

Policy brief

Marine and coastal fisheries in a development context

The vast majority of fishers in the world are small-scale fishers, including a large share fisherwomen, in low- and middle-income countries. Their crucial contribution to the protein and micronutrient needs of the human global population is threatened because of overfishing and climate change.

Globally, countries have agreed to conserve and sustainably use the oceans, seas and marine resources, according to Sustainable Development Goal (SDG) 14, Life Below Water (1). This includes commitments to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield (MSY). This will be achieved by effectively regulating harvesting; and by eliminating overfishing, illegal, unreported and unregulated fishing as well as destructive fishing practices and implement science-based management plans. Additionally, the Aichi target 6 of the Convention on Biological Diversity, underscores that all fish stocks should be managed and harvested sustainably, legally and that ecosystem based approaches should be applied (2).

KEY MESSAGES

- Small-scale fishers in low- and middleincome countries make up 90% of the global number of fishers. Women are crucial actors in the small-scale fisheries sector, as fisherwomen and in other roles.
- The exploited resource (fish stocks) is in many instances overfished or fished at maximum sustainable yield. The yields contribute critically to food security and nutrition in low- and middle-income countries.
- Climate change will likely lead to a decrease in the production of marine fish and biomass in the tropics, and to an increase in higher latitudes.
- Improving scientific data collection in combination with a greater use of fishers' knowledge and local knowledge about stock and fishing grounds is crucial.

a. Photo: Andreas Sundelöf

Strengthening fisheries management by investment in data collection and resource assessments in low-income countries play a key role in transforming our world and ending poverty and hunger everywhere by 2030.

Crucial resource at risk

Globally, 33% of fish stocks are overfished and the remaining 67% are fished within biologically sustainable limits, i.e. at or below MSY (3). The fish caught and consumed contributes to protein and micronutrient needs of the world population (4) and hence to global food security. There are large regional differences in exploitation levels of the marine fish stocks (5,6). Generally, stocks in Africa and Southeast Asia are assessed as poor, or information for proper assessment is lacking. There is also a correlation between stock status and the level of research and management efforts in Southeast Asia and Africa displaying low levels of all categories (research, management efforts and stock assessments) see figure 1.

We suggest that further investment is needed in data collection and stock assessment in low-income countries, to achive a level capable of assuring a sustainable use of the marine resources.

Threats to fisheries in low- and middle income countries

Globally, fisheries deliver essential micro-nutrients to 4.5 billion consumers (7). Climate change will likely lead to a decrease in tropical marine fish production and biomass and to an increase in higher latitudes (8) with a concurrent pattern in maximum fisheries catch potential (9). The strongest effects of this change on humans will be found in Africa, Southeast Asia and small island developing states, regions that are heavily reliant on fish and also highly vulnerable to micronutrient malnutrition (10). Marine fish biodiversity is among the strongest predictors of reef fish community biomass. Diverse fish communities are



Figure 1. Summary of expert opinions on stock status, management, enforcement, research and socioeconomics for 28 countries (5).



more resistant to rising and variable temperature, indicating that high biodiversity also buffers against a changing climate (11). Other environmental threats to marine and coastal fisheries include deoxygenation, eutrophication and habitat destruction (12). Marine protected areas offer a low-tech and cost-effective way for maintaining or restoring the health of ocean and coastal ecosystems (13) and can also help mitigate effects from climate change (14).

Fisheries livelihoods in low-income countries

Ninety-seven percent of the 120 million full-time and part-time workers in capture fisheries are active in lowand middle-income countries (15). The vast majority of fishers (90%) work in small-scale fisheries (3) making this the largest group of ocean users in the world. Ensured access to the resource (fish) is vital to ensure a steady flow of economic benefits for for small-scale fishers, operating mainly in waters of low-income countries. Women contribute substantially to fisheries economies worldwide (e.g. fisherwomen contribute with 56% of small-scale fisheries catches in the Pacific). However women's role in fisheries is under-estimated and under-valued (16) and hence women's participation needs to be increased in policy processes relevant to their livelihoods.

Small-scale fisheries and data

Increased knowledge of the status of the fish resource and of the small-scale fisheries sector at large is needed in most low- and middle-income countries. Improving scientific data collection in combination with a greater use of fishers knowledge and local knowledge about stocks and fishing grounds is crucial. Participatory processes will also increase the likelihood of an effective control and enforcement in the fishing sector by providing the necessary information and more inclusiveness in the management process (17). The information will also be critical to establish if there is surplus to exploit for the countries themselves, e.g. through coastal small-scale fisheries, or sell to other fishing nations.

Subsidising exploitation of unknown resources

Subsidies for fishing are still important to the fishery industry, especially for long distance fleets using the tentative (see paragraph above on lack of information) surplus resource in low- and middle-income countries, but they can also heavily contribute to overfishing (18). Therefore, it is crucial to create a balance between supporting fisheries production and using the marine resources sustainably. This is especially true in low- and middle-income countries where management systems are often less efficient than in other parts of the world (figure 1).

We suggest that further capacity building in data collection and stock assessment is needed and also ensuring participation of women and usage of local knowledge.

Conclusions

Stronger efforts should be made to support low- and middle-income countries to bring the entire management system, including data collection and stock assessment, to a level capable of assuring a sustainable use of the marine resources. A pivotal part of this effort should be capacity devlopment and ensuring participation of women and usage of local knowledge.



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