

Ref : EFARO/302

IJmuiden, August, 2015

To

DG Research & Innovation
Directorate F – Bioeconomy
Unit F.4: Marine Resources
Attn. HoU Mrs Sieglinde Gruber
Cc: Nikos Zampoukas, Jaques Fuchs
European Commission
ORBN 2/65
B-1049 Brussels - Belgium

Subject : EFARO's view on the role of Fisheries and Aquaculture in Global Food and Nutrition Security

Dear Mrs Sieglinde Gruber,

I am writing this letter to you on behalf of EFARO and in relation to the Fischler paper "The role of Research in Global Food and Nutrition Security". I understand that you contacted the EMB about this and the limited attention paid to marine resources. As president of EFARO, with a particular interest in this area, I would like to inform you that EFARO is of the opinion that this paper – indeed – does not sufficiently address the role of marine/coastal/aquatic food production and would like to suggest some steps forward.

Challenge

To feed the world within the carrying capacity of the planet, we not only need to increase the number of people to be nourished per ha of land, but we also need to better utilize the potential to produce food from the ocean. Around 70% of the world surface is water, whilst currently 17% of the animal proteins consumed originates from fisheries and aquaculture. On land, about 99.9% of the biomass consists of plants, whereas in the sea about 97% is animal biomass. This reflects a faster and larger conversion of primary to secondary production in the marine food chain than in the terrestrial food chain. In addition seafood provides a major source of essential (S-rich) proteins, omega-3 fatty acids and micronutrients. The potential for harvesting animal proteins from the sea is hence interesting from a nutrition security point of view.

Over the past 30 years, the annual per capita consumption of fish increased from about 11 kg in 1984 to nearly 19 kg in 2011. The contribution of fish protein to the total animal protein consumption varies from about 6% in S. America to about 24% in Asia. Annual demand of seafood by 2030 is estimated to be in the range of 185 - 260 million tonnes, especially due to emerging economies in Asia and in regions with fast population growth such as Africa. Seafood prices are expected to increase, and from this, pressures on ocean resources as well.

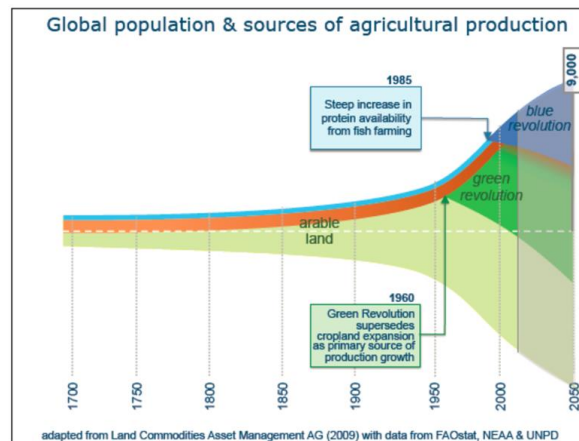
Policy measure

This challenge need to be met by improving the management of our ocean resources, better knowledge of the chances our ocean offers, balanced harvesting, ocean farming and offshore aquacultures:

In the second half of the 20-th century, the terrestrial agro production systems have changed considerably, leading to a substantial increase in primary production: the Green Revolution. This Green Revolution resulted from agro technological innovations, a better understanding of factors that limit and/or enhance production, of production capacities, as well as better governance of production and supply chains. In the last decades the sustainability of land based food production

has been issued as the great challenge to overcome the problems of the footprint of agro technological intensification.

We expect that the 21-th century will require a Blue Revolution, similar to this Green Revolution and based on the same foundations, with sustainability as a baseline: a political will to change marine resource management, a better understanding of the yield gaps at sea in perspective of the protection of marine life, a better cooperation, and better governance.



(Rabbinge & Verreth, AquaVision 2012)

Increasing marine productivity is crucial, but can only be achieved in harmony with other marine ecosystem services, including good ecological quality. When compared to land based agriculture, a profound understanding of ocean production potentials and drivers is missing, as well as governance systems aimed at exploring these potentials more fully and in a more sustainable manner.

Approach

EFARO proposes a different approach for managing our food resources;

- Focusing on new knowledge of the chances and full potential offered by our oceans
- learning from the techniques and knowledge of land-based agriculture approaches
- using a Nutrition Security Approach.

Scholten *et al.* submitted a paper for publication in a scientific journal, outlining such an approach with two main pillars for a multi-trophic marine production:

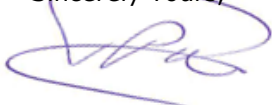
- Yield Gap Analyses (identify the defining, limiting and reducing factors, and solutions to optimize the potential for seafood production)
- novel Ocean Farming concepts with Balanced Harvesting methods.

This allows a higher total yield as compared to the current selective fishing and intensive aquacultures.

Innovation and research need to go hand in hand; businesses and stakeholders take shared responsibility to innovate.

We would like to discuss these ideas with you and other relevant stakeholders in a half-day seminar in Brussels.

Sincerely Yours,



Dr. Tammo Bult
EFARO President