

Theme session H

Preparing for change; challenges for fisheries governance

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The aim of this session was to assess strengths and challenges for different modes of environmental governance in managing the impacts of environmental change on the world's marine systems and fisheries. Many different aspects of this were addressed at the workshop, with insights into how the relationship between science and governance could be improved, issues and potential avenues for improvement of ICES and EU processes, and also issues related to social and environmental aspects of Ecosystem-Based Management (EBM). Information was presented that will help move towards anticipatory governance arrangements that can enable decision-makers to be forward-looking and proactive in anticipation of global environmental change.

Firstly, to improve governance outcomes, we need robust scientific approaches to understand governance systems, and tools that are applicable in different contexts, to ensure comparable empirical information. This need for comparability applies particularly in relation to assessing governance success. Scientific approaches need to be broadly applicable, robust and relevant to governing institutions to ensure uptake and, in the end, improvement in governance. Not only the actual observed evidence of success matters to governance institutions, but also the perceptions people have of governance success – particularly in the context of a changing environment and the pressures upon it. It is not straightforward to measure perceptions - and there are different ways to measure them - but it is worthwhile developing scientific tools that are comparable across cases to understand stakeholder perceptions of the marine governance system. Perceptions of governance success can be measured through a number of criteria: degrees of accountable, inclusive, representative, comprehensive, informed, transparent, empowered governance. A method that enables the evaluation of the actual design and functioning of governance systems, identifies gaps for enhancement, and is relevant to decision makers can potentially enhance governance outcomes.

There are some computer-based decision support tools (DSTs) that can help to better inform management decisions to ultimately achieve better governance success. However, the use of DSTs has been low, and the uptake of DST advice by advisers and stakeholders also remains low. It is possible to identify some common weaknesses in current DSTs developed for fisheries and aquaculture-based sectors to help better uptake in the future. Some obvious places to start are that the needs of the end users have to be more clearly identified and stakeholders have to become more involved in

DST design. If DSTs provide realistic and meaningful results, they should enable adaptive and transformative governance.

Aside from establishing robust scientific methods and DSTs that are useful to governance systems, there are a number of issues associated with scientific information and advice in the European fisheries management system - and possible mismatches between them. Within European fisheries, total allowable catches (TACs) are the main management instrument and in practice, there are two stages to setting a TAC. First, the International Council of the Exploration of the Sea (ICES) gives scientific advice regarding the size of a TAC. Second, the European Union (EU), who manages the stocks, decides on the actual overall TAC, which is then divided among member countries. Because ICES is tasked with providing the scientific best information, advice areas are often revised if new biological information becomes available, such as stock location or genetic composition. But because EU decisions on management areas are based on political compromise these are not often revised. This mismatch between advice area and the management area can lead to less valuable information and less informed decisions. This might indicate that there is a need for ICES to (also) provide “the best science for management”, rather than “the best scientific advice”, to better match the needs of the EU.

In addition to the potential mismatch between ICES science advice and the EU decision processes there are areas of the CFP that are due for future reforms. An analysis of the CFP using an analytical framework consisting of 17 criteria reached several conclusions for the potential reform of the CFP, including the regionalisation of many tasks. For instance, the regional level should provide measure of meeting these objectives with a scientific basis, and locally appropriate management measures. However, to carry out this regional role effectively, more scientists are needed at the regional level. In order to improve the performance of the CFP, five criteria require specific attention: the simplicity of rules, the user-pays principle, resource efficiency, accountability, and compliance mechanisms. Policy options for reforming the CFP include specific policy instruments (e.g. quota swaps and technical measures) but also more fundamental changes such as a different mechanism of distributing fishing opportunities (thus abandoning the principle of relative stability), and institutional changes (e.g. stronger regional institutions).

In order for governance systems to effectively deal with the complexity of climate-related impacts in fisheries, it is clear that in the development and use of scientific advice for fisheries management systems need to account for shifting distributions and changing productivity. There is a need for early warning indicators, to understand the mechanisms of change, evaluate risks and priorities, conduct assessments, develop forecasts, and communicate advice. Scientific advice for fisheries management systems need to account for change but the governance systems in turn have to be able to address these environmental aspects. The challenge remains to not only address the environmental problems but at the same time govern them so that the people are able to deal with environmental changes.

A broadly accepted management approach in fisheries that recognizes the full array of interactions within ecosystem components, including humans, is (EBM). In the context of EBF (Fisheries) M (which is thus far mainly implemented as a management approach in developed nations), social resilience has to also be considered in the

governance approach. Nevertheless, there is a general lack of clarity on non-biological objectives and a truly integrated assessment process is so far missing. Social and economic objectives are needed. It is true however, that complex processes and social and economic dynamics and interactions make EBFM difficult to implement. In addition, the absence of these social and economic objectives in EBFM makes it difficult to assess trade-offs and develop concrete adaptation options.

ICES has identified Integrated Ecosystem Assessments (IEAs) as a tool to understand and analyse complex ecosystem relationships and related management trade-offs (across the human and natural domain). However, most regional ICES IEA groups, so far, lack a broad inclusion of economic, social, and institutional aspects, reflected by the clear lack of social science expertise to tackle these issues. Some regional IEA groups try to add missing disciplines into their groups, such as WGNARS. In addition, two new ICES WGs have been recently formed (WGECON and WGSOCIAL) to better address economic, social, and institutional aspects of IEAs. However, the integration of transdisciplinary data needs to be better structured and organized.

In some countries with small-scale fisheries, interactions between governance approaches, such as between customary marine tenure in parallel to national legal frameworks, can provide an avenue for fuller representation of natural, social and economic objectives. For example, in coastal fisheries governance in two Pacific Island countries, different forms of Legal Pluralism (LP) exists. LP focuses on interaction types between legal systems, and these different legal principles co-exist and are applicable to a single situation. In Fiji and Solomon Islands, customary marine tenure serves as basis for community-based marine resource management in parallel to national legal frameworks. The different legal systems can be described as: a level of indifference that exists between the legal systems, a situation where competition occurs, and a system of accommodation or mutual support. The case study comparison shows that in Fiji there is a link between the legal and customary systems via institutions. This suggests that a system of mutual support and dependency exists. In the Solomon Islands, the system can be better described as one of indifference, with few interactions between the legal and customary system. However, some new actors are appearing both in the Solomon Islands as in Fiji (NGOs and key people) who are bridging the gap between the formal and customary systems. This study clearly showed the importance of understanding the interactions between legal systems - when roles and responsibilities are defined, governments can make use of customary law strengths.

Conclusion (usefulness for ICES Science and/or Advisory function)

- A clear need exists to measure governance outcomes (based on good governance principles) but there is also a need to evaluate people's perceptions of governance outcomes as the two are not necessarily the same.
- For Decision Support Tools to provide realistic and meaningful results, and thus enable adaptive and transformative governance, the needs of the end users have to be more clearly identified and stakeholders have to become more involved in DST design.

- There may be a need for ICES to provide “the best science for management”, rather than “the best scientific advice”, to better match the needs of the EU.
- Scientific advice for fisheries management systems needs to account for change but the governance systems in turn have to be able to address these environmental challenges.
- In order to improve the performance of the CFP, more scientists are needed at the regional level and, for instance, regional ICES IEA groups need a broad inclusion of economic, social, and institutional aspects to tackle trade-offs (between environmental, social and economic aspects).
- The most fundamental aspect of the governance system, since fisheries are highly uncertain, is that it should be adaptive in its management.
- In relation to EBM, social resilience has to also be considered in the governance approach, and some stated social and economic objectives are needed to be able to deal with trade-offs in EBM.
- There are many examples of governance success around the world but at the ICES session one obvious highlight was a case where customary and legal systems (formally) interact, thereby potentially improving governance systems (as per Pacific case studies in Fiji and the Solomon Islands).