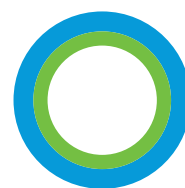


A unique group of leaders who are fast-tracking solutions to the most pressing challenges facing the Ocean



**FRIENDS of  
OCEAN  
ACTION**

## Food Security from the Ocean

### Background

The World Health Organization's most recent Global Nutrition Report (2016) found that the world faces a serious nutritional situation: 2 billion people lack iron, vitamin A and other key micronutrients in their diet; 155 million children have stunted growth; 52 million children are severely underweight; and 2 billion adults are obese or overweight. Globally, the populations of 88% of countries suffer up to three forms of malnutrition and in addition to the health implications of that malnutrition, bear the social and economic consequences.

What's more, by 2050, and in the face of a continued increase in the global population, it is expected that food demand will rise by more than 50% and that demand for animal-based foods will increase by nearly 70%.

### The role of seafood

Currently, seafood provides 3.1 billion people with approximately 20% of their daily intake of animal protein. It is particularly important for the world's poor, for whom fish constitutes a crucial source of essential micronutrients that are easily digested. According to the Food and Agriculture Organization of the United Nations (FAO), a portion of fish (150g) provides around 50 to 60% of an adult's daily protein requirement. Fish proteins are essential to the diet of people in some densely populated countries, where the total protein intake is low, and are particularly important to the diet of the populations of Small Island Developing States (SIDS).



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### The challenges of meeting nutritional needs while protecting ecosystems

As nutritional needs, which are already difficult to meet, continue to increase, the pressure on both terrestrial and oceanic ecosystems will rise. With 90% of global wild fish stocks being either overfished or fished at capacity, seafood extraction potential from wild sources has most likely reached a plateau or is in decline. The impacts of climate change on, for example, fish stock movements are hard to predict but are acknowledged to be another area of concern. As a result, many are looking to the aquaculture sector to provide the bulk of future seafood expansion. Aquaculture is currently growing faster than any other major food production sector. Currently, and for the first time, aquaculture provides more than half (53%) the fish for human consumption. Such rapid development can, however, come with significant environmental and social impacts.

Key constraints include competition for feed resources and available land for freshwater farming, highlighting the integrated nature of terrestrial and Ocean food systems. Research into sustainable aquaculture feeds (those that don't rely on wild fish stocks or unsustainably grown terrestrial crops) is developing rapidly, however, implementation remains in its infancy. Farmed, non-feed-dependent animal species (i.e. mussels and oysters) are a potentially more sustainable alternative and currently account for 31% of global aquaculture production. Other environmental concerns regarding aquaculture include the impact on wild stocks of escaped farmed fish, diseases such as sea lice, and the contamination of coastal areas from mariculture practices. Efforts are underway to address all these issues through research, innovation and technology but accelerated progress is needed to address the increasing challenges of meeting global nutritional needs in a sustainable way.

Lastly, according to recent research, much of the production from aquaculture goes to the developed world or to a small elite in developing nations.

### Going forward

Future research on the implications of expanding seafood production must recognise the inextricable link between human health and environmental sustainability (both terrestrial and oceanic) and begin to address the inherent and poorly understood complexities of seafood production. For example, fished and farmed seafood have different environmental footprints and various seafoods have different health characteristics. The greenhouse gas (GHG)



emissions of fisheries depends largely on species' schooling characteristics, while for aquaculture, environmental footprints can vary greatly depending on the type of production system (e.g. bivalve versus intensive shrimp or fish production). To date, most research has not addressed this complexity and hidden it under a general category of 'seafood' production. This masks the true health and environmental impacts and makes it difficult to assess the consequences of a global increase in seafood production.

A better understanding of the interconnected nature of food sources, ecosystems and human health is needed. Organisations such as the EAT Foundation are working on this and have highlighted the need for scientific targets for human health and environmental sustainability for various types of seafood production systems to spur large-scale and coordinated efforts to transform the global food system. One identified solution is the shift in consumption from high trophic seafood to lower trophic seafood.

In addition, the Friends of Ocean Action recognises the need for a systemic approach to fisheries management, the use of sustainable aquaculture practices, and the protection of marine ecosystems as key factors in the long-term ability of the Ocean to produce the food that humanity needs. Moreover, diversifying food production and mitigating it with innovative approaches will play a major role in securing food, jobs, sustainable management of natural resources, and the economic stability of countries, in the short and long term.

It is clear that this Food Security Action Track could also play a crucial role in achieving a number of the UN Sustainable Development Goal (SDG) targets, and not just those of SDG

14 (Life Below Water or the 'Ocean Goal'). Associated SDGs are SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-being), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action) and SDG 15 (Life on Land).

## Friends of Ocean Action (FOA)

Stakeholders at all levels have done much on the issue of food security but conversations on terrestrial and ocean food systems are often siloed. The FOA aims to encourage more collaboration on the interconnected nature of land and Ocean food systems. 2019 presents a number of opportunities to do this, with events such as the UN Climate Summit in September, at which one of the focusses will be the global food system.

Other work includes building on the forthcoming EAT-Lancet Commission report on "Healthy Diets from Sustainable Food Systems". The FOA Secretariat is working with Friends from the EAT Foundation (and their partner, the Stockholm Resilience Centre), the Food and Agriculture Organization of the United Nations (FAO) and Stanford University to produce a 'blue translation' of what healthy diets from sustainable ocean food systems might look like.

The FOA Secretariat is also working to identify other ways that the Friends' efforts can best be directed to enable the required supply of safe, affordable, nutritious food, while restoring and conserving marine ecosystems.

**For more information, please contact:**  
[Ocean2020@weforum.org](mailto:Ocean2020@weforum.org)



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