Characteristics of fish and other aquatic foods

• Bountiful
• Diverse

• Well-liked
• Seasonal

• Culturally acceptable
Aquatic foods improve diets and combat Hidden Hunger

• Hidden hunger: micronutrient deficiencies

• Estimated global hidden hunger: 2 billion people
Aquatic foods: irreplaceable source of multiple, highly bioavailable nutrients

- Minerals: calcium, zinc, iron, selenium, phosphorus, iodine ...
- Vitamins: B12, A, riboflavin, D, E
- Essential fatty acids
- Animal protein
- High bioavailability of minerals and vitamins

Aquatic animals in a meal enhance the bioavailability of micronutrients in the plant-source foods (rice, vegetables)
Aquatic foods: irreplaceable source of multiple, highly bioavailable nutrients

Small-size fish

• Sold in small portions; affordable to the poor
• Minimal cleaning loss and plate waste
• Cooked with vegetables and spices, further increasing micronutrient intake

• Dried and smoked, increasing nutrient density
Contribution (%) of common fish species from Bangladesh to recommended nutrient intake: vitamin B12 (Bogard et al 2015)
Contribution (%) of common fish species from Cambodia to recommended nutrient intake: iron

Contributions based on a 50 g serving per day for pregnant women and a 25 g serving per day for children. RNI for iron (WHO, 2004)
Harnessing global fisheries to tackle micronutrient deficiencies
(Hicks et al 2019)
Aquatic foods: a rich source of essential fatty acids

African Great Lakes Region:

- Associations between high intake of small fish in women and concentration of essential fats in breast milk (Fiorella et al 2017; Yakes et al 2014; Kuipers et al 2005).
Fish as a superfood for the first 1000 days of life

- Strong association between high fish intake and low stunting in children (Headey et al 2017; Marinda et al 2018)

- Women consuming >113 g/week of seafood during pregnancy resulted in positive neurocognitive development in their children; average increase of 7.7 IQ points (Hibbeln et al 2019)
Piloting convenient, nutritious, safe fish-based products

Bangladesh: fish chutney for pregnant and lactating women

Ingredients:
37% dried small fish, 15% oil, 37% onion, 7% garlic, 4% red chili

Texture and flavor

Vitamin B12, vitamin A, Fe, Zn, Ca, animal protein

Energy density, EFA

Taste enhancer
Piloting convenient, nutritious, safe fish-based products

Cambodia: fish powder product for treating malnourished children
National dietary guidelines: Denmark

Focus on:
• Essential fatty acids, selenium, iodine, vitamin D
• Reduced risk of cardio-vascular diseases

Warning on:
• Heavy metals in large predatory fish
Over half of the SDGs relate to food and nutrition security
Four action points

• Invest in analyses of nutrient content and food safety of aquatic foods and make the data open access.

• Promote increased supply of aquatic foods, using a nutrition-sensitive food systems framework.

• Promote the consumption of tasty, nutritious, safe, affordable and convenient aquatic foods in public nutrition and health programs, focusing on the first 1000 days of life.

• Influence global and national policy makers for policy change and investments so that aquatic foods can nourish nations.
Partnering with FAO to make fisheries sustainable