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Impacts of climate change on fisheries resources and food security in Egypt

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Abstract

Fast growing of global population and increasing demand on the seafood are taking place in the same time of declining the food resources especially the fisheries resources. More than 30 thousand species of fish live in our oceans, many of which are at risk of being affected by overfishing, pollution, IUU, invasive species and climate changes. As around 200 million people globally depend on fishing for their livelihood, it is vital to operate the fishing sustainably to avoid collapse of fish stocks. Thus, given the billions of people dependent on fisheries in some capacity, there is an urgent need to account for the effects of different challenges especially climate changes facing these resources and identify practical adaptations when building climate-resilient sustainable-development strategies. From land to sea, climate changes have affected wildlife and biodiversity by intensifying pre-existing stressors such as invasive species, diseases and habitat loss. Due to ocean warming, acidification, sea-level rise and de-oxygenation, the maximum catch potential of different fish stocks in some seas may be decline by up to 30 % by the 2050s. Climate change might also lead to the loss of 10–40 % of species suitable for marine aquaculture in the tropics and subtropics by 2050s. Understanding how climate changes will affect key commercial fish species and preparing for these changes will help ensure sustainable fishing. Fish stocks and marine habitats, however, are vulnerable to the physical and biogeochemical oceanic changes associated with rising greenhouse gases. These changes to fish stocks, and subsequent impacts on fish production, have substantial implications for the UN Sustainable Development Goals. The present paper will provide the information that marine stakeholders need to explore the potential impacts of climate change on Egyptian fisheries and to develop adaptation strategies.

Keywords: Acidification, de-oxygenation, egypt, fishery resources, global warming, governance, mitigation, monitoring