Eradicate hunger, food insecurity and malnutrition

Eliminate rural poverty through socio-economic development

Sustainable management and utilization of natural resources

Europe, the Ocean and Feeding the World
20 March 2018
European Parliament, Brussels, Belgium
What are we achieving now?

Fish production and utilization

174.1 MT

Aquaculture for human consumption: 93 MT
Capture for human consumption: 82 MT
Non-food uses: 21 MT
Per capita food fish supply: 20.5Kg/PC

Hors plantes aquatiques. 2015/2016: estimations/perspectives
OECD-FAO Fish Model Projections (2026)

Countries/regions ranked by per capita fish consumption in 2014-16 average.
Countries/regions with declined per capita fish consumption highlighted in red.

Future fish supply and demand projections

FAO/FI Fish Supply-Demand Gap Projections

<table>
<thead>
<tr>
<th>Country/region</th>
<th>Fish Demand (2030)</th>
<th>Total fish prod. (2012, mil. tonne)</th>
<th>S-D gap 2030 (col. 4 minus col. 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORLD</td>
<td>29.1</td>
<td>261.2</td>
<td>-104.7</td>
</tr>
<tr>
<td>S.S. Africa</td>
<td>10.8</td>
<td>15.1</td>
<td>-8.2</td>
</tr>
<tr>
<td>L.A. &amp; C.</td>
<td>12.2</td>
<td>18.3</td>
<td>-3.4</td>
</tr>
<tr>
<td>N. Africa</td>
<td>12.9</td>
<td>3.7</td>
<td>-0.8</td>
</tr>
<tr>
<td>Europe</td>
<td>27.3</td>
<td>23.4</td>
<td>-7.4</td>
</tr>
<tr>
<td>N. America</td>
<td>29.8</td>
<td>12.9</td>
<td>-6.1</td>
</tr>
<tr>
<td>Oceania</td>
<td>31.9</td>
<td>1.8</td>
<td>-0.3</td>
</tr>
<tr>
<td>Asia</td>
<td>37.0</td>
<td>186.3</td>
<td>-78.5</td>
</tr>
</tbody>
</table>

Source: OECD-FAO Agricultural Outlook 2017-2026
Countries/regions ranked by per capita fish consumption in 2014-16 average.
Countries/regions with declined per capita fish consumption highlighted in red.

WB-FAO-IFPRI Fish to 2030 Projections

Source: World Bank Report on Fish to 2030 (Table 3.7).
Countries/regions ranked by per capita fish consumption in 2006.
Countries/regions with declined per capita fish consumption highlighted in red.
Filling Fish Supply-Demand

Maintaining/increasing capture fisheries production
- Rebuilding overexploited stocks
- Recovery of the “Sunken Billions” through reducing overcapacity

More direct human consumption
- Shifting industrialized use of fish (fish meal and fish oil) to direct human consumption

Reducing waste
- Utilization of bycatch and discards
- Utilization of processing waste
- Reducing post-harvest spoilage (cold storage, more efficient value chain, etc.)

Sustaining aquaculture growth
- Sustainable intensification in Asia.
- Expansion in Africa and Latin America
- Increasing acceptance in western countries
- More efficient feed and feed management
- Genetic improvement of seed stocks
- Low-trophic species (non-fed finfishes, mollusks, etc.)
- Innovation in farming systems and technologies

Source: WHO
What are we achieving now?
Capture fisheries production

million tonnes in live weight

Including aquatic plants
What are we achieving now?

Aquaculture production

million tonnes live weight

Including aquatic plants

Aquatic plants 28%

Finfish 49%

Crustaceans 7%

Molluscs 15%

Other aquatic animals 1%

Including aquatic plants
Available for consumption

- Increased proportion for human consumption
- Reduced waste
- Rebuilding stocks
- Aquaculture expected to exceed 100 million tonnes by 2025
- Aquaculture annual growth expected to slow from 5.3% over previous decade to 2.3% pa for coming decade (1970-2010 8.3% pa)
- Human consumption 2026 180 MT; 100 MT Aquaculture - 80 MT Capture Fisheries
Issues, constraints and challenges

Resources and environment
- Environment degradation and habitat destruction
- Loss of biodiversity
- Overexploited fish stocks
- Biosecurity (disease outbreaks)
- Climate changes (El Niño, ocean acidification, stock migration, severe weather conditions, etc.)

Socioeconomic and governance
- Overcapacity (fleets and labor)
- IUU fishing
- Bycatch and discards
- Access to capital and financial services (loans, insurance, etc.)
- Economic development and Equity (poverty, forced labor, child labor, etc.)
- Public image of fisheries and aquaculture

Source: WHO
What is the potential?

Global Primary Production
- Total Continental: 115 billion tons a year
- Total Marine: 55 billion tons a year

World Biomass/Standing Stock
- Total Continental: 1837 billion tons
- Total Marine: 3.9 billion tons

Primary Production
- Mean NPP (g/m^2/year)
  - Total Continental: 773
  - Total Marine: 152
We are only using a fraction of the Ocean Space and PP today

1. What can we achieve with in the conventional?
2. Can we use more of the PP?
3. Can we increase the PP?

Are there limits?
Yes (Technical, Environmental)
What are the limits? We don’t know
Integrated Multi-Trophic Aquaculture (IMTA): Big potential for Blue Growth

- Ecosystem approach
- Diversified products
- Better market satisfaction
- Better economic and ecological benefit

PRESENTATIONS

The Blue Economy or Economy in the Blues: Can Africa’s Seas and Oceans Transform the Continent? Mahe, Seychelles 22-24 November 2016


Global Policy and Trade Session: Outlook for world seafood trade 2030 prospects and challenges, 1st March 2016, Bergen, Norway


Combatting IUU Fishing through the implementation of the Port State Measures Agreement and other instruments, 15th February 2016, London, United Kingdom

http://www.slideshare.net/FAOoftheUN/combatting-iuu-fishing-through-the-implementation-of-the-port-state-measures-agreement-and-other-instruments

Celebrating 20 Years of the Code of Conduct for Responsible Fisheries 153rd Session FAO Council, Rome, 30 November - 4 December 2015


International Trade in Fish and Fish Production “Foro Económico de Pesca y Acuicultura 2015” Mexico City 26-27 November 2015

http://www.slideshare.net/FAOoftheUN/international-trade-in-fish-and-fish-production

Workshop on the Climate Change’s Impact, Boracay Islands, Philippines 9th May 2015:

https://www.youtube.com/watch?v=OQfS2TZVY

Blue bio-economy - unlocking the potential of seas and oceans, International Conference Growth in Blue Bio-economy, FAROE ISLANDS • 2-3 JUNE 2015


Outlook for Fish Trade 2030, 10th North Atlantic Seafood Conference, Bergen, 4-5 March 2015


Future Prospects for Fisheries and Aquaculture and their contribution to preserving food security, Lima, Peru, 24 February 2015

Future Prospects for Fisheries and Aquaculture and their contribution to preserving food security • YouTube

CBD Sustainable Ocean Initiative
Fostering dialogue for the sustainable use of Fisheries resources, 28 February 2018, European Parliament, Brussels, Belgium


FAO’s Blue Growth Initiative, 5 October 2017, St. Julian’s Malta


Major issues, For the Diplomatic Education and training center, Mid career course, 2 March 2018 Embassy of the Republic of Indonesia


Financing the Sustainable Ocean, Bali Indonesia Economy 22-24 February 2017


Second Session of the Preparatory Committee on BBNJ, 2 September 2016


Unlocking the Blue Economy, Bergen, Norway 4 December 2016, March 2018

http://www.slideshare.net/FAOoftheUN/en second committee

Impact, Workshop on the Climate Change’s Impact, Boracay Islands, Philippines 9th May 2015:

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THANK YOU