Mainstreaming biodiversity into the fisheries and aquaculture sector

Marine, coastal and inland ecosystems host a variety of aquatic biological diversity that greatly contributes to the economic, social and cultural aspects of communities around the world. Fisheries and aquaculture are dependent on this biodiversity. Biodiversity is not only the source of wild caught fish but also sustains the habitats which serve as feeding, spawning and nursery sites which are essential for wild fish recruitment. However, there are currently a number of fisheries that are not sustainably managed and aquaculture operations and practices with significant negative impacts on biodiversity and habitats. Aichi Biodiversity Target 6, which calls for all fish and invertebrate stocks and aquatic plants to be managed and harvested sustainably, is directly relevant to this sector.

Sustainable fisheries and aquaculture are key components of sustainable development. They play a significant role in eliminating hunger, promoting health and reducing poverty. In 2010, inland and marine capture fisheries and aquaculture together produced 158 million tonnes of fish worldwide, of which more than 80 percent was utilized as food for people. This makes up more than 16 percent of all animal protein consumed globally. Prospects for sustainable development and meeting goals related to ending poverty and hunger are therefore greatly enhanced if the long terms sustainability of fisheries and aquaculture are ensured.

Fisheries and aquaculture are a source of employment, income and offer opportunities for economic development. Fish remains among the most traded food commodities worldwide. In 2012, about 200 countries reported exports of fish and fishery products. The fishery trade is especially important for developing nations, in some cases accounting for more than half of the total value of traded commodities. Further, about 260 million people are directly (capture) or indirectly (processing and ancillary services) employed in the fisheries and aquaculture sector and it is estimated that the sector supports the livelihoods of 10 to 12 percent of the world's population.

Status of fisheries and aquaculture biodiversity globally

Overfishing continues to be a major problem in the world's oceans and inland waters and is a significant pressure on biodiversity. In 2011, more than 60 percent of marine fish stocks were fully fished and almost 29 percent of marine fish stocks were estimated to be fished at a biologically unsustainable level. Further pressures on biodiversity resulting from fisheries and aquaculture practices are likely to increase unless additional actions are taken as global seafood demand is projected to grow from around 150 million tonnes in 2010 to over 210 million tonnes by 2050.

While progress towards sustainable management and stock recovery has been made, improvements in some areas are outweighed by unsustainable practices in fisheries elsewhere. Persistent overfishing has a severe impact on marine biodiversity, driving the collapse and local extinction of a number of species. Further, destructive fishing practices, such as dynamite fishing and bottom trawling in vulnerable habitats such as coral reefs, seagrass beds, and sponge grounds, is of particular concern. While aquaculture plays an increasingly important role in food supply, and may help to reduce demand for capture fisheries, it also potentially impacts biodiversity in a number of ways, but primarily through the consumption of resources, the production and release of wastes into the natural environment, the clearance of habitats, such as

mangroves, and the introduction of alien species and strains that are frequently used in aquaculture. These types of unsustainable harvesting and aquaculture practices threatens not just marine and inland water biodiversity, but the profitability of fishing businesses around the world and the livelihoods of millions who are dependent on the resources of the ocean and inland waters.

The way forward

Finding and applying management approaches that avoid unsustainable fishing practices and that enable stocks to recover are essential elements in a strategy to conserve and sustainably use biodiversity. A number of key strategic actions for accomplishing this, and which will be further explored during the thirteenth meeting of the Conference of the Parties to the Convention on Biological Diversity, are discussed below.

The overarching principles of sustainable fisheries have been agreed to, and are stipulated in, a number of international instruments. These represent a comprehensive global framework for fisheries policy and management and support mainstreaming of biodiversity in fisheries and aquaculture. However, there is a need for the strengthening of fisheries management agencies, particularly with regard to governance and assessment so that biodiversity considerations are explicitly part of their work and accountability, as well as constructive interagency collaboration, and meaningful participation of biodiversity experts and relevant stakeholders in the fisheries management process.

Engaging the fishing sector is critical to the successful implementation of sustainable marine conservation and management measures. The governance of marine fisheries and the conservation of marine biodiversity continue to evolve; coherence between them remains critical if each is to achieve its goals.

Approaches for enhancing the integration of biodiversity and sustainability of fisheries include:

- Making greater use of rights-based and innovative fisheries management systems, such as community co-management, that provide fishers and local communities with a greater stake in the long-term health of fish stocks;
- Eliminating, reforming or phasing out those subsidies which are contributing to overfishing;
- Enhancing, in each country, monitoring and enforcement of regulations to prevent illegal, unregulated and unreported fishing by flag-vessels;
- Phasing out fishing practices and gear which cause serious adverse impacts to the seafloor or to non-target species; and
- Developing marine protected area networks and other effective area based conservation measures, including the protection of areas particularly important for fisheries, such as spawning grounds, and vulnerable areas;

Appropriate approaches for addressing biodiversity considerations in fisheries management will be situation-specific and depend greatly on the capacities and information available. The political will and resources to enable fisheries management agencies to fully deliver on a mandate to address fisheries and biodiversity issues is also needed as is enhanced regional cooperation between fisheries and environmental agencies.

Questions to guide the discussions:

- What are some specific positive examples of biodiversity mainstreaming in the fisheries and aquaculture sector?
- What additional actions are needed to enable and support biodiversity mainstreaming in this sector? Budgetary, development of processes, legislation or policies actions?
- What are the biggest challenges and barriers to mainstreaming biodiversity into the fisheries and aquaculture sector? What are the biggest opportunities we have now?
- Who are the main actors that have a key role to play in achieving biodiversity mainstreaming in this sector?