



# Seafood as part of a healthy diet

**A presentation at the  
Conference on Seafood and Health  
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# PANEL 1.1 THE SCALE OF MALNUTRITION IN 2016

Although the numbers of people affected by different types of malnutrition cannot simply be summed (because a person can suffer from more than one type), the scale of malnutrition is staggering.

OUT OF A WORLD POPULATION OF **7 BILLION**



About **2 billion** people suffer from micronutrient malnutrition



Nearly **800 million** people suffer from calorie deficiency

OUT OF **5 BILLION** ADULTS WORLDWIDE



Nearly **2 billion** are overweight or obese



**One in 12** has type 2 diabetes

OUT OF **667 MILLION** CHILDREN UNDER AGE 5 WORLDWIDE



**159 million** under age 5 are too short for their age (stunted)



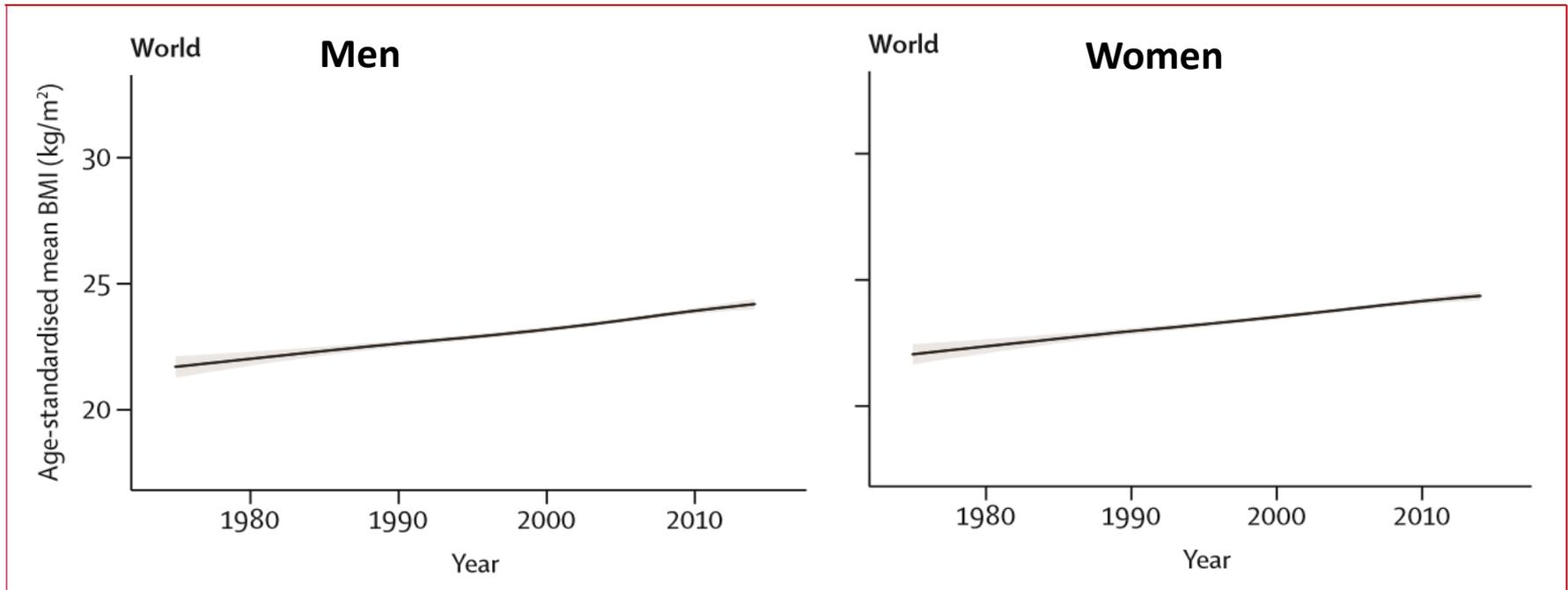
**50 million** do not weigh enough for their height (wasted)



**41 million** are overweight

# Warning on Global Obesity trends:

If trends continue, the probability of meeting global obesity target is virtually zero; Severe obesity will surpass underweight in women by 2025



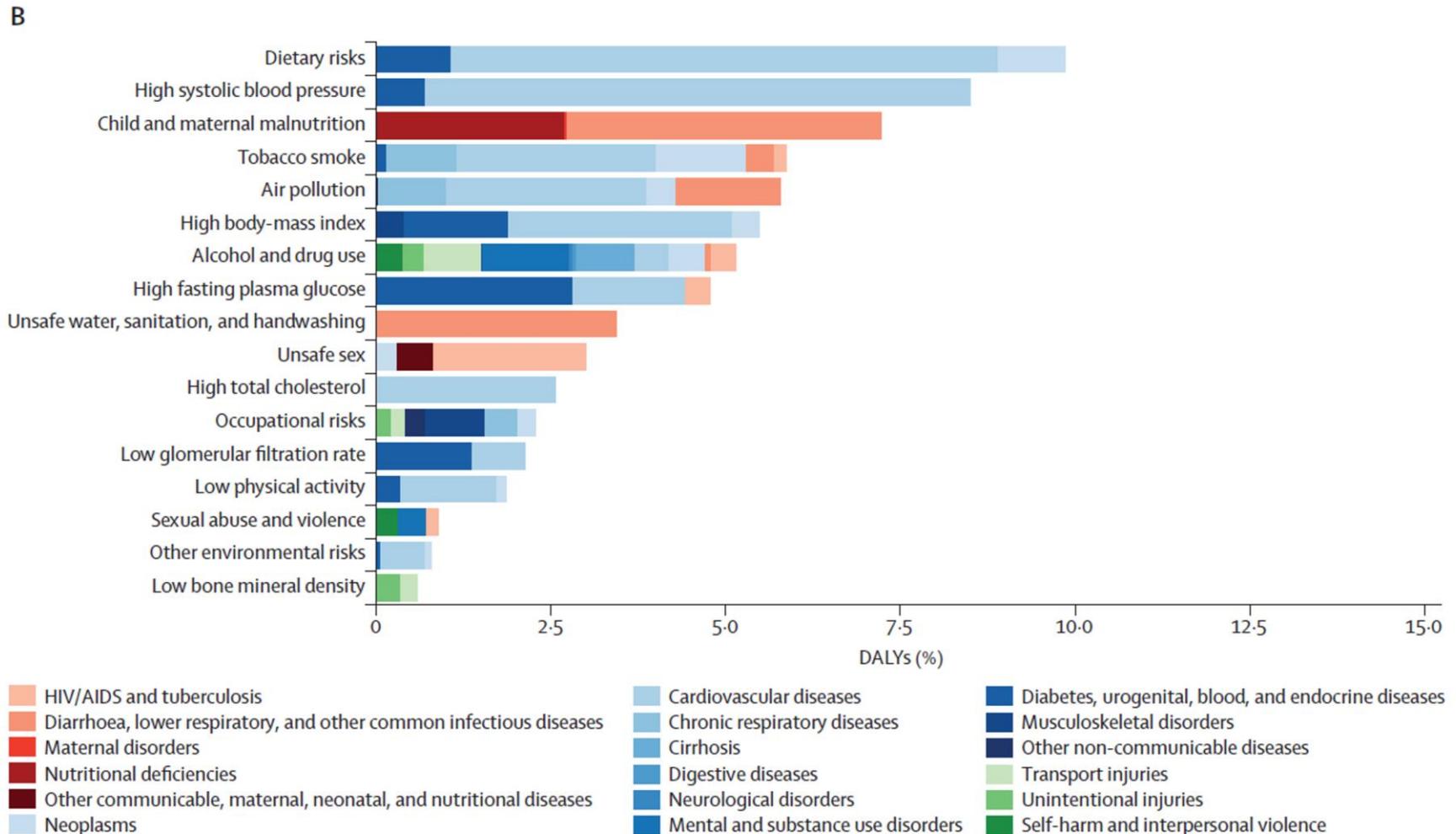
**Figure 1: Trends in age-standardised mean BMI by sex and region**

Lighter colours are 95% credible intervals. See appendix (pp 155–355) for results by sex and country. BMI=body-mass index.

Source: Lancet Vol 387, April 2, 2016

# Global risk factors contributing to early deaths

(Source: GBD 2013; Lancet 2015)



# ICN2

## Second International Conference on Nutrition

better nutrition better lives

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19-21 November 2014

ICN2 Secretariat

ICN2 Website: [www.fao.org/ICN2](http://www.fao.org/ICN2)

At ICN2 countries committed to reform their food systems:

*"we commit to enhance **sustainable food systems** by developing public policies from production to consumption and across sectors to provide year-round access to food that meets people's nutrition needs and **promote safe and diversified healthy diets.**"*



# Fish is an important component of a healthy diet



# Healthy Diets through the lens of two famous traditional diets: Declared World Intangible Cultural Heritage by UNESCO 2013

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## *“Washoku”* Traditional diet of Japan:

- **Well-balanced** through use of foods that vary in colour and texture;
- **Diversity** and freshness of seasonally-available ingredients;
- **Fish** as major animal protein;
- Use of **natural spices**
- High use of fermented foods

## *Mediterranean Diet*

- High use of **fruits and vegetables, whole grains, legumes and nuts (Diversity)**;
- Use of **olive oils**;
- Limited use of red meat and processed meat;
- Consumption **of fish and poultry**;
- Use of **herbs and spices** for flavouring

# Guidelines of the Nordic Diet

## *“Nordic Diet:*

- **More fruits and vegetables;**
- **More whole grains;**
- **More food from the seas and lakes;**
- **Less meat;**
- **Meals based on seasonal;**
- **More home made**



# Nutrient dense fish ‘.. a special role in nutrition and health’\*



\* ICN2 Second International Conference on Nutrition

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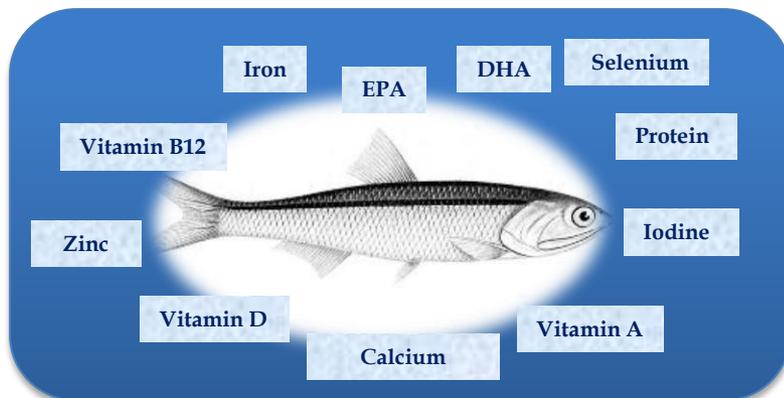
19-21 November 2014, Rome, Italy



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization



Fish, a source of nutrients	Daily need (RDI) for children
<b>DHA+EPA (Ω-3);</b> seafood main source	150 (250) µg
<b>Vitamin A;</b> 250 million preschool children deficient	150 (250) mg
<b>Iron;</b> 1.6 billion people deficient	8.9 mg (at 10% bioavailability)
<b>Iodine;</b> seafood natural source, 20 million people deficient	120 µg
<b>Zinc;</b> 800 000 child deaths per year	5.6 mg (at moderate bioavailability)

### 3 Towards 2050 (World population will be 9 billion)

## FOOD DEMAND



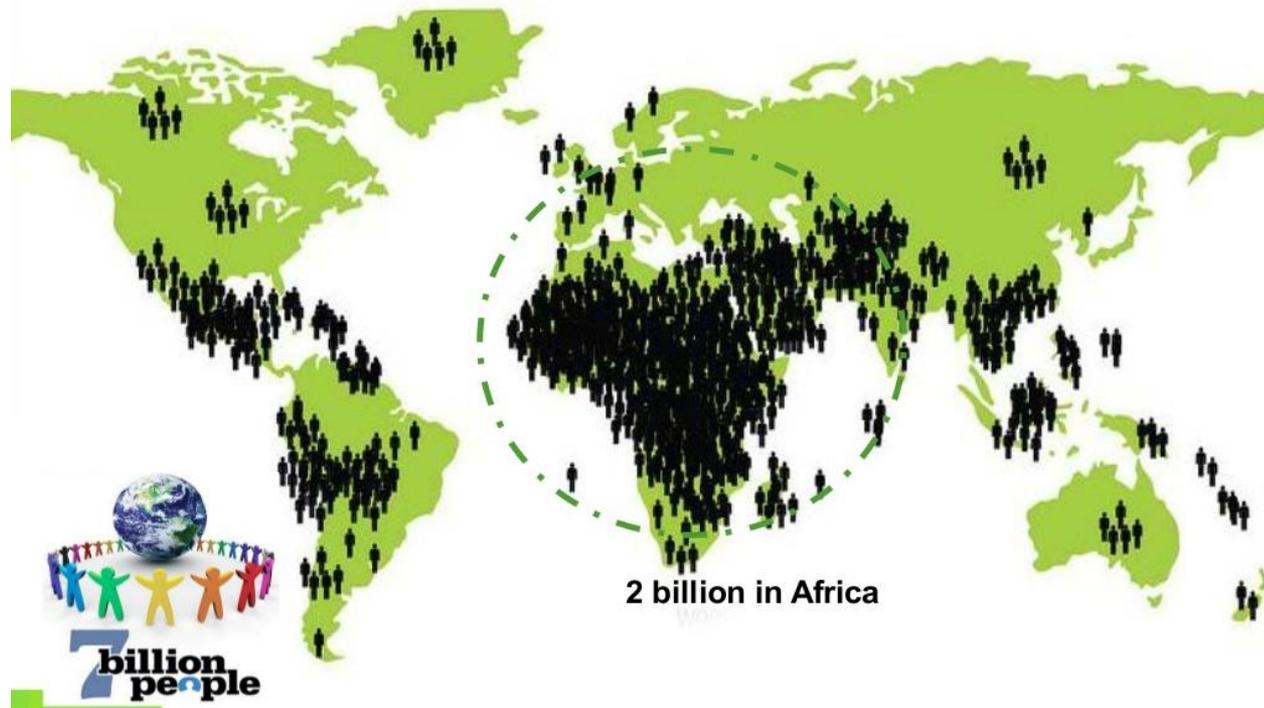
## FOOD PRODUCTION NEEDS (2050)

**+60%**  
Globally

**+100%**  
in developing Countries

# And agriculture faces growing challenges

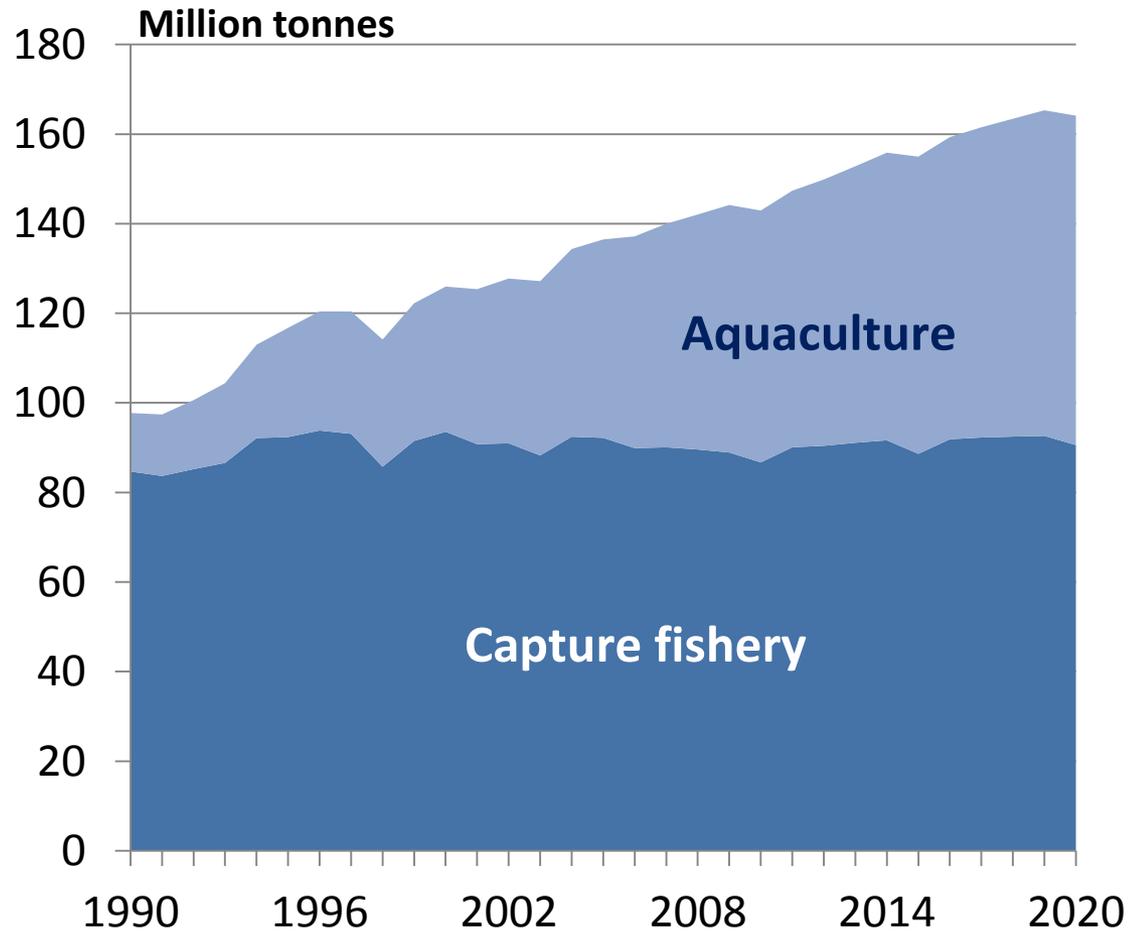
- **Demographics :**



- **Climate change:** Depending on extent of temperature rise, Africa risks being able to produce only 13% of its food needs by 2050

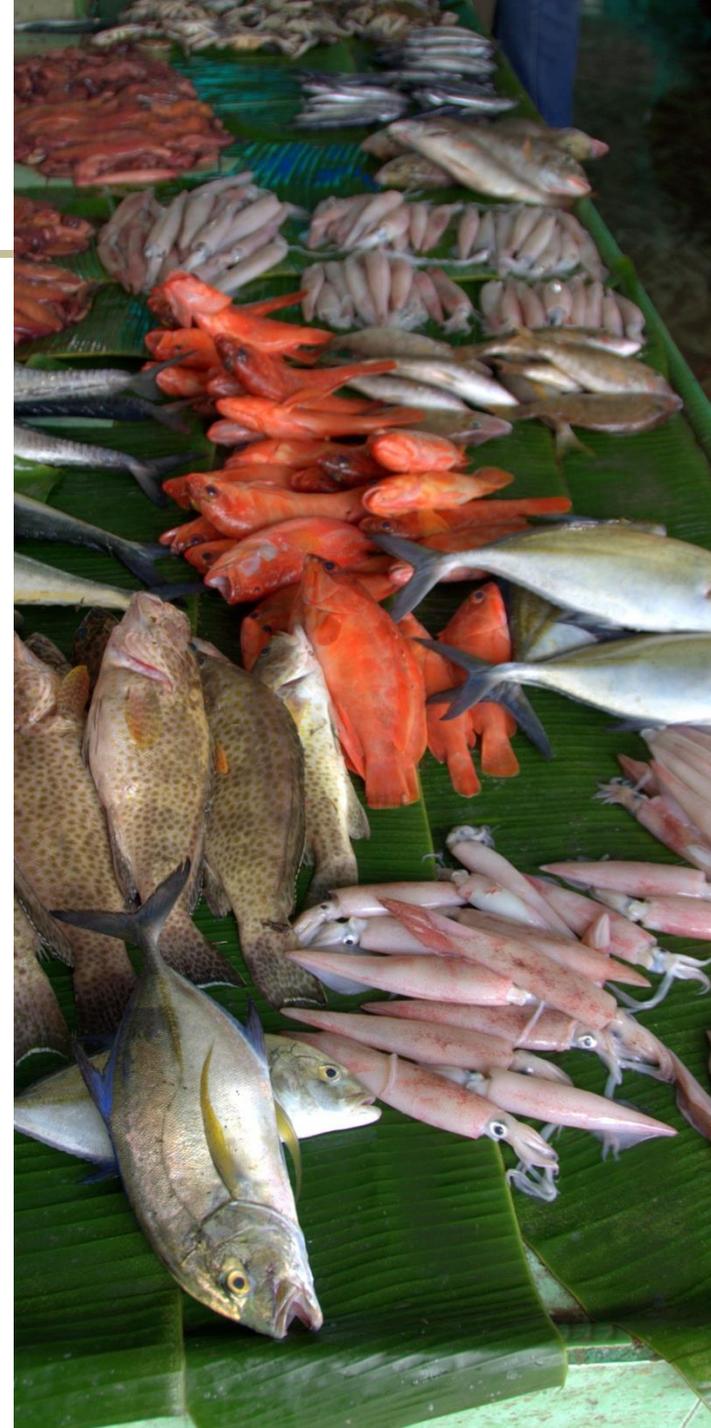
# Projected growth of capture fisheries vs aquaculture

- Total production projected to reach 172 million tonnes by 2021
- Growth of 15% above the average level for 2009–11.
- Over next decade
  - aquaculture rises by **33%**
  - capture fisheries grows **only 3%**

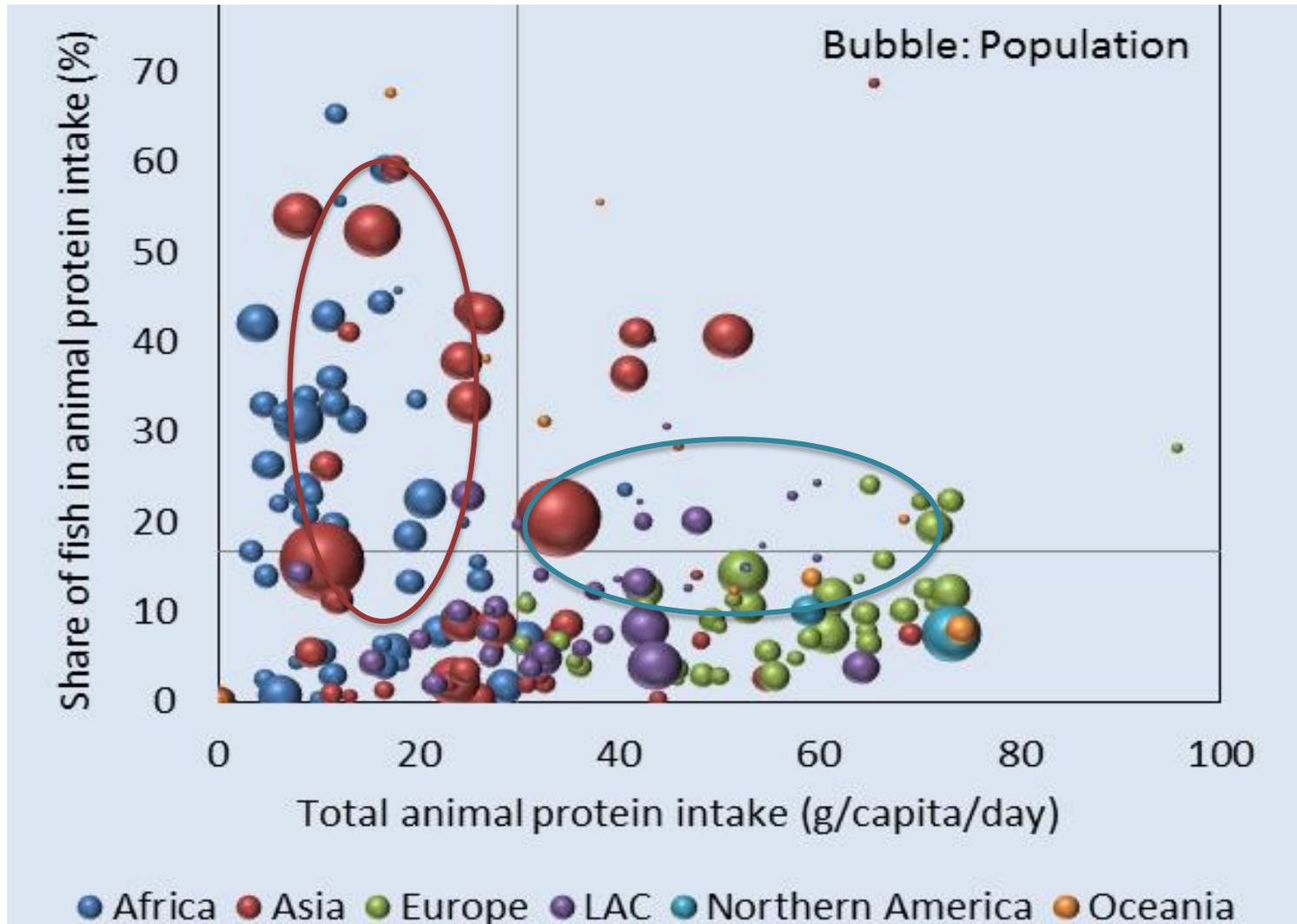


# Global contribution of fish to the diet

- Fish provides about **4.3 billion** people with at least 15 % of their intake of animal protein
  - Of them **3 billion** people with **over 20%** of animal protein.
- Differences among developed and developing countries
  - Fish provides **19.2%** of animal protein in developing countries
  - Fish provides **24%** animal protein in LIFDCs
- Overall share has declined slightly in both developing and developed countries
  - consumption of other animal proteins (meats/eggs/milk) has grown more rapidly



# Fish is especially important in the diets of poor consumers



# Future fish consumption looks good ... if you're rich

	PER CAPITA FISH CONSUMPTION (kg)		
	Average (2013-2015)	2025	Percent change
World	20.2	21.8	7.9
<b>Developed countries</b>	<b>22.7</b>	<b>23.4</b>	<b>3.1</b>
North America	23.6	24.3	3.0
Europe	20.8	22.2	6.7
Developing countries	19.6	21.5	9.7
<b>Africa</b>	<b>10.0</b>	<b>10.2</b>	<b>2.0</b>
Latin America and Caribbean	10.0	12.2	22
<b>Asia and other Oceania</b>	<b>23.5</b>	<b>26.4</b>	<b>12.3</b>

source: <http://www.fao.org/3/a-i5555e.pdf>

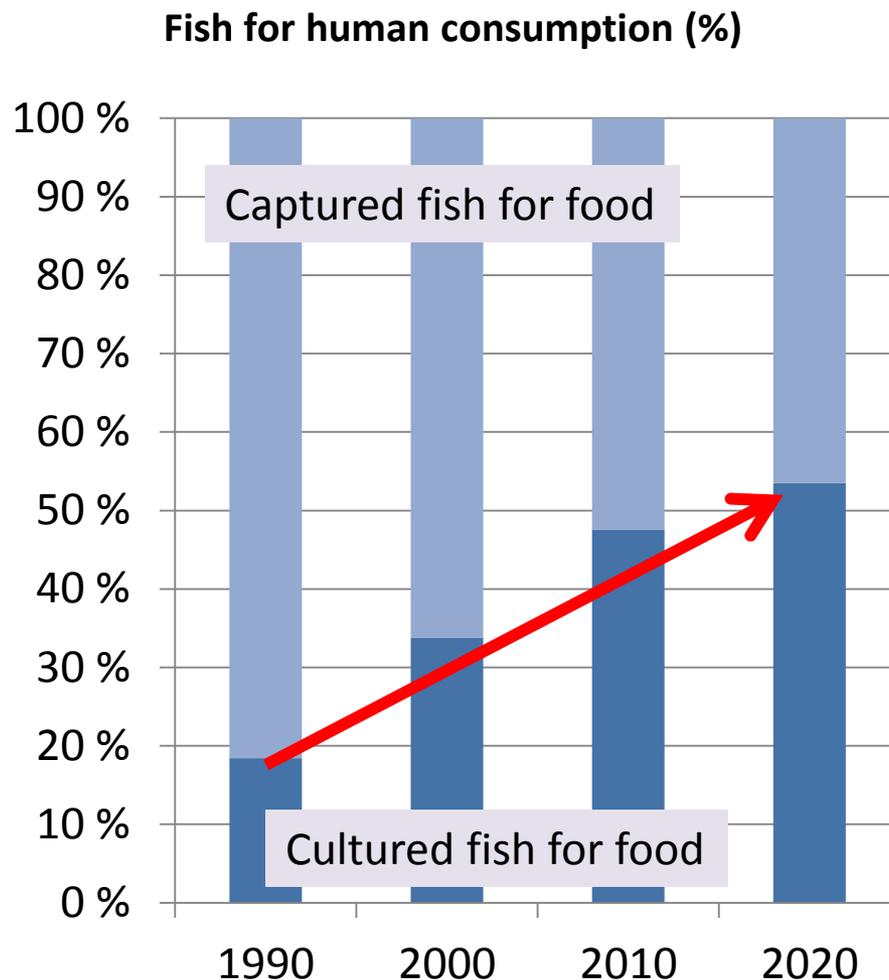
# Consumption outlook

- World per-capita apparent fish consumption
  - expected to reach 19.6 kg in 2021
  - 16% higher than the average level for 2009–2011.
  - by 2021 fish will start to become more expensive than red meats.
- Per capita fish consumption expected to increase in all continents **except in Africa**
  - population growing faster than supply.



# Increasing role of aquaculture in human consumption

- Capture fishery will not provide much more fish than at present
  - Sustaining catches will require implement cautious and effective fisheries management
- Major increases in supply will depend on aquaculture.
  - Currently 59.9 million tonnes
  - By 2018, farmed fish is expected to exceed captured fish for human consumption for the first time
  - Share is projected to reach 52% by 2021



# FAO's work on promoting fish consumption



# FAO's work on promoting fish consumption

FAO's SOFA2016:  
Highlighted the role of  
fisheries and aquaculture  
in contributing to food  
security and nutrition for  
all.



# FAO's work on promoting fish consumption (contd)

**FAO's Committee on Fisheries:** recognizes that fisheries and aquaculture remain an important source of food and nutrition, income and livelihood for millions of people around the world.

COFO provides the policy platform for issues of fisheries and aquaculture to be discussed and implemented





# Food-Based Dietary Guidelines

## FAO's support for development of FBDGs



# Nutrient composition of fish, crustacean & molluscs (per 100 g raw edible portion of fresh weight)

Selected species of the upcoming **FAO/INFOODS Food Composition Database for Fish and Shellfish** (provisional data):

	Energy (kJ)	Protein (g)	Fat (g)	Fe (mg)	Ca (mg)	Zn (mg)	Id (µg)	Vit B12 (µg)	Retinol (µg)	EPA (g)	DHA (g)
Atlantic salmon, fillet - farmed	838	19.9	13.5	0.3	12	0.37	9	4.4	9	0.728	1.24
Atlantic salmon, fillet - wild	741	20.1	10.8	0.7	16	0.57	21	5.3	16	0.551	1.70
Nile tilapia, whole edible	446	19.5	3.1	1	73	1.04	11	1.6	10		
Nile tilapia, fillet	393	18.3	2.2	0.8	11	0.44	5	1.3	1	0.039	0.152
Lobsters, flesh	334	18.1	0.7	2.1	66	2.25		1.3	7		
Sea mussels, flesh	349	15.1	2.5	5	57	1.8	158	13.9	60		
SIS* mixed species, whole edible	420	16.4	3.8	2.5	687	2.1	21	4.7	83	0.1	0.1
SIS, min		11.9	0.3	0.43	9.3	0.6	6	0.55	18	0.03	0.024
SIS, max		20.5	12.8	2.5	1700	4.7	81	12.8	340	0.16	0.12

\* SIS= small indigenous species from Bangladesh (Bogard et al. 2015; Roos 2001)

## ICN2 Provide opportunities for countries to take action in the Fisheries and aquaculture sector to promote fish consumption

- Improve the quality and safety of fish products (FfA Rec #4)
- Promotion of fish products in school meals and other government institutions to improve nutrition (FfA Rec # 16, 23);
- Promote fish consumption through nutrition education on the advantages of consuming fish as part of a healthy diet (FfA Rec # 19,20,24)
- Promote the production and consumption of small indigenous fish species (FfA Rec 10)

## ICN2 Provide opportunities for countries to take action in the Fisheries and aquaculture sector to promote fish consumption (contd)

- Promote simple, low cost preservation technologies to increase revenue for small holders, especially women (FfA Rec # 9, 11)
- Promote use of fish heads, viscera of larger fish as ingredients for human consumption, thus reducing waste (FfA Rec # 42)
- FAO can assist countries to generate and publish data on nutrient composition of fish products (FfA Rec # 5, 21, 42)ff

***Global Opportunities to promote fish  
consumption***

# NUTRITION **and** the Post-2015 Sustainable Development Goals

Goal2:  
End Hunger, achieve food security and **improved nutrition** and promote sustainable agriculture

Fish consumption contributes to improved nutrition



General Assembly

Distr.: General  
15 April 2016

## UN DECADE OF ACTION ON NUTRITION: 2016-2025

Seventieth session  
Agenda item 15

### Resolution adopted by the General Assembly on 1 April 2016

[without reference to a Main Committee (A/70/L.42 and Add.1)]

#### 70/259. United Nations Decade of Action on Nutrition (2016–2025)

- *UN Decade of Action on Nutrition is for everybody;*
- *An opportunity to build momentum to **fight all forms of malnutrition;***
- *A time for all stakeholders to declare commitment and to take ACTION;*
- *A unique opportunity to work together to **end malnutrition in all its forms***

Fish consumption  
contributes to  
ending all forms of  
malnutrition

# Save the DATE!

*A UN Decade of Action on Nutrition  
event  
in follow-up to the ICN2*

# 1-2 DEC 2016

## International Nutrition Symposium on Sustainable Food Systems for Healthy Diets and Improved Nutrition

Hosted in FAO headquarters, Rome. Live webcast of plenary sessions.

Organized by



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization

# International Nutrition Symposium

Diversifying Food Production for Healthy diets:  
**Aquaculture and sustainable fisheries for  
nutrition: Learning from Norway**

## Concluding remarks

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- More food production does not necessarily translate to healthy diets. → Ensure the right foods are produced and consumed; fish included;
- We need to bring to the fore the valuable contribution of fish and aquatic resources to healthy diets;
- Fish and aquatic resources bring opportunities for improve rural livelihoods, family nutrition and health;
- Multisectoral action at country level to improve nutrition should not only involve agriculture (crop production) and Health, but should also engage with Fisheries departments

# One-Man-Thousand in Ghana

Keep the poor and vulnerable in mind:

Promote the production and consumption of small indigenous fish species, often eaten whole (FfA Rec 10)



