

Effective Fishery Governance

Understanding how governance and social issues affect fishery management



Fishery management matters. If managed sustainably, the world's fisheries could be worth an extra \$50 billion annually and the global fish harvest could be 40% higher, providing more food to the 3 billion people around the world who rely on fish as their primary source of protein.

Although there are examples of fisheries that are thriving and successfully supporting communities while remaining sustainable, healthy and productive, there are also many fisheries that are underperforming. These fisheries are not achieving their full or even a fraction of their potential, putting marine ecosystems, job and food security at risk. They are in need of sustainable fishery management programs that address their needs. Unfortunately, in some cases, efforts to improve a fishery management system are undermined by factors related to how management institutions (government agencies or fishery cooperatives) are structured and how they operate. These factors are sometimes challenging to identify and understand. We refer to all of the processes that are used by institutions to control human activities such as fishing as “governance.”

In an effort to identify and better understand these factors that influence the efficacy of fishery management, EDF created a systematic analytical framework to study the roles of governance and social characteristics that can influence management outcomes. Through an extensive, multi-disciplinary literature review, we compiled a “master list” of attributes that have been reported to be important for effective governance as well as societal attributes that may strengthen the management of resilience. For the purpose of our analyses, we focused on governance attributes related to the generation of marine conservation benefits (reduction of overfishing, protection of threatened species, removal of pollution, etc.).

We evaluated case studies in marine management against this list of 19 Effective Governance Attributes, examined the distribution of rights and responsibilities within a system, and assessed the effects of governance attributes and the distribution of rights and responsibilities on stewardship incentives.

EDF is a leading U.S.-headquartered non-profit with offices in China and Mexico and partnerships in Brazil, India, Russia and other countries.

EFFECTIVE GOVERNANCE ATTRIBUTES

Our analysis reveals that the differential realization (presence, absence, and completeness) of these Effective Governance Attributes is correlated with differential achievement of intended environmental outcomes. It appears that the more of these attributes a system has and the more fully they are realized, the more positive outcomes will be for conservation and sustainability objectives. Conversely, when a system is lacking these attributes or they are not adequately present this will reduce the effectiveness of fishery management. The attributes are:

- **Regulatory Authority:** The authority (granted by statute) to develop, adopt, and implement rules and regulations within a given management jurisdiction or over a particular resource or set of resources, evaluate the efficacy of those decisions, and adjust them over time.
- **Efficient Enforcement Mechanisms:** Mechanisms to enforce compliance with rules should be available to those tasked with monitoring those rules. Sanctions should increase with repeat offenses and in congruence to the severity of the offences.
- **Governance Goals Aligned with Conservation Objectives:** Ecosystem values are identified, including ecosystem connections, conservation status, state of ecosystem integrity and critical habitat for utilized and non-utilized species. Rules are developed that limit resource use, with a focus on maintaining the natural structure and function of the ecosystem.
- **Science-Based Decision-making:** Decision-making under established policy must be based on the best available science. Where significant scientific uncertainty exists, the precautionary principle should guide decision-making. Local knowledge should be integrated. All sources of understanding need to be mobilized- management may benefit from the combination of different knowledge systems. Social incentives for ecological knowledge generation need to be in place.
- **Agency Flexibility:** Institutions should be capable of adapting to new situations in ways that are appropriate to the relevant respects in which the situation has changed. Institutions should not change fundamentally when a situational change is not really relevant to the system.
- **Explicit Recognition of Trade Offs:** Agencies must have formalized mechanisms to make choices if and when goals or values conflict with each other.
- **Dependable Funding:** State (or other legal authority) must guarantee sufficient and dependable funding to the effort. Credit opportunities should be provided to local organizations for creation and maintenance of cooperative services. Aid should be provided to local users in exchange for conservation services.
- **Participation:** Stakeholder engagement must be institutionalized, incorporated as early as possible, carried out consistently throughout the management and rule-making process. Engagement must include rapid dissemination of information, materials, public comments, etc. All individuals affected by rules must be able to participate in changing them (collective choice arrangements).

- **Systematic Representation:** Relevant stakeholders need to be identified, analyzed, and represented systematically. Institutions should have formal mechanisms for “leveling the playing field” during negotiations.
- **Deliberation:** A process of open communication, discussion, and reflection among actors who have alternative political viewpoints and understandings should include debate, decent, mediation, and negotiation. Highly skilled facilitation is necessary. Conflict resolution mechanisms must exist.
- **Clear Decision-making Rules:** Decision-making rules should be established up front, leaving no ambiguity regarding how decision outcomes will be achieved.
- **Clear Objectives and Directives:** Management system should set forth overarching principles, clear tasks, deadlines for completing tasks, directives explaining the standards by which decisions will be measured and made, and the processes for making those decisions. Objectives should be developed amongst stakeholders to represent shared vision. Objectives and directives should be agreed upon at the outset in order to inform participatory process. Periodic review should be carried out to determine progress. System (biophysical) and institutional boundaries should be clearly defined.
- **Accountability and Transparency:** Managing agents should be accountable to both local communities and higher authorities. Mechanisms for transparency and accountability such as independent monitoring, clear milestone deadlines, linking funding with achievement or performance, issuing performance reports for public consumption, polycentricity, separation of powers, legal recourse, and budget control should be incorporated into all levels of the governance hierarchy. Management systems should provide for maximum transparency so that the basis for data analysis and decision-making is unambiguous and the process by which decisions are made is obvious as the decisions are under consideration. Management decisions should be publicly defensible. Accurate information about the condition of the resource and the expected flow of benefits and costs should be available at low cost. Management decisions should be independent of political and/or special interest agendas to reduce the potential for “agency capture” or political gridlock. Institutions should be sensitive to the complex (sometimes self-serving) motivations of actors.
- **Appropriate:** Scale of appropriation rules (restricting time, place, technology, and/or quantity of resource available for use) and provision rules (requiring labor) should be congruent with local conditions and scaled to local system.
- **Scale:** Institutional arrangements should be variable across spatial and temporal scales, and should encourage experimentation in different places as well as take lessons learned elsewhere into account.
- **Social Justice and Empowerment:** Managing entities should engage in proactive efforts to address inequities in the distribution of rights, benefits, and involuntary risks. Institutions must have mechanisms to actually respond to feedback provided during participatory process.
- **Organizational Features Designed to Allow Transfer of Authority:** Multilayered (nested) and/or polycentric governance hierarchies must allow for

authority to be transferred to different levels to prevent corruption and improve efficiency. Institutional relationships/ interactions/ power sharing should be formalized and transparent. Coordination among agencies should be designed to reduce the bureaucratic burden. Attributes of larger scale institutions (i.e., federal government agencies) should be designed to facilitate smaller scale, more local institutions to achieve their goals. Smaller scale institutions should be designed to foster leadership and social capital.

DISTRIBUTION OF RIGHTS

Well-designed fishery governance systems facilitate an appropriate and relatively even distribution of rights, and of the associated responsibilities specific to the type of system managed. The most relevant analyses center on the distribution of:

- **Rights of Access-** the right to enter a defined physical property
- **Withdrawal-** the right to obtain the “products” of a resource
- **Management-** the right to regulate internal use patterns and transform the resource by making improvements
- **Exclusion-** the right to determine who will have an access right, and how that right might be transferred
- **Alienation-** the right to sell or lease either or both of the above collective- choice rights among institutions ranging from central governments to small groups of local fishermen

The distribution of these rights among governance institutions can have a strong effect on incentives and institutional behavior. For example, when all rights and responsibilities are highly centralized in a single institution, other institutions are disempowered and may lack incentives to play a constructive role in governance.

CONCLUSIONS: EFFECTIVE FISHERY GOVERNANCE

Fishery management can be improved by understanding the governance and institutional attributes of the system, identifying missing and incomplete attributes that may be hindering effectiveness, and examining the effects of the distribution of rights and responsibilities on incentives and behavior. EDF's method of assessing a system against each attribute on the master list of effective governance attributes offers a systematic and robust approach to gaining this understanding. This method can be applied to and help improve any fishery management system.