Fish Outlook
2015-2024 and 2030

Ad Hoc Expert Meeting on Trade in Sustainable Fisheries- Stefania Vannuccini
Outline

• Background

• Fishery outlook
  – OECD-FAO Agricultural Outlook 2015-2024
  – IFPRI-WB-FAO Fish to 2030
Before starting... let’s reflect
This is the **BLUE** planet

Water
About 72% of the Earth’s surface, with about 97% in oceans

Healthy aquatic ecosystems are vital to human welfare
What OCEANS/WATER give to us

All kinds of **Provisioning, Regulating, Cultural and Supporting** services

- Fish and plants as a source of protein and micronutrients (food)
- Pharmaceutical compounds (medical cures)
- Fixation of atmospheric carbon by algae
- Regulation of the climate and weather trends
- Provide mass transportation routes
- Provide pleasure and wellbeing (recreation)
- And much more…
Challenge: 9.7 billion in 2050

We face a major challenge in feeding an expanding world population.

- 3 billion in 1960
- 6 billion in 1999
- 7.2 billion in 2014
- 9+ billion in 2050

To nourish another 2 billion people in 2050, food production must rise by 60%.
Sustainability

but the way we produce more food cannot be at the expense of the planet

Natural resources are diminishing
Ecosystems are compromised and biodiversity lost
Climate is changing

Sustainability will be at the heart of new global development goals that will replace the MDGs after 2015
- 28.8% of overfished stocks in 2011
- 71.2% of stocks fished within biologically sustainable levels:
  - 61% fully fished
  - 10% underfished
- Constant increase of the % of fully fished stocks since 1990
Projections
(Intergovernmental Panel Climate Change)

Ocean warming 2051-60: displaced and reduced fish and invertebrate stocks

CHANGE IN MAXIMUM CATCH POTENTIAL (2051-2060 COMPARED TO 2001-2010, SRES A1B, 2°C warming)

WGII, 6-14, SPM.6
The future ahead of us
Outlook models

• Understanding on perspectives of developments
• Lack of specific outlook model for the fisheries and aquaculture sector
• Importance to draw fisheries outlook in integration with agriculture models
Two recent outcomes

• FAO fish model, being published in the yearly OECD-FAO Agricultural Outlook publication since 2011

• IFPRI’s IMPACT MODEL with results published into the recent World Bank “Fish to 2030: prospects for fisheries and aquaculture” publication.
Results

• Projections and not forecast
• Likely paths of development and constraints in fishery and aquaculture supply and demand
• Determine regional vulnerabilities, changes in comparative advantage, price effects, and potential adaptation strategies in the sector
• Medium/longer outlook
OECD-FAO Agricultural Outlook

- Joint OECD-FAO report
- Country collaborators
- Aglink-COSIMO, partial equilibrium model
- 10 year horizon
- Major temperate commodities
- Global coverage
Total fishery production

Tonnes (live weight)

Aquaculture

Capture

Projected growth (quantity and %)
Aquaculture growth

+26.4 million tonnes

94% in developing countries

Europe 4%
Latin America & Caribbean 4%
Africa 2%
North America 1%
Oceania 0%

Asia 89%

p.a. 2.1 3.0 2.7 2.4 2.0 2.5
Lower annual growth rate of aquaculture
Surpass of aquaculture

Total capture
Capture for food
Aquaculture

Tonnes (live weight)
Slight increase of capture fisheries

Tonnes (live weight)

Total capture

Non-food uses

El niño
More fishmeal produced from residues

El niño

From residues

From whole fish

Tonnes (product weight)
Use of fishmeal in aquaculture

Ratio of fishmeal consumption to aquaculture production

%
World fishery trade

Imports excluding intra EU

Tonnes (live weight)
Lower growth of fish consumption
Additional fish consumed by 2024

31 million tonnes of additional fish

- **Asia**: 71%
  - China: 53%
- **Europe**: 10%
- **Latin America & Caribbean**: 5%
- **North America**: 5%
- **Oceania**: 8%
- **Africa**: 8%
- **Other Asia**: 2%
  - Viet Nam: 3%
  - Bangladesh: 3%
  - Indonesia: 8%
  - India: 8%
  - Other Asia: 2%

**Developed** vs **Developing**

- **Developed**: 94%
- **Developing**: 6%
Growth in per capita fish consumption

Kg per capita (live weight)

+2%  +12%  +9%  +9%  +12%  +7%  +7%  +20%  +4%

Developed  Developing  World  Oceania  Asia  North America  Europe  Latin America  Africa
Caloric and Protein intake per capita

Calories

Protein

Vegetal
Animal
Slightly higher prices
Lower prices in real terms

2010 USD/tonne

Fish traded

Fish oil

Fishmeal
Fish to 2030
Prospects for Fisheries and Aquaculture

- IFPRI’s IMPACT Model
- Capture and aquaculture supply modeled for 16 fish species group and 115 country/regions
Global Fish Supply: 1950-2030
(Source: FishStat, Model Projection)
Projected Total Fish Supply

2011 (Data)
- Capture: 90.4
- Aquaculture: 63.6
Total Harvest: 154.0 Million Tonnes

2030 (Model)
- Capture: 93.4
- Aquaculture: 95.7
Total Harvest: 189.1 Million Tonnes
Aquaculture Growth

2030 (Model)

- Approx. 50% of total harvest
- Approx. 62% of fish for direct human consumption
- Aquaculture 2010-2030 62% in 20 yrs
- Total supply (capture + aquaculture) 2010-2030 24% in 20 yrs
Aquaculture Supply Growth: Species

- More than 90% increase from 2010 to 2030
  - Tilapia
  - Shrimp
- 40-90% increase from 2010 to 2030
  - Molluscs
  - Salmon
  - Carp
  - Pangasius/catfish
  - Crustaceans
  - Other freshwater and diadromous species
Aquaculture Supply Growth: Regions

- More than 100% increase from 2010 to 2030
  - India
  - Latin America and Caribbean
  - Southeast Asia
- 50-100% increase from 2010 to 2030
  - South Asia (excl. India)
  - Middle East and North Africa
  - Sub-Saharan Africa
- Less than 50% increase from 2010 to 2030
  - Everywhere else
Consumption Growth: Regions

- More than 50% increase from 2010 to 2030
  - South Asia (excl. India)
- 30-50% increase from 2010 to 2030
  - India
  - Southeast Asia
  - North America
  - Middle East and North Africa
  - China
  - Sub-Saharan Africa
- Decline from 2010 to 2030
  - Japan
Six hypothetical scenarios

• Scenario 1: Faster aquaculture growth
• Scenario 2: Expanded use of fish processing waste in fishmeal and fish oil production
• Scenario 3: A major disease outbreak in shrimp aquaculture in Asia
• Scenario 4: Accelerated shift of consumer preferences in China
• Scenario 5: Improvement of capture fisheries productivity
• Scenario 6: Impacts of climate change on the productivity of capture fisheries
Overall conclusion

• Major growth in production from aquaculture
• Projections indicate a continuous rise in demand for fish and fishery products, with growing trade and consumption
• Differentiation of consumption, opening of new markets
• Risk of increase of costs of production
• Too high prices in the market will risk the effect of substitution with other emerging commodities
• Need to long-term resource conservation and effective management of resources as well as of aquaculture
OECD-FAO Agricultural Outlook: http://www.agri-outlook.org/

Fish to 2030: http://www.fao.org/docrep/019/i3640e/i3640e.pdf

Stefania.Vannuccini@fao.org