Tropentag, September 16-18, 2026, hybrid conference

"Towards multi-functional agro-ecosystems
promoting climate resilient futures"

The relative abundance of the target species with the impacts of fishing gears on red sea fisheries sustainability, Egypt

Sahar Mehanna

National Institute of Oceanography and Fisheries (NIOF), Fish Population Dynamics, Egypt

Abstract

The depletion of fish stocks in the world's oceans and the use of increasingly sophisticated industrial fishing techniques are resulting in heavy damage to precious marine ecosystems. Ocean resources are diminishing dangerously due to overfishing, pollution and global warming. This depletion is of particular concern in all world's countries, where fish, a source of revenue for millions of people, takes on major importance in terms of food security.

Fishing is one of the most important employers and sources of cheaper protein for people in Egypt. Three main fishing methods are deployed in Egyptian Red Sea fisheries; bottom trawl; purse seine and artisanal ones. Bottom trawls constitute about 19 % of the Egyptian Red Sea fisheries forming about 51 % of the gross revenue due to the high price of shrimp and cephalopods while purse seine constitutes about 65 % and artisanal fishery shared by 16 % of the Red Sea catch in Egypt. The Egyptian Red Sea fisheries are multispecies – multifleet fisheries with destructive fishing gears that impacted the fish production and harm the marine environment.

The present research will focus on the Egyptian Red Sea biodiversity and will describe some of the most vulnerable marine ecosystems and the types of damage that may be caused, either directly or indirectly, by fishing gears and how to reduce these harmful impacts. Also, the relative abundance of target species will estimated based on catch per unit effort. The impacts of fishing activities on the functioning of ecosystems (catching juvenile fish, damaging the seafloor, harming coral reefs , sharks, and sea turtles that attract valuable tourism to Egypt) will be discussed.

Keywords: By-catch, catch per unit effort CPUE, fisheries management, fishing gear selectivity, habitat loss, red Sea

Contact Address: Sahar Mehanna, National Institute of Oceanography and Fisheries (NIOF), Fish Population Dynamics, P.O. Box 182, Suez, Egypt, e-mail: sahar_mehanna@yahoo.com