Sustainable fisheries within an LME context

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ABSTRACT

The Food and Agriculture Organization of the United Nations (FAO)'s mandate is central to the sustainable use of natural resources and biodiversity on the planet. The Organization's normative role at the global level offers a neutral forum for development of international instruments and agreements relevant to agricultural production (including fisheries), in addition to facilitating their implementation through field activities. FAO's role in the LME Program recently has been increasing, offering the opportunity to link fisheries governance frameworks at the sectoral level (such as the Ecosystem Approach to Fisheries—EAF), to broader ocean governance frameworks (such as ecosystem based management, EBM) as promoted within the LME movement. It is argued that these approaches are both needed and complementary and that links between the two can be fruitfully established as demonstrated by experiences made in FAO-led LME projects, i.e. the Bay of Bengal Large Marine Ecosystem (BOBLME) and the Canary Current Large Marine Ecosystem (CCLME).

1. Introduction

The Food and Agriculture Organization (FAO) is the specialised agency of the United Nations mandated to deal with agriculture, forestry and fisheries. Looking at FAO's Constitution[1], the main purpose is to improve food and nutrition security thus contributing to social and economic development. Conservation of natural resources is also included as part of the functions of the Organization. Over the years, and with the increasing awareness on the negative impacts of human activities on the environment, the conservation aspects in FAO's work have become more visible. At present, the Organization has defined three goals, i.e. (i) eradication of hunger, food insecurity and malnutrition; (ii) the elimination of poverty and the driving forward of economic and social progress for all; and, (iii) the sustainable management and utilization of natural resources, including land, water, air, climate and genetic resources for the benefit of present and future generations[2].

The Organization also plays a key normative role at the global level by facilitating and offering a neutral forum for development of international instruments and agreements relevant to agricultural production (including fisheries) in addition to facilitating their implementation through field activities. Capacity development at country and regional level is an important area of work to prepare, implement, monitor and evaluate evidence-based policies, investments and programs. The Organization is also mandated to assemble, analyze, monitor and improve access to data and information, in areas related to FAO's mandate, and as such maintains the world global database on capture fisheries amongst others.

FAO's mandate, as reflected in its goals and main areas of work, is therefore central to sustainable use of natural resources and biodiversity on the planet, including both terrestrial as well as aquatic systems.

The LME concept was introduced in a Symposium at the 1984 annual meeting of the American Association for the Advancement of Science (AAAS). The Symposium was followed by the seminal LME volume published by the AAAS entitled, Variability and Management of Large Marine Ecosystems (Sherman and Alexander, 1986). The world's LMEs are delineated on the basis of ecological criteria, including bathymetry, hydrography, productivity, and trophic relationships (Sherman and Alexander, 1986). On a global scale they produce 80% of the world's annual marine fisheries catch (Pauly et al., 2008). A five module strategy has been developed for supporting adaptive management of LME goods and services based on time-series data and information on LME (i) productivity, (ii) fish and fisheries, (iii) pollution and ecosystem health (iv) socioeconomics, and (v) governance literature (Sherman and Duda, 1999a, b; Wang, 2004a, b; Carlisle, 2014; Sherman, 2014a, b).

The Global Environment Facility has included support for LME projects in its program guidance since 1995 and, more recently, in its guidance for the 2014 to 2018 GEF replenishment funds (GEF, 1995, 2014). There are now GEF supported LME projects in 22 of the world's 66 LMEs. Financial assistance of $3.1 billion has been provided by the GEF and other donors to 110 developing countries in Asia, Africa, Latin America, the Pacific and eastern Europe in support of the planning and implementation of ecosystem based management (EBM) practices (Sherman, 2014b).

FAO's role in LME projects until recently has been limited, as compared to other UN agencies but has been increasing more recently, also as a result of FAO becoming a GEF agency since 2008. The strategic role that fisheries play in relation to food security and poverty alleviation, in addition to creating opportunities for economic growth, places this sector in a special position vis-à-vis other sectors benefitting from the oceans. Furthermore, this sector is most dependent on healthy marine ecosystems and therefore has the highest stakes in relation to its sustainable use. This perception is reflected for example in the responsiveness that the sector showed in developing international instruments such as the Code of Conduct for Responsible Fisheries (CCRF) agreed to by the international community in 1995, three years only after UNCED. A commitment for sustainable fisheries in the marine ecosystem was made already in 2001 (Reykjavik, 2001) and guidelines for the Ecosystem Approach to Fisheries, aimed at helping member countries with practical implementation of the principles of sustainable development in fisheries, were developed shortly after (FAO, 2003). While much remains to be done for the practical realization of sustainable fisheries in the broader ecosystem context, the overall normative framework exists making fisheries an innovative sector in terms of embracing the principles of sustainable development.

Despite its strategic importance for food and nutrition security and for poverty alleviation, many fisheries are not well managed or are not managed at all and represent therefore a major threat to marine ecosystems and to food security for the coastal communities involved. In addition to fisheries a multitude of threats are eroding the resilience of the ocean's and their ability to sustain provision of goods and services. These impacts are often compounded and poorly managed. In this situation, there is a need for improved management of ocean activities at the multisectoral level and the LME program can play a key role in this context.

2. Governance approaches for sustainable LMEs

In its new strategic framework, FAO puts the emphasis on good governance. In particular, Strategic Objective 2 "increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner" considers the development of adequate policy and governance frameworks as key to achieving this objective.[3]

Good governance is considered as a precondition for sustainable development. The report of the High level Panel on Global Sustainability set up by the Secretary-General of the United Nations in 2009 to develop a new vision for sustainable growth and prosperity, entitled "Resilient people, resilient planet: a future worth choosing"[4] provides key recommendations for sustainable development. Strengthening institutional governance is one of three main areas highlighted, in addition to empowering people to make sustainable choices, and working towards a sustainable economy. Governance is especially highlighted in the section covering marine and coastal ecosystems. The perception that improved ocean governance is key to its sustainability is also reflected in discussions taking place in international fora dealing with ocean issues as well as the many ongoing initiatives that focus on this topic and aimed at improving coordination among institutions and stakeholders (see Section 4).

In the LME approach "governance" is one of five modules, that encompass (i) productivity, (ii) fish and fisheries, (iii) pollution and ecosystem health, (iv) socioeconomics and (v) *governance*. The first four modules support the Transboundary Diagnostic Analysis (TDA) process, while the governance module is associated with periodic updating of the SAP development process.

In the LME approach to monitoring and assessing the changing conditions of LMEs, time-series indicator metrics on three of the five modules—productivity, fish and fisheries, pollution and ecosystem health—are based on the best available science indicators of change. Whereas in the socioeconomic module focus is on the economic benefits to society at risk from degradation of LME goods and services. And, in the matter of governance, attention is directed to processes for encouraging adaptive management actions for recovery and sustainability of LME goods and services at risk from environmental degradation.

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[3] http://www.fao.org/docrep/meeting/027/mg015e.pdf
[4] UNGA, 2012. Resilient people, resilient planet: a future worth choosing. Report of the High-level Panel of the Secretary-General on Global Sustainability. A/66/700, pp. 6–102.