

Contribution to GSDR 2015 – chapter 3

Poverty Implications of Ocean Health: The neglected billions

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Estimates for the contribution of ocean-based sectors to GDP range from about 5 percent up to 13 percent for developed and developing countries, respectively (Kildow and McIlgorm 2010, Scholtens and Badjeck 2010, Allison 2011). In many developing countries the ocean generates significant government funding by revenues from exports, taxation, license fees and from payment for access to fishing grounds by foreign fleets (Allison 2011, Zivin and Damon 2012). However, such estimates provide only a rough idea about the ocean's contribution to welfare and development because many of its contributions are not adequately reflected in aggregated income figures. This is not only the case because of underestimation and insufficient reporting (Scholtens and Badjeck 2010, Mill et al. 2011) but also because the poverty prevention contribution of healthy coastal and oceanic environments is rarely properly acknowledged.

In contrast to poverty reduction, poverty prevention addresses services like maintaining a minimum standard of living and providing some kind of safety-net and vulnerability reduction mechanism (Béné et al. 2010). These services are in particular provided in the artisanal fishing sector. 136 of 144 maritime countries engage in small-scale or artisanal fishing, employing more than 90 percent of the 35 million fishers worldwide and providing about 90 million additional jobs in associated sectors like fish processing, distribution and marketing (Halpern et al. 2012, Teh and Sumaila 2013). However, the poverty preventing role can hardly be seen by these global estimates which do not capture the seasonal and transient nature of the employment in small-scale fisheries (The and Sumalia 2013). Barnes-Mauthe et al. (2013) show for example that in certain regions of Madagascar about 87 percent of the adult population work full- or part time in the small-scale fishery sector. Such field studies highlight the importance of artisanal fishing for local economics by providing cash income and absorbing rural surplus labour, however, the growth-linkages and poverty prevention effects have neither been properly quantified nor considered in development policies (Jul Larsen et al. 2003, Bene et al. 2010, Allison 2011). Acknowledging the poverty prevention and therefore welfare effect would suggest putting more weight to inclusive management systems to support people's occupational and temporal mobility and to find a better balance with wealth-based approaches which seek to increase the rents from fishing to stipulate poverty reduction but also exclude people from the fishery (Bene et al. 2010).

Obviously, the poverty preventing role of the ocean and artisanal fishing is not restricted to providing employment and cash income but also essential nutrition for people in developing countries. Over 400 million people in the poorest countries in Africa and south Asia obtain at least half of their essential protein and mineral intake from the catch in small-scale and artisanal fisheries while this share reaches in some countries 80 percent and in certain Pacific Island countries even 90 percent (Dulvy and Allison

2009, Bell et al. 2009, Allison 2011). In a more recent study, Hall et al. (2013) confirm that small scale fisheries are crucial for securing food for people in developing countries and furthermore emphasize the importance of healthy marine environments because exactly those countries depending the most on fish for food rely primarily on wild caught fish.

Consequently, accessing coastal and oceanic resources is crucially for many developing countries and island states for poverty preventing and welfare, making them in turn vulnerable to deteriorations of ocean health which is affected by many threats. For example, Allison et al. (2009) argues that dangerous anthropogenic interference with the climate system could in particular materialize by affecting ocean health and in turn food security and poverty levels in developing countries. He identifies several countries in Central and Western Africa, in north-western South America and in tropical Asia to be very vulnerable to climate change induces deteriorations of ocean health. The negative impacts might become in particular severe for people depending on coral reefs. Climate change and other anthropogenic disturbances are expected to result in significant consequences for food security in the developing world in particular because of their adverse effect on coral reef fisheries (Laurans et al., 2013, Hughes et al. 2012).

However, climate change is only one threat affecting ocean health. The free access to, and availability of, ocean resources and services has exerted major pressures on the ocean, ranging from overfishing and increasing resource extraction to various sources of thoughtless pollution and alterations to coastal zones that often cause the degradation of marine ecosystems (coral reefs, mangroves, etc.). Consequently, one certainly needs to address the question in how far the utilization of ocean resources by small-scale fisheries provides by itself a threat to ocean health. Jacquet and Pauly (2008) report that only the Mexican Red rock lobster fishery small-scale fishery is among the 26 world-wide MSC-certified fisheries. Additionally, according to the Ocean Health Index by Halpern et al. (2012) developing countries do not provide systematically better artisanal fishing opportunities and ocean health than developed countries. This seems to be surprising because small-scale fishing is usually associated with little discard and prevention of benthic communities (Jacquet and Pauly 2008). Moreover, small-scale fisheries produce very little fishmeal and use only one-quarter times the fuel the large-scale industrial fishing sector uses for catching roughly the same amount of fish (Alder and Pauly 2006, Pauly 2006). The MSC bias against small-scale fisheries can partly be explained by problems in defining sustainability criteria for data poor fisheries (Jacquet and Pauly 2008), but also with the general problem that in the assessment of sustainable (ocean or fisheries) development the social dimension is not yet properly included (e.g., Hall et al. 2013, Visbeck et al. 2014). This holds even more true if one acknowledges that the social dimension of ocean services is not restricted to livelihood contribution but also includes the provision of historically and culturally significant occupation (e.g., Muallil et al. 2011). Consequently, even though the ocean's influence on wealth and development is clearly global in nature, its role in sustainable development and above all poverty reduction at the regional level is neither properly quantified and acknowledged nor operationalized for policy recommendation and design.

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