

Event Title: Nourishing people and planet with aquatic foods

Date: Tuesday, 6 July 2021

Time: 16:30 – 18:00 (UTC+8)

Questions and Answers report

- 1. How much are non-fish aquatic foods, such as spirulina, produced given that they are easy to grow and process?**

Thank you for your question. We now produce about 30 million tons of aquatic plants and 27 million tons in China and Indonesia. Outside Asia, the biggest producer is Zanzibar, in the Republic of Tanzania, which is just about 100,000 tones.

- 2. It has been said that low trophic species are harvested more sustainably. What is the evidence to conclude that?**

Thank you for your question. If you look at FAO's SOFIA report, you will see that small pelagic fish (low trophic level) are more sustainably managed than some of the longer-lived, more complexed species. This question was also answered live during the event. View it here: <https://youtu.be/n1BaCJ19JvQ>.

- 3. But that is because of management, not because of their low trophic natural features.**

Thank you for your question. Of course, the sustainability of natural resources is all about management. Low trophic level species, though with a shorter life span and poses challenges for management, recover faster from overexploitation in a particular year.

- 4. Although more vulnerable to natural fluctuations and climate change impacts, and in many cases more accessible to many different fleets, some of them are not well or easy to control, which altogether makes management even more challenging. So, yes, I understand and agree with the conclusion from a food security perspective. I simply believe that it is essential to emphasize the need for proper management. Targeting low trophic species without proper management can be highly risky from food security and an environmental view.**
Thank you for your question. All-natural resource exploitation should be managed. 100% of aquatic spaces should be under effective management. This is an absolute need.

- 5. COVID-19 exposed the inequities and vulnerabilities in the aquatic food systems. Given that climate change is predicted to reduce fisheries productivity in the tropics by up to 40% in some jurisdictions, how do we transform food systems to ensure fish nutrients stay where they are most needed?**

Thank you for your question. We ought to reduce emissions as that is the overall objective. However, while this takes its path, we must ensure we adapt to climate change by adjusting institutions, management practices, fishing operations, consumer awareness to adapt to new species, different fishing patterns, and etc. Much can be done in response to climate change, but of course, ultimately, we must reduce emissions.

- 6. Agree, we need to transform all aspects of our global food system to reduce emissions, reduce production footprint, and increase productivity. This means transforming the most impactful fishing gears. Keen to hear your views on how we transform food systems to ensure fish nutrients stay where they are most needed?**

Thank you for your question. Not sure what you mean by "ensure fish nutrients stay where they are most needed." Fish trade has also brought enormous opportunities to developing countries to gain revenue and balance diets, which are also part of the solution. For example, Africa is a net exporter of fish by value but a net importer by volume, which means the continent gains revenue while keeping fish accessible. But this is at continent level. At the national level, this is variable. You may also want to look at Chapter 7 (Value Chains, Post Harvest and Trade) of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (SSF Guidelines). There is a clause about states ensuring that trade does not adversely affect nutritional needs for people who depend on fish for a nutritious diet.

- 7. Africa is also where the per capita consumption of fish is dropping, not rising. Making locally caught fish locally available would provide direct nutritional and development benefits and would likely be more effective than trickle-down economics from export revenue. Policy settings that enable nutrient benefits to be captured locally and enable wealth generation would be good to learn more.**

Thank you for your question. No, the per capita consumption of fish in Africa has been growing, not dropping. But, indeed, in the coming decades, it will not outpace population growth in the continent. It is for this reason that we insist on the importance of intensifying aquaculture in Africa.

- 8. My source was SOFIA 2020 P.86 "At the regional and continental levels, the lowest per capita fish consumption occurs in Africa, where it peaked at 10.5 kg in 2014 and then declined to 9.9 kg in 2017". Is there a different reference I should be using?**

You were right in that in 2017; it declined to 9.9. It was 10.1 in 2012 and 2013 and then grew to 10.5 in 2014. It is fairly stable with some year-to-year variability (but significantly higher than in the 1990s, around 7kg/person). But as I said, the per capita consumption would decline in the coming decades because population growth will outpace production growth.

- 9. Promoting non-fed aquaculture and creating a truly sustainable, low footprint fish feed pellet would HAVE transformational breakthroughs. How can we fast-track this type of intervention?**

Thank you for your question. Private sector innovation on feeds has been remarkable already. Since 1995, aquaculture production has grown by 250%, while the volume of fish devoted for non-food purposes (e.g. animal feed) has declined since then. Like salmon, the feed composition is now more diverse for many predator fish and includes significant vegetable components. Now, there is also big innovation in fish meals from insects. We need more feed innovation and more fishmeal production from trimmings (bones, skins, etc.) to drive aquaculture development.

- 10. Sustainability is easily said than done in the most challenging environment, particularly in developing countries.**

Thank you for your comment. Indeed, sustainability failures are governance failures. The reasons are complex, multifaceted, and diverse. Fixing the underlying reasons for these failures is not as simple as some may think, but it can be done.

- 11. Especially in Senegal and Mauritania, plenty of small pelagic fish are imported to Europe for fish meal and fish oil production, damaging local food security. This shall be included in a sustainability assessment with synergies between aquaculture and fisheries, affecting local communities in developing countries to produce protein in European countries (i.e., salmon). Is there any position to address this situation?**

Thank you for your question. Our main goal is to convince countries to manage their fisheries sustainably and help them with technical solutions and policy support to achieve this. However, what countries do with their sustainably exploited resources is a matter for the country's government. The FAO Voluntary Guidelines for Sustainable Small Fisheries ask countries to "ensure that international trade and export production do not adversely affect the nutritional needs of people" (Clause 7.7).

12. How do you overcome cultural barriers to fish consumption in Malawi?

In Malawi, most fish are accepted by most cultures, although the influence of religion on acceptable fish is recognized. Luckily, we have so many species that are accepted by almost all cultures and religions.

13. Is fish powder shelf life more to do with the moisture content it holds or more to do with packaging material?

The shelf life depends on initial moisture content at the time of storage and due to packaging material. Packaging materials that are permeable to moisture will lead to short shelf life.

14. What implications did the costs of solar drying, milled fish into powder, and fish packaging have on household access to fish in the Chitipa district of Malawi?

Since Chitipa is not a fish landing site, most fish come from Karonga. A cooperative in Karonga is responsible for solar drying before being transported to Chitipa. Nevertheless, small solar dryers can be used for drying fruits and vegetables in households. The cost of milling fish is the same as milling maize, around K100 (around 1 cent) per 5L bucket.

15. Would it make sense to set up mola hatcheries for active restocking processes in the seasonal wetlands?

Mola breeding protocol has already been developed and can be stocked in the seasonal wetlands. This question was also answered live during the event. View it here: <https://youtu.be/n1BaCJ19JvQ>