

# **The Ocean as a Source of Food**

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The marine ecosystem, encompassing oceans and seas, stands as Earth's largest ecosystem (Ryabinin et al., 2019). Two-thirds of the planet's surface is covered by water. This vast expanse serves as a habitat for a thousand marine species, including fish, crustaceans, microbial organisms, and invertebrates. Undoubtedly, ocean resources benefit the global economy in many ways and provide vital opportunities for energy production, transportation, human habitation along the coast, tourism, recreation, mineral extraction, and scientific study (Martínez-Vázquez et al., 2021). Furthermore, with the current global population growth and an increase in animal protein demand, the crucial role of oceans in ensuring global food security becomes increasingly apparent.

The High-Level Panel for a Sustainable Ocean Economy in its Blue Paper of 2019 posits that fish accounts for about 20 percent of animal protein and 6.7 percent of all protein consumed by humans. This number is even higher in some developing regions such as Sri Lanka, Indonesia, and many small island developing states, which derive 50 percent or more of their animal protein from aquatic foods (Coste

seafood options. Ranging from the mild flavors of flounder to the bold flavors of tuna, this diverse ecosystem contributes significantly to fulfilling the dietary requirements of various cultures and diets worldwide.

In addition to being a vital food source sustaining coastal communities and global populations for centuries, marine by-products can be used for non-food purposes such as feed in aquaculture, fishmeal, fish oil, and other non-human consumption uses (Rice & Jake, 2016). For instance, marine by-products accounted for more than 27% of the world's fishmeal production and 48% of all fish oil produced worldwide in the year 2020 (FAO, 2022). Fish meal serves as a valuable protein-rich feed ingredient in fish and livestock production. It plays a critical role in the diets of

farmed fish, poultry, and livestock, providing essential amino acids, omega-

of the environment and stewardship of life below water are important measures for the very survival of all living species on the planet, present and future.

However, all the Sustainable Development Goals are intertwined and inextricably linked. Therefore, governments must ensure that in the pursuit of improving livelihoods for their people, the extraction of resources from the planet is conducted in a manner that does not wantonly and irresponsibly cause irreparable environmental damage. The oceans are also important for sea transportation, thereby enhancing trade facilitation. The oceans also create livelihoods in the coastal states through direct and indirect employment, thereby speaking to Sustainable Development Goal 8 relating to decent work and economic growth.

There can be little doubt about the importance of the ocean as a source of food. The oceans play an important role in the attainment of sustainable development and alleviating world hunger. Both coastal and landlocked countries depend on the ocean as a source of food, trade facilitation and a balance in the ecosystem. It is in this connection that global leaders have formulated and adopted various legal instruments to safeguard the environment. In addition, the role of local communities, academics, the youth,

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