the governing system and the system-to-be-governed? Before we can start this discussion, we need to rethink our basic assumptions of what governance is, what governors do, and what we can expect from governance. How do we get from where we are now to where we want to be? In order to accomplish this we need something other than an instrumental, rational model. We need "a technology of foolishness" that emphasizes institutional experimentation and learning by doing.

Keywords: Interactive governance; Institutional design; System theory; Fisheries and coastal management

1. Introduction

As defined by Kooiman et al. [1], the term "interactive governance" emphasizes an integrated, communicative and politically informed approach to fisheries and coastal reform. Interactive governance holds basic social values and ethical principles to be issues of consideration and decision-making, and is appreciative of contextual factors and local knowledge. The involvement of stakeholders, representing the state, the market and civil society is also essential (cf. [2,3]).

Drawing on some recent developments in interactive governance theory, it is argued that fisheries and coastal governance may be seen as a relationship between two systems that could be termed a "governing system" and a "system-to-be-governed". The governing system is social, and therefore man-made: it is made up of institutions and steering instruments and mechanisms. The system-to-be-governed is partly natural and partly social: it consists of an ecosystem and the resources that this harbors, as well as a system of users and stakeholders who form political coalitions and institutions among themselves. We should also be concerned with the relationship and interaction between the two systems, which forms a system in its own right. The social system affects change in the natural system, but it is also dependent and therefore vulnerable to these changes, since they set limits to resource users' potential. This interaction is co-evolutionary but not

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necessarily linear [4]. Rather—according to interactive governance theory—it is diverse, complex, dynamic and vulnerable. The governing system aims to influence the interaction between the social and the natural sub-systems that are to be governed. To get at the natural sub-system—in order to halt ecological degradation, for instance—the governing system must work with and through the social sub-system.

Interactive governance theory argues that for the relationship between the governing system and the social sub-system that is to be governed to be effective, structural adjustments are needed within both systems. The systems must be compatible in order to be mutually responsive. This is not a matter of natural mechanism, but of deliberate intervention, planning and institutional design by societal actors such as legislative bodies, planning agencies and civic organizations—alone or, according to governance theory, preferably in concert. Getting the institutions right is certainly a daunting challenge, since the issues and concerns that have to be taken into account are quite abundant. The measures need to be effective and efficient, but they also have to be ethically sound and socially just. Last but not least, they have to be embedded in particular contexts, since they can never work in a social, cultural and political vacuum. Nonetheless, there are attributes of the system-to-be-governed of a rather general nature that have implications for governing system design.

This paper explores these attributes and their ideal consequent institutional responses. Before starting this discussion, however, we need—in the same way as in interactive governance theory—to rethink our basic assumptions about how fisheries and coastal governance works, and what can realistically be expected from governance. At the end of the day, there may be limits to what a governing system can possibly do. The knowledge base may be insufficient. The governing system may be without proper tools, or the tools may not be available. Some realms of the system-to-be-governed may be out of reach, for instance if they will not allow themselves to be governed. Still, what is impossible today may become possible tomorrow. Governors may get better at doing what they do. Things may happen with regard to both the systems and their interaction that will enhance governability. The question therefore remains: how do we get from where we are now to where we want to be in fisheries and coastal governance terms? If current governing systems are not up to the task, how might they become so? In this paper the argument is that we need something other than an instrumental, rational model. We need what [5] labels a "technology of foolishness", which emphasizes institutional experimentation and learning by doing. According to governance theory, learning processes should be interactive because such processes are more effective if they are structured so that the actors involved learn from each other and together reflect on what they have learned.

2. Governance images

The sociologist Thomas is the originator of the theorem that carries his name: "If men define situations as real, they are real in their consequences" [6, p. 71–2]. In other words, what is real is also an issue of perception, and what is perceived as real is confirmed because people act upon this. Thus, images, metaphors, assumptions, visions, generalizations—or whatever we call them—have a programmatic effect: reality is not only represented in our mental models, its social construction is also based on them. They become a norm and an outline for social action. Therefore, with reference to the tragedy of the commons, Ostrom says that there is power in metaphor and that "politics based on metaphors can be harmful" [7, p. 23]. Although the metaphor allows us to see certain aspects of a social phenomenon, it simultaneously renders us blind to other aspects. But images are also something that people can come to share through communicative interaction, something that allows them to unite, be empathetic towards one another and to co-operate. A vision that is shared can therefore be "a very powerful image than can inspire change" [8, p. 358] and foster "a commitment to the long term" [9, p. 10]. In fact, as will be argued later on, our ability to play with alternative images will to a great extent determine our ability to change, improve and innovate, since it is essential to institutional learning.

Coastal and fisheries governance is no exception to this rule. It rests on images and assumptions of how the world works and how it must be tended (see [2, pp. 29–44]). The image brings direction, meaning and logic concerning the "how and why of governance" [9, p. 20]. It also legitimizes: it causes the governed to accept the governing practice, as well as the authority behind it. Although interactive governance theory distances itself from one image, it also advances its own. Thus, Kooiman et al. [11, p. 17] perceive governance as "the whole of public as well as private interaction taken to solve societal problems and create societal opportunities. It includes the formulation and application of principles guiding those interactions and care for institutions that enable them." Governing as governance will therefore be principled, interactive and multi-stakeholder driven, whereas the alternative and more traditional view regards governance as unitary, single-minded, top-down and instrumental; it reduces governance to governing. Notably, in the governance framework, the system concept does not come with implicit ideas and assumptions regarding purpose (teleology), functionalism or reification. Rather, it is a heuristic, a helpful analytical device for reasoning about interrelationships and interaction among natural entities, social actors and institutions involved in societal governance, and for looking for them in empirical settings. Also, the two images of governance summarized below should be considered "ideal types" in the Weberian sense. They are analytical constructions, not empirical averages.

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(a) *Governance as governing*. The traditional governance model may be imaged as a pyramid, with the governing system in the superior, commanding position and the system-to-be-governed in the subordinate, receiving role. The governing system is hierarchical and rigid, with the state at the apex. Authority and responsibility are centralized and leadership employs a top-down mechanism, with the emphasis on enforcement and control. The governing system is self-sufficient, and has clearly defined boundaries, which render it easily distinguishable from other systems. It is apparent who are the governors and the governed, as there is no double membership in the two systems. Background images and assumptions are not communicated to those who inhabit the system-to-be-governed [8, p. 358], and goals and other steering means are always developed within the confines of the governing system.

(b) *Governing as governance*. This model may be envisaged as a rose [11]. Here, fisheries and coastal governance is perceived as an open system: interacting with and dependent upon its environment. The system forms a heterogeneous network—a political coalition—of more or less numerous and powerful stakeholder groups who are partly inside, partly outside the system. The particular stakeholder composition of the governing system, its goals and how it attempts to realize these goals is not given *ex ante* or once and for all. Each group has its goals to pursue, interests to defend, demands and contributions to make. Governance consists largely of negotiating conflict, making compromises and building (temporary) consensus, and leadership is not so much about the exercise of authority as about political brokerage, where conflicts are not necessarily resolved. Instead, conflict becomes a permanent feature of the governing system that renders it intrinsically instable and dynamic, and hence sometimes difficult to handle from a governability perspective. But conflict, as Coser [12] argued, can also be a constructive, integrative and sharpening force, and thus a positive element that brings people together and systems forward.

3. Stakeholders

Governance theory builds on the "open rational systems model" [13] insofar as it emphasizes external exchange and stakeholder participation. It is also normative, in the sense that it regards interactive governance as a more appropriate tool than the authoritarian model: stakeholder participation and politics is a good thing. However, this raises a number of questions pertaining to who the stakeholders are and, in particular, what they have at stake. Who do they represent and how representative are they? And who defines who they are? All of these questions are relevant to an understanding of how governance actually works and may be improved. These are empirical questions that have to be investigated on a case-by-case basis, but definitions and operational criteria can also be worked out *ex ante*. If you want to examine who the stakeholders are in a given situation, you need to know what to look for.

At a general level, stakeholders are simply those who have something to win or lose in the governing process. You are a stakeholder because of who you are, what you have and what you represent. It is not what you do that determines whether or not you are a stakeholder. In addition, being a stakeholder does not necessarily entail having to act upon this. You may be a stakeholder without knowing it, or without understanding how you are one. Stakeholders do not always react if they are at a loss, or respond when called upon. In order for stakeholders to take action, they must have a conscious feeling of being in a position of actual or potential loss or gain—individually or collectively—and that they matter and can make a difference. To achieve this, it helps if they share a vision, form a group—a "we"—or feel that it is within their capacity to form one. They must then have certain attributes in common that distinguish them from other groups, such as a world-view, life-style or similar relationship to a resource. This causes stakeholders to share an interest or a value, and therefore provides a reason to form a political coalition and act in a corporate capacity. Stakeholders often form what Etzioni called a "community-of-assumptions", which works as "a context internalized and institutionalized by a societal unit," which inspires group sentiment and therefore empowers the stakeholders as a political coalition [14, pp. 178–9]. As Etzioni argues, "it is unlikely that societal actors will act effectively without communities-of-assumption, for, while such communities delay reality testing, they contribute to consensus building, and thus, to action in unison."[1]

Stakeholders may be identified by the urgency of their concerns, the legitimacy of their interests or the power they hold [15]. A high score on all three variables will make them a clear candidate for becoming involved in the decision-making process. Such stakeholders are likely to be the first to be consulted or represented. Variance in score among stakeholder groups may determine their relative influence and their formal status within the governing system. A low score on one attribute may be compensated by a high score on others. Thus, stakeholders may have less urgent and/or legitimate concerns, yet still enjoy a powerful governing position. Such a situation might easily challenge the participatory process and question the design of the governing system. It might potentially inhibit governability: the governing system's ability to address the most urgent concerns.

4. System-to-be-governed: properties

The natural and social systems-to-be-governed comprise a number of structural qualities that the governing system

[1]Such assumptions may even be "held without awareness of their hypothetical nature" [14, pp. 178–9].

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has to take into account, since they establish conditions under which the governing system will operate. The governing system does not necessarily have to deal with these properties as a given: in some instances it may seek to maintain or change them. Thus, these properties may also be outcomes of governing system action. Kooiman and Bavinck [10] list the first three of the four properties registered below. A fourth—vulnerability—one is added here.

(a) *Diversity* relates to spatial variability in natural, social and cultural conditions. The number and characteristics of components (species, stakeholders) may vary from system to system, such as small versus large-scale marine ecosystems or tropical and temperate marine ecosystems. Similar differences are also noticeable within marine social systems. The number and characteristic of resource users may also vary considerably. Fisheries may be large or small-scale, and the rules under which they operate may differ from group to group and area to area. Some fisheries are single species oriented, whilst others exploit a more diverse resource base. Differences of this kind are often noticeable over short geographical distances—sometimes even within the same community—and give rise to competition and strife.

(b) *Complexity* refers to the fact that system elements are interactive, overlapping and interdependent, and therefore often in conflict. Interactive governance theory concludes "complexity is a function of the architecture of the relations among the parts of a system, and between a system and its environment" [10, p. 13]. Fish and other marine species and organisms feed on one another and together comprise a food chain. In addition, stock composition is influenced by natural phenomena such as sea temperatures, salinity, etc. Add, then, humans at the top of the food chain and we have an intricate, multi-scale "human-in-nature system" [16] that is inherently difficult to control and predict. As for the social dimension, Dryzeck [17, p. 65] points out that a contributory factor to the complexity of environmental problems is the variety of value positions brought to them by human stakeholders. "Legal pluralism" [18] highlights another dimension to this complexity. Not only can there be many legal systems for portions and sectors of the fisheries and coastal zone, they also overlap and therefore give rise to questions of priority. When different legislation applies to fisheries and marine aquaculture, for instance, which law has right of way when there is conflict between the two? Is the present-day "legal hierarchy" appropriate for anticipated future developments?

(c) *Dynamics* is concerned with the fluctuation and change that occur as a consequence of the tension within a system and/or between systems [10, p. 13]. Sometimes, the system-to-be-governed alters rapidly, unpredictably, irreversibly. Incidents in one part of the system may trigger processes that spread and magnify [19]. There is often no direct cause and effect relationship. Rather, they are indirect and cyclical. System processes are often non-linear and the outcome of such processes often indicates a time-lag. For those affected, the result is uncertainty and surprise. Ecosystem change often impacts on marine social systems, sometimes causing crisis and disruption. The relationship can also work in reverse: social system change may impact on fisheries and coastal ecosystems, for instance when there is population growth and migration [20], or when new industries emerge, such as marine aquaculture [21]. Accidents such as oil spills and natural catastrophes such as tsunamis may radically change the situation for coastal areas from one day to the next.

(d) *Vulnerability* refers to the fact that systems-to-be-governed are fragile, and therefore easily and sometimes irreversibly harmed. This would be less of a problem if the governing system was fully informed of how the system-to-be-governed functioned, but things interact in ways that are not always, and may never be, fully understood. The system effects of external interference are therefore often difficult to predict, even using the best scientific methods, causing chain reactions and "domino effects". For this and other reasons, science cannot always be trusted.[2] Consequently, things may go wrong, harming both nature and society to the detriment of current and future generations. Biodiversity may be lost forever. Coastal communities could be damaged beyond repair. Public access to the water-front may be lost and practically impossible to restore. But vulnerability is not only a physical threat: it is also social. As Watts and Bohle [22, p. 46] argue, vulnerability "is a multi-layered and multi-dimensional social space defined by political, social and institutional capacities". For instance, people are also vulnerable because there are no protective measures in place, such as legal mechanisms or social welfare programs.

5. Governing system: demands

According to interactive governance theory, governability is a function of the system-to-be-governed and of the governing system, and an interaction between the two. Whereas the four traits of the system-to-be-governed, depicted above, must be taken largely as they are, the governing system is a matter of institutional choice and planning. However, the diversity, complexity, dynamics and vulnerability of the system-to-be-governed each demand a proper response from the governing system. Thus, the governability of the system-to-be-governed also

[2] As Beck [23, p. 70] contends, the origin of risk consciousness in highly industrialized societies "came into being against a continuing barrage of scientific denial, and is still suppressed by it."

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appears to be dependent on the extent to which the governing system can deliver (or transcend) the four essentials of the system-to-be-governed. In this section, it is argued that diversity demands that the governing system be sensitive, whereas complexity calls for it to be inclusive. The reasoning further indicates that dynamics logically lead to a need for flexibility and vulnerability to caution.

(a) *Sensitivity* is an attitude as well as an approach on the part of governors, and a methodology for gathering information and making decisions. As an attitude, it involves an appreciation of variation, a perception of distinction, and a compassion for difference. Diversity is viewed as positive—an opportunity more than a problem. Sensitivity also involves awareness of delicacy and "Fingerspitzgefühl". Even small and marginal things may matter, because they may form part of a larger whole. Sensitivity to system diversity requires both analytical distance from and exposure to local context. It requires a focus on not only individual parts and sub-systems, how they look like from the inside and how they add up, but also on how the sub-systems intersect and interact, and for that an outside, elevated perspective is required. Although certainly complicating the system of governance, and therefore tempting to ignore, biological and social diversity has an instrumental value (e.g. a gene pool) and a value in itself (e.g. world heritage). Species conservation and ecosystem health are also ethical issues [10]. The same is true of social and cultural diversity: ethnic minorities and cultural practices need respect and human rights support.

(b) *Inclusiveness* is concerned with the ability to take many things into consideration at the same time. It is partly analytical, partly organizational. It stresses the need to employ a broad (holistic and interdisciplinary) perspective involving all the system particularities and how they connect. Interactive governance theory lists a number of relevant governing concerns, among them ecosystem health, economic efficiency and social justice. These concerns are largely incommensurable, and require some hard political decisions. Stakeholders are not only affected by the extent to which these concerns are addressed; they also represent and raise them. The stakeholders' involvement in the decision-making process will therefore help to ensure that these are considered and that they are balanced to the extent possible. One governing principle, inscribed for instance in the FAO (Food and Agricultural Organization for the United Nations) Code of Conduct for Responsible Fisheries,[3] is to make decision-making processes more open and democratic by including stakeholders. Participatory democracy in fisheries and coastal governance is a value in itself; it may be considered a basic right [24], thus becoming a governance principle [25]. But it is also expected to enhance legitimacy, and hence compliance, and therefore governability [26].

(c) *Flexibility* is, in our reasoning, about the governing system's aptitude in adapting promptly to system dynamics and change. Flexible systems are task-oriented and pragmatic. They are both able and willing to adapt when problems or opportunities so require. A flexible governing system is also resilient: it is able to recover from shocks and to learn from its mistakes. Flexibility requires a degree of opportunism, spontaneity and being prepared for the unexpected, and is therefore both a structural capacity and a mindset. Organization theory teaches us that flexible organizations have an organic constitution, and "the more organic the environment, the more organic the structure" [27, p. 137]. As argued by Burns and Stalker [28], organic organizations are also more innovative, because they have a "flat" design, informal communication, autonomous elements and a culture of learning. None of these are natural processes, however, but processes requiring human leadership and planning, as well as the ability to improvise. However, governors typically work on the assumption that fisheries and coastal system are controllable and that variations can be evened out, provided sufficient information and effective steering measures can be installed [29]. Mahon et al. [16, p. 1] recommend a shift of image to recognizing the lack of control as normal and focusing on resilience and adaptation.

(d) *Caution* relates to how the governing system actually interferes in the system-to-be-governed. Being cautious relates to what you do when you do not know for sure where to tread and what imprint you will leave—on others as well as yourself. Caution involves proceeding slowly and vigilantly in order to be safe. It also involves experiential learning in order to reduce the risk of the next step. "Imperfect knowledge in an uncertain world requires cautious action, and a maximum of critical feedback both before and after the fact" [17, p. 32]. The "precautionary principle" that is now established in the UN Fish Stock Agreement, the Bio-Diversity Convention and the FAO's Code of Conduct for Responsible Fisheries establishes caution as a governing principle for governing systems. It stresses that insufficient scientific knowledge is no excuse for reckless behavior and that there should be built-in safety margins to allow for uncertainty, as well as the need to shift the burden of proof from the governing system to the system-to-be-governed, whether fisheries are ecologically sustainable or not.

6. Governing system: provisions

Firstly, it was argued that diversity, complexity, dynamics and vulnerability are key structural properties of the fisheries and coastal systems-to-be-governed. Secondly, the conclusion was that sensitivity, inclusiveness,

[3] http://www.fao.org/figis/servlet/static?dom=org&xml=CCRF_prog.xml.

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flexibility and caution are the correspondingly required qualities of the governing system. The question therefore remains: which institutional configurations are fit to meet these demands? What would such institutions look like?

Interactive governance theory distinguishes between three forms of governing system to system-to-be-governed interactions: ''interference'', which is the least formal; ''intervention'', which is the most formal; and ''interplay'', which is semi-formal. According to this theory, the corresponding institutional ''modes'' are self-governance, hierarchical governance and co-governance [30]. The argument would be that the governing system should employ a mixture of all three modes. Following the *subsidiarity* principle, which dictates that governing responsibility should be located at the lowest possible organizational level (see for instance [31], [10, p. 193]), hierarchical governance would be the fall-back alternative if neither self-governance nor co-governance were up to the task, whereas self-governance by principle would be preferable to co-governance if it worked equally well or better. What functions best cannot be determined without an empirical inspection of the particular characteristics of the system-to-be-governed that are subject to governing initiatives. There are, however, some general implications that may be rationally deduced. In our analysis, these are as follows: (a) contextualization: the greater the diversity of the system-to-be governed, the more fitting the self-governing mode; (b) co-ordination: the more complex the system-to-be-governed, the more appropriate the co-governing mode; (c) learning: the more dynamic the system-to-be-governed, the more effective the co-governing mode; and (d) safe-guarding: the more vulnerable the system-to-be-governed, the more adequate the hierarchical mode. These propositions are explained below.

(a) *Contextualizing*. Self-governance involves the governing system and the social system-to-be-governed becoming one: those who are being governed are also the governors. With self-governance, the solving of societal problems and the creation of opportunities is left to the market and/or civil society stakeholders, not the state. The subsidiarity principle requires the governors to seek out those opportunities where self-governance is sufficient. If diversity calls for sensitivity then the more numerous and different the systems-to-be-governed are, the greater the variation in governing response required. The one-size-fits-all governance approach has to be abandoned and a differentiated method adopted: one that takes contextual factors into consideration. The governing system then requires data of ''a high resolution'' regarding, for example, particular habitats, e.g. spawning grounds and biotopes [32], as well as ''vertical knowledge'' that enables a deep understanding of ecosystems [33]. There is a similar need regarding social systems, where data would be required at a low level of aggregation. Who are the stakeholders? What is their situation, their ambitions and rationalities? A decentralized governance mode is therefore required, to perceive and deal with details and subtleties. As Siry [34, p. 268] concludes, ''the huge range of biodiversity, the large variation in types of coastal zones within a country, varied human populations and diverse regional economics among regions within a country are the main reasons why coastal zone management needs to be decentralized and community-based approaches promoted.'' State bureaucracies, on the other hand, are better positioned to exercise macro-governance, whereas sensitivity to local diversity calls for micro-governance. Lindblom [35] said that the state has no fingers, only thumbs, thus indicating that a lack of detailed information, cumbersome feedback and stretched chains of command deter the state from exercising precision in delicate matters. There is also the proverb that says that only the person wearing the shoes knows where they are tight. This would imply a need for self-governance on the part of those affected, which is a lot easier to organize and implement when the decision-makers are situated in proximity to the problem or the opportunity. As Pressman and Wildavsky [36, p. 205] put it: ''The closer one is to the source of the problem, the greater is one's ability to influence it, and the problem solving ability to complex systems depends not on the hierarchical control but on maximizing discretion at the point where the problem is most immediate.''

(b) *Co-ordination*. It was concluded that fisheries and coastal zone systems are inherently complex, and that interaction between social system elements can easily lead to conflict. When matters are complex, it is not possible for people to ''do their own thing,'' no matter how desirable that may be [37, p. 21]. When A does X, B cannot do Y, and vise versa. Some form of co-ordination is therefore needed. Conflicts between different uses have to be addressed. A governing response in this situation typically takes the form of spatial demarcation and boundary control. When competing user groups are kept apart, there is less likelihood that they will run into each other. An alternative response is to encourage co-operation by forming stakeholder coalitions, for instance in order to realize projects of mutual benefit. The relationship between fisheries, coastal tourism, marine aquaculture, coastal transport and off-shore oil exploration does not always have to be antagonistic. Instead, it may potentially (and partially) be structured so that it forms a symbiosis. Then when A does X, B can do Y and they have a reason to collaborate; conflict is something they cannot afford. If, as interactive governance theory argues, governing is as much about creating opportunities as problem-solving, the governing system would aim to establish symbiotic ties between stakeholders. In this case, however, creating opportunity requires collective action that necessitates leadership. A may benefit from B's initiative just as

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much as B from A. As with collective goods, this may hold both parties back, because A might be waiting for B and B for A [38]. And even if the initiative did not materialize by itself, they would eventually have to work out a relationship that would require good communication, mutual trust and a division of labor. The trust upon which co-operative, symbiotic relationships rely cannot be enforced from the top down. Rather, trust must be established gradually among those involved.

(c) *Learning*. Simple Darwinism tells us that those systems that are able to adapt in a dynamic world are better fitted for survival. Whether this applies to social systems to the same extent as natural systems is another question. Institutions are not organisms driven by instinct. Besides, the survival of governing systems is hardly a goal in itself, since most of them are justified only insofar as they are able to do their job. Fisheries and coastal governing systems rarely have any intrinsic value, such as social systems-to-be-governed may have. Still, governing systems often resist change because, for instance, it is in the interest of those who inhabit them to do so [39]. When they do adapt and respond to new situations and demands, they do so not through natural selection but by choice and action from making reactive adjustments or through reflexive re-orientation. The governing system must be designed so that change is possible when the situation demands it. There is never only one way to do this. Governing systems can always be different from how they currently are. The reasoned choice amongst alternative institutional mechanisms requires the governing system to be able to learn. As Chua et al. [40, p. 305] argue: "Learning is an important part of ICM [integrated coastal management] dynamics as it requires sound management skills to address a host of complex and complicated issues very often interwoven into a sophisticated matrix of political, economic, social, cultural, and conservation interests." The advantage of co-governance is that it widens the source of knowledge, including tapping local knowledge, and provides opportunities for interactive learning [41]. It allows stakeholders to learn from each other, and learning is always a plus sum. Diversity represents an opportunity for comparative analysis, but then interactive learning must be instituted on a proper scale. The governing system would then have to operate at other levels than just the local one.

(d) *Safe-guarding*. As explained, vulnerability implies a risk of system breakdown. Systems may become entangled in a negative loop from which they cannot escape. It is more worrying when this happens to the system-to-be-governed than the governing system, such as when ecosystems die or coastal communities are abandoned. Governing systems can always be reinstalled and reformed. Collapse does not have to be final. Bankruptcies and revolutions may create new opportunities. With worst-case scenarios of ecosystem degradation and social system deprivation, governing systems are faced with some absolute, non-negotiable demands. For instance, the bio-diversity convention and human rights legislation place heavy restrictions on what the governing system can do. It must be able to provide some guarantees that render the systems-to-be-governed secure. Such universal standards are better accomplished through a hierarchical governing mode than in any other form, but will do better if consent is obtained from among the stakeholders. But even in the absence of such consent, security must still be provided: habitats must be protected, fish stocks conserved, food security delivered, minorities and cultural rights respected. Central government may involve markets and civil society in delivering these services, but it must still retain the final responsibility.

7. Governing system: dilemmas

Interactive governance theory argues that the governing system and the system-to-governed must assume similar structural traits: they must be isomorphic. In other words, for institutions to handle diversity, complexity and dynamics they have to be equally diverse, complex, and dynamic [10]. However, they cannot allow themselves to be vulnerable. Rather, their design must be robust. They must be capable of handling diversity, complexity and dynamics without breaking down and without undermining their own capacity to be effective and socially just. This is no easy task, because the diversity, complexity and dynamics of the systems-to-be-governed require the governing system to be sensitive, inclusive and flexible, which are factors that also make them vulnerable. Caution would then be a logical response, but there are limits to how cautious a governing system can be before it stops delivering. Governing systems are sometimes forced to make hard choices and bold decisions, and for that courage is needed.

There are also limits as to how diverse, complex and dynamic the governing system can be before it becomes ungovernable in itself. The governing system may end up impenetrable and incomprehensible for those who are affected. For instance, the more legally diverse governing systems are, the greater the legal confusion among, and normative cross-pressure on, stakeholders [42]. Consequently, institutional diversity comes with information and transaction costs that are a concern in their own right. At a certain point, what governance gains may not be worth the price. Complexity and dynamics have similar effects. Responding to complexity would demand that the governing system attend to many concerns and goals. The governing process would therefore be more time-consuming and data-intensive, too participatory, and hence costly [43]. Dynamism may cause the governing system to change its rules and working procedures so often that stakeholders are left feeling insecure because of the instability of the working conditions created by the governing system. Thus, a tendency to make the governing system less rather than

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more diverse, complex and dynamic may be anticipated: efforts will be made to simplify (for instance by employing indicator-based management to avoid a heavy information load),[4] standardize (such as by ignoring diversity), reduce complexity (for example by drawing on fewer disciplines and stakeholders) and rationalize (e.g. eliminating rules or reducing the number of administrative levels and bodies). Institutional fixes will easily find a market because of the urgency involved. The governing system cannot always afford to wait until it is fully informed, since there are limits to what science can provide [44, p. 45].

A governing system for the fisheries and coastal zone cannot live up to only one or some of the challenges represented by diversity, complexity, dynamics and vulnerability. Since the system has to respond simultaneously or sequentially to all four properties of the system-to-be-governed, it must be sensitive, inclusive, flexible and cautious, all in one. It has to deliver on all scales, coordinate and learn, while providing security for all the parties involved. The challenge would have been less great if these provisions just added up. However, whereas the institutional response to diversity, sensitivity and contextualization would be decentralization and self-governance, the reverse would instead be the proper response to complexity. Consequently, as one problem is eased there is a risk of precipitating another one.

Thus, simple solutions that can satisfy all these demands are hard to hit upon, and we end up with a governing system that is "structurally hybrid" [27, p. 289]. This has to abandon demands for quick fixes and simple designs. Instead, it is multi-focused, multi-scaled and employs a mixture of governance "modes". Interactive governance theory argues that each of the three governing modes—self-governing, co-governing and hierarchical governing—is not capable of operating in isolation. The governing system therefore has to be a mixture, a hybrid of all modes of governing, involving state, market and civil society, and thus operating somewhere on the continuum between public and private [46]. In governance idiom, it must employ a combination of intervention, interference and interplay as steering mechanism (Fig. 1).

What organizational models out there have these capacities, or has that wheel yet to be invented? Interactive governance theory has a strong belief in the merits of "public–private partnerships", a model that combines the governing capabilities that the state, market and civil society can provide. The governing system does not have be a unitary system—one large organization that includes everything. Rather, it would need to be a system of governing subsystems and mechanisms. It would employ legal, economic and organizational incentives, tailor-made for the task and the situation. It would exercise a combination of what interactive governance theory calls

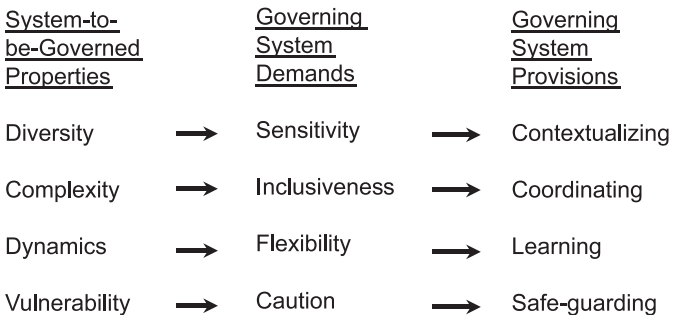

Fig. 1. Governance model.

"first, second and meta-level" governance [10]: it would need to be concerned with day-to-day and practical aspects and their institutional frameworks, as well as the ethical and social principles underpinning the whole governing exercise.

Finally, macro- as well as micro-governance would be required. Macro-governance does not necessarily have to be hierarchical, but the subsidiarity principle often demands that the state become involved. The state, after all, has a vantage point and a repertoire of tools that other stakeholders do not have. Who governs the governing system is a question with no easy response. The answer, for most practical purposes, would be the state and the legislature, from which it draws its authority. But sometimes the governing sub-systems require the active involvement of authorities both lower and higher than at state level. The need for more decentralization may be obvious in fisheries and coastal governance if we follow the subsidiarity principle but so, too, is the need for global governance, since ecosystem boundaries do not follow national boundaries and globalization makes fisheries, fisheries and coastal affairs more and more complex at a level beyond the state. What the proper institutions are at these levels, and how they could become a reality, is a question yet to be determined. This is our final issue.

8. Sensible foolishness

The idea of governability suggests that governance comes with limitations. Fisheries and coastal systems may be too diverse, complex, dynamic and vulnerable to be fully controlled by the governing system. This implies some important research questions. How governable are systems-to-be-governed? What exactly makes such systems governable, or not? Despite limitations on governability, it may still be possible to make the systems-to-be-governed more governable than they are at present. Interactive governance theory sees three opportunities for increased governability: one is with the governing system. The governing system could become more empowered if, for example, governors were provided with additional mandates, legal instruments and financial and intellectual resources. Secondly, governability may be enhanced within the system-to-governed. Efforts to make them less diverse,

[4]Marine reserves are often perceived as a means of reducing the governing system complexity, since they "provide an escape from the need of ever more detailed and expensive stock assessments…" [44, p. 72].

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complex, dynamic and vulnerable would make them easier to control. One could, for instance, contribute to structural reform, encourage organization and build educational programmes that would make them more self-governable. Again, however, such initiatives would have to be tailored to the local situation and to the particular targeted stakeholders [47]. Thirdly, the interaction between the two systems could be arranged differently, so that they become more interactive, more constructive and less costly. Creating arenas for improving communication in order to build trust between government agencies, research institutions and private stakeholders might be one way to do it.

Still, in societal governance, the sky is not the limit. Limits can be stretched, though not removed altogether. To be responsible is to respect the fact that limits exist. However, it is not always clear where the limits are. Sometimes we can only know where they are when we exceed them. Governability is therefore also experiential. As Cyert and March [48] argued in a now classic treatise, the ambitions of decision-makers tend to vary with actual performance: disappointment reduces ambition, whereas success causes it to rise. For this reason also, the goals of organizations are not stable. Decision-makers learn how to adjust their governing ambitions to governing experience. They learn, for instance, that what they did in the past should not be repeated again.

Jentoft and Buanes [49] argue that coastal zone planning is better served if guided by "negative" rather than "positive"—or Utopian—goals. In other words, instead of concentrating on what we would ideally like to see happen in the coastal zone, we should be focusing on those things that we really want to avoid. The worst-case scenario is, after all, a clear and present danger. Ecological catastrophe, irreversible loss of biological and cultural diversity, desolated coastal communities, more poverty, etc., are real threats. The governing strategy should therefore begin cautiously, allowing ambition to be tested by actual goal achievement. Thus, you start out by concentrating on the negative goals and until these are secured, while positive goals are put on hold. Caution also suggests an experimental and playful governing approach. You commence by trying out new governing images and instruments on a small scale before they are introduced on a large scale. Values that are laudable, goals that are good and means that are effective cannot always be presumed *ex ante*. They are "in progress". We should therefore stick to negative, more urgent and less negotiable goals, while seriously playing with positive goals. Such a governance approach needs what March [5] labels "sensible foolishness". He says: "Individuals and organizations need ways of doing things for which they have no good reason. Not always. Not usually. But sometimes. They need to act before they think…" (p. 75). Then they may discover good things that were previously beyond imagination. But how does one do that? Is there a way to make governing systems more playful, while still robust? March provides a means—"a technology"—by which organizations could become more playful, and hence more innovative. He suggests that we should do the following.

(a) *Treat goals as hypotheses*. In real life, we do not always know what we want. Preferences are not stable or a once and for all given. They evolve through experience. We may have vague ideas that become clearer in the process. We accomplish good things by accident, which are worth pursuing in the future. We should therefore allow goals to be discovered, but then we must commence an exploration.
(b) *Treat intuition as real*. Our gut feelings may be precise enough, although we cannot know this for sure until we have acted upon them. Intuition "permits us to see some possible actions that are outside our present scheme for justifying behavior" (p. 78). We may not be able to formulate precisely what we believe and prefer, but we should not necessarily wait until we can before we act. In governance idiom, intuition should be looked upon as an opportunity and not as a problem.
(c) *Treat hypocrisy as a transition*. We should relax our conscious obligation to be forever consistent, and not feel embarrassed if we are not. It may sometimes be smart not to practice what we preach. Governance theory insists on the merits of clear principles as guidance for the governing system, but principles may also become a strait jacket. This hinders innovation because deviance is condemned in favor of the norm. March says: "A bad man with good intentions may be a man experimenting, with the possibility of becoming good" (p. 79). In addition, principles may be changed if we find good reasons for doing so, but we cannot always know in advance which principles are better and more legitimate.
(d) *Treat memory as an enemy*. Sometimes it makes sense to forget the past. We should not always bring up history. It may discourage us from trying something new. "We tried that before and it didn't work" is a statement that kills enthusiasm. Experience is not always as relevant to a new situation as we tend to believe. Thus perhaps, instead, we should try again, but in a slightly different way. Things may work a second time.
(e) *Treat experience as theory*. Experience does not speak for itself but needs spokespersons, who have to interpret experience with what vocabulary they possess. Thus, experience is also socially invented, and therefore subject to reinterpretation, experimentation and revision. March says: "By changing our interpretive concepts now, we modify what we learned earlier" (p. 79). Thus, we may also perceive new opportunities, develop new goals and values and, as a result, change our governing strategies.

This suggests that *ludism* (a term of Latin origin meaning playfulness) would be one way of stretching the limits of governability, and that a "technology of foolishness" such

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as March describes here would come in handy. The design of governing systems should be to "attend to the problems of maintaining both playfulness and reason as aspects of intelligent choice" (p. 80). The stakes are high, and so is the risk that things may fail. There is no one way of designing and operating governing systems, and systems are not easily transferable from one context to another. This calls for caution, but we also have to be aware that we cannot tell for sure what will work in a particular situation until we have tried it out. Therefore, we cannot anticipate the realism of our ambitions. They may be more or less realistic than we think they are. If this is the case, it is better to make small mistakes, thus learning where the limits to governability exist, and revise the plan accordingly. This is much better than making big mistakes that bring us to a point of no return, where learning results in regret rather than wisdom. But such an approach challenges some of the most hard-wired programmed images of what constitutes good governance, since it requires stakeholders to understand that playfulness is not the opposite of rationality but makes good sense when the governing system and the system-to-governed, in an fisheries and coastal setting, are diverse, complex, dynamic and vulnerable.

It would be naïve to assume that playful experimentation is always harmless and uncontentious. Although functional in promoting organizational learning and innovation, *ludism* often causes anxiety because it feels threatening to insecure stakeholders, including managers. As Degnbol et al. [45, p. 538] hold: "Learning about new or complicated approaches is time consuming and may even seem intimidating. Managers often choose the safety of the well-known path rather than taking on the political risk of experimentation." A technology of foolishness would therefore need not only political brokerage but also a number of guarantees. Playful stakeholders need to feel safe. After all, experimentation is accompanied by risk, stakes such as livelihood are a serious business and a defense of the status quo is not necessarily irrational. Stakeholders therefore need to know what might happen to them and have a hand on the wheel if small-scale experiments are to be followed up by large-scale governance reform. If not, *ludism* may lead to Luddism: stakeholders would have legitimate grounds for disobedience or sabotage. If that should happen, the limits to governability could prove more insurmountable than they might otherwise be.

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