Food and Agriculture Organization of the United Nations

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

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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

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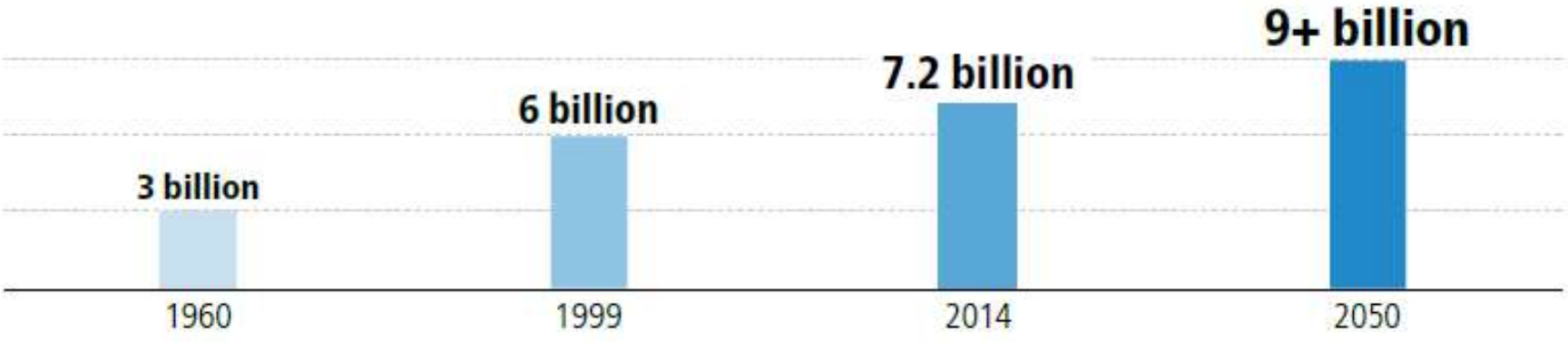
We face a major challenge in feeding an expanding world population



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

Sustainability

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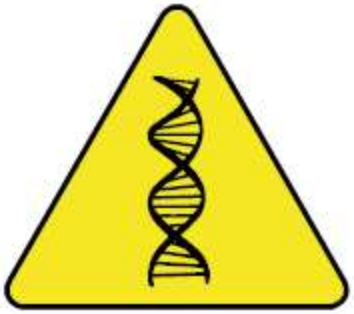
but the way we produce more food cannot be at the expense of the planet

Natural resources are diminishing



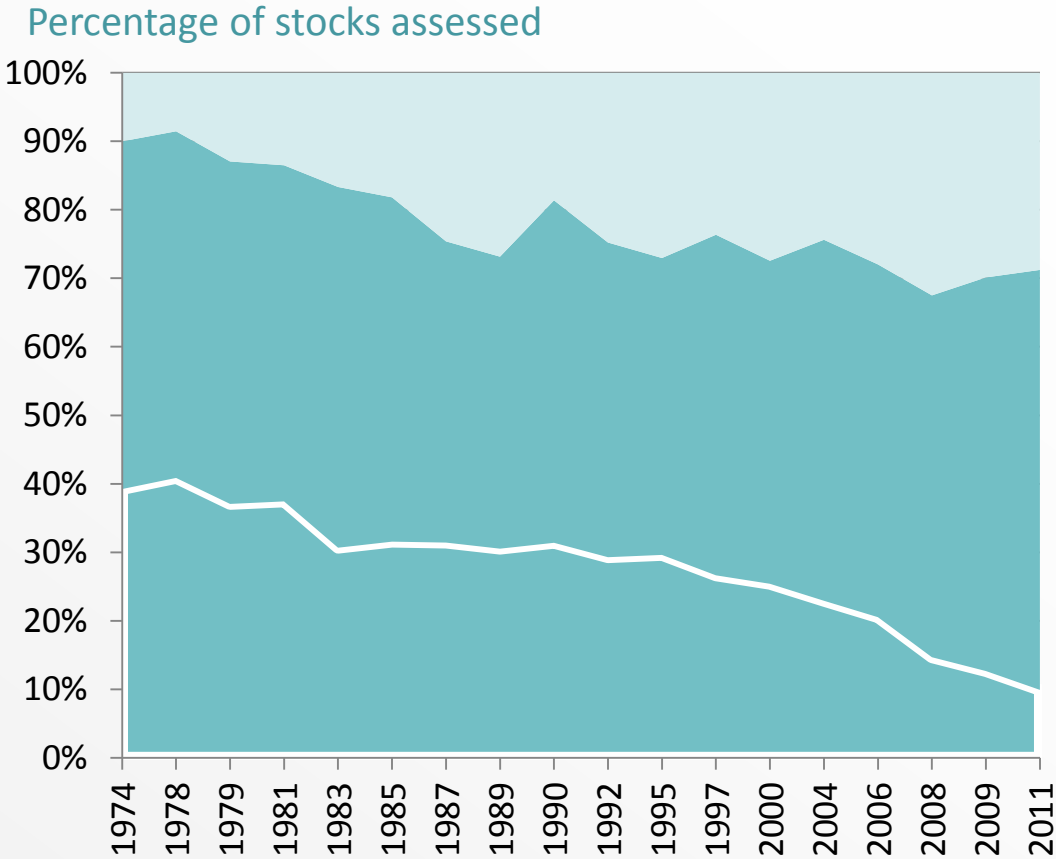
Ecosystems are compromised and biodiversity lost

Climate is changing

Sustainability will be at the heart of new global development goals that will replace the MDGs after 2015

Status of stocks

- ✓ 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

(Intergovernamental Panel Climate Change)

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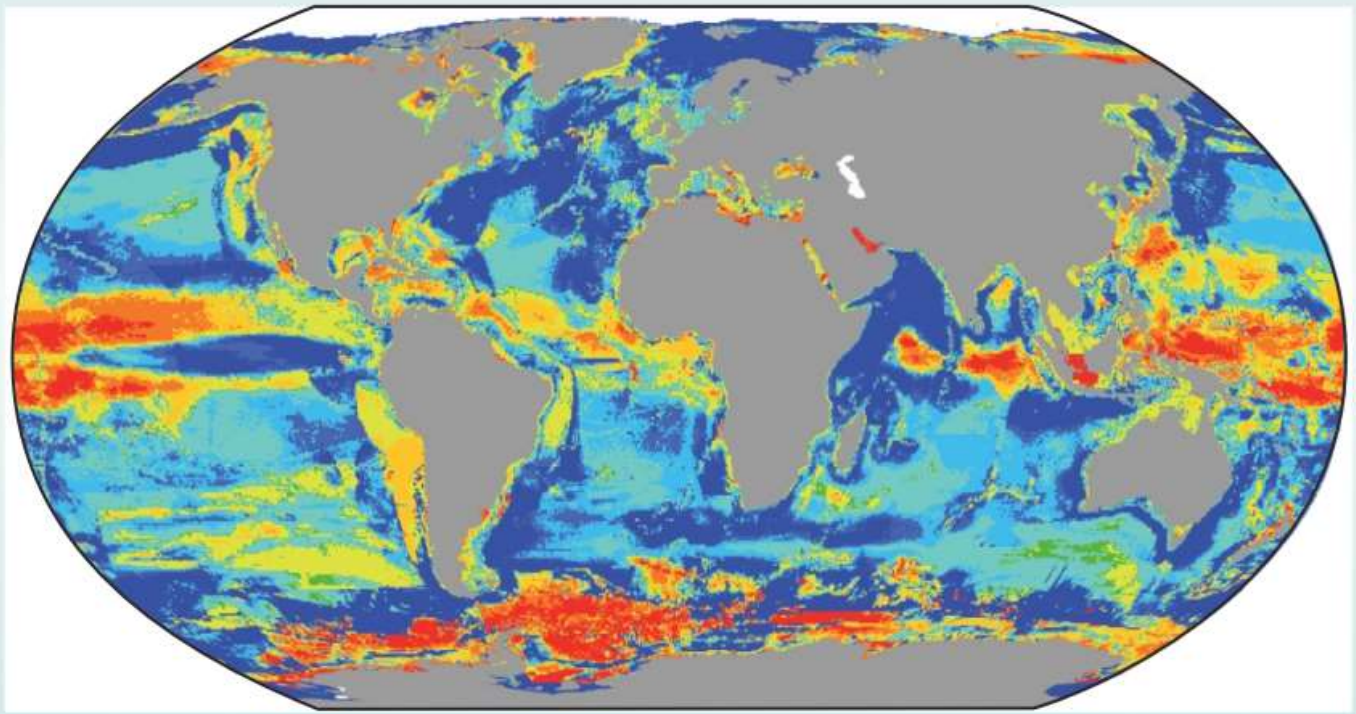
PROJECTIONS

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

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INTERGOVERNMENTAL PANEL ON climate change

The future ahead of us

?

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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

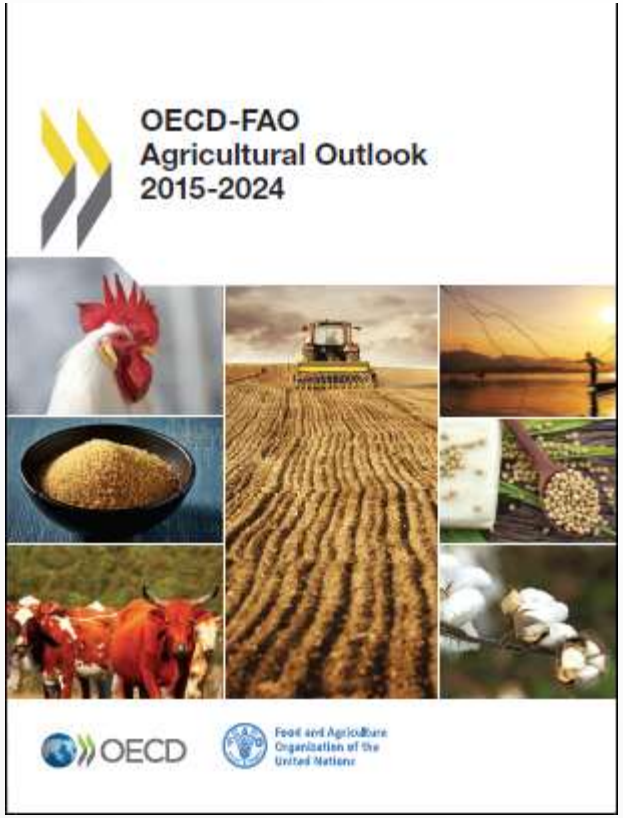
- FAO fish model, being published in the yearly OECD-FAO Agricultural Outlook publication since 2011
- IFPRI's IMPACT MODEL with results published into the recent World Bank "Fish to 2030: prospects for fisheries and aquaculture" publication.

Results

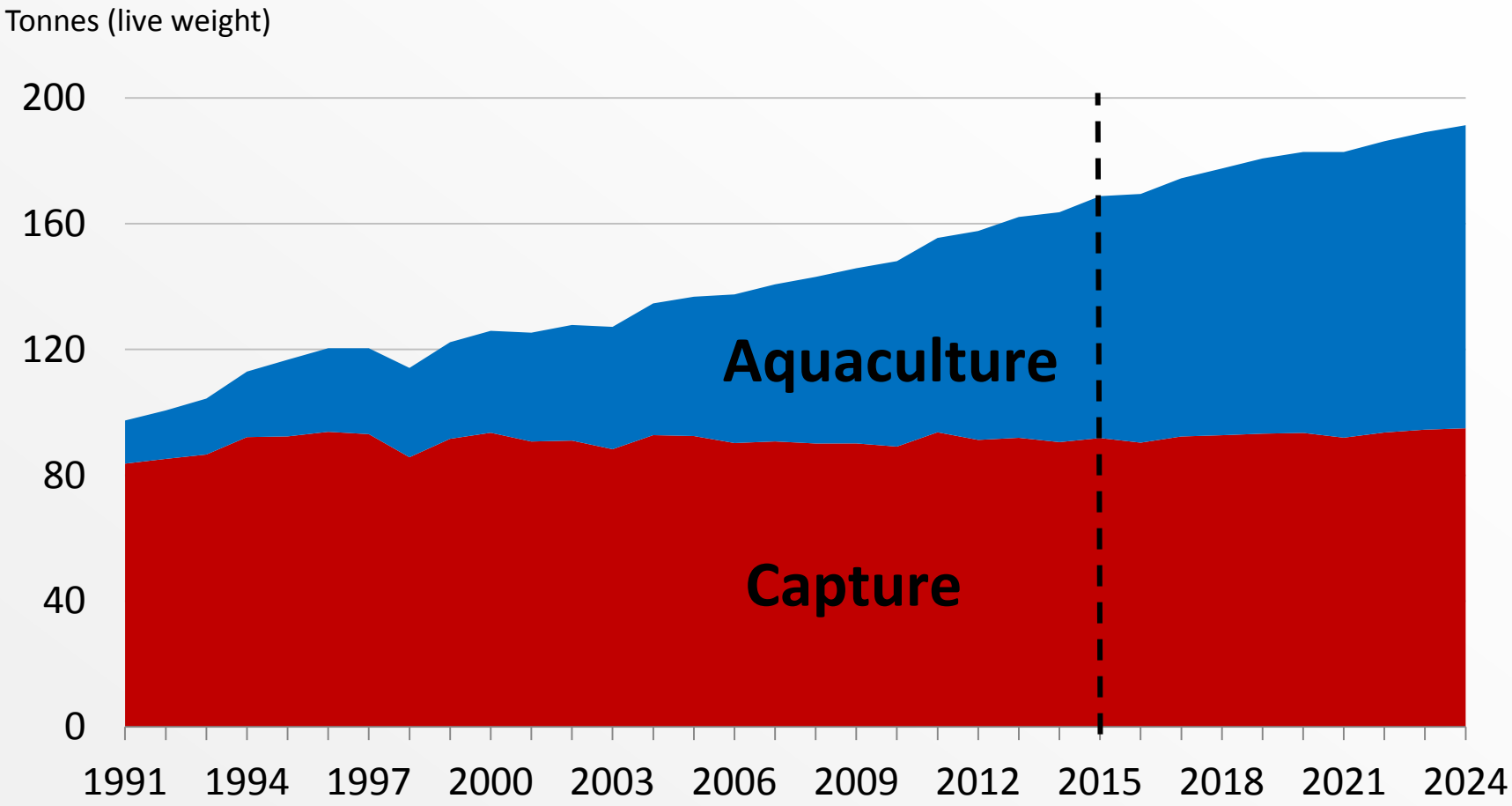
- Projections and not forecast
- Likely paths of development and constraints in fishery and aquaculture supply and demand
- Determine regional vulnerabilities, changes in comparative advantage, price effects, and potential adaptation strategies in the sector
- Medium/longer outlook

OECD-FAO Agricultural Outlook

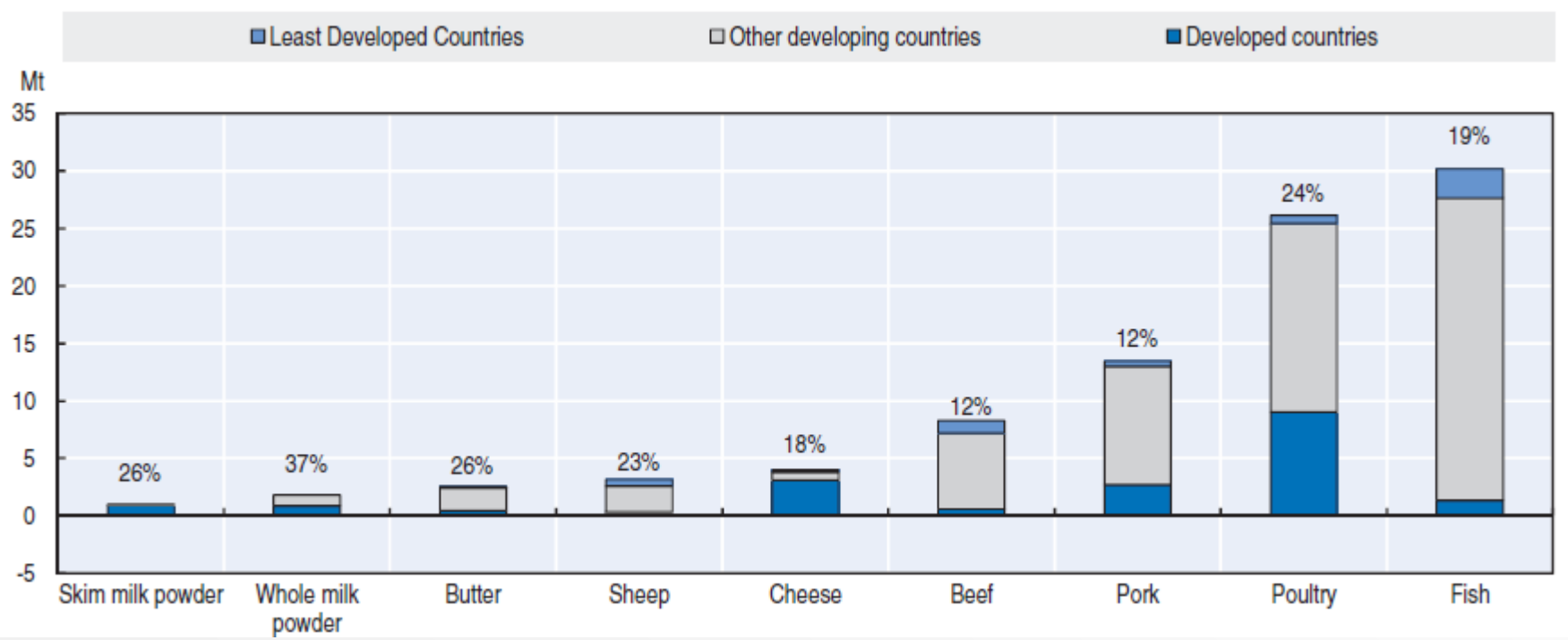
- Joint OECD-FAO report
- Country collaborators
- Aglink-COSIMO, partial equilibrium model
- 10 year horizon
- Major temperate commodities
- Global coverage



Total fishery production



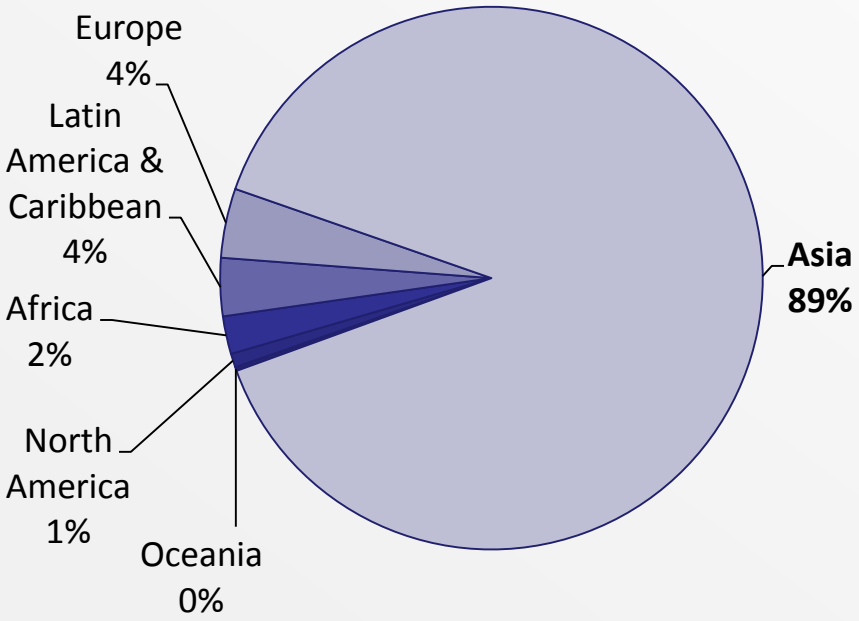
Projected growth (quantity and %)

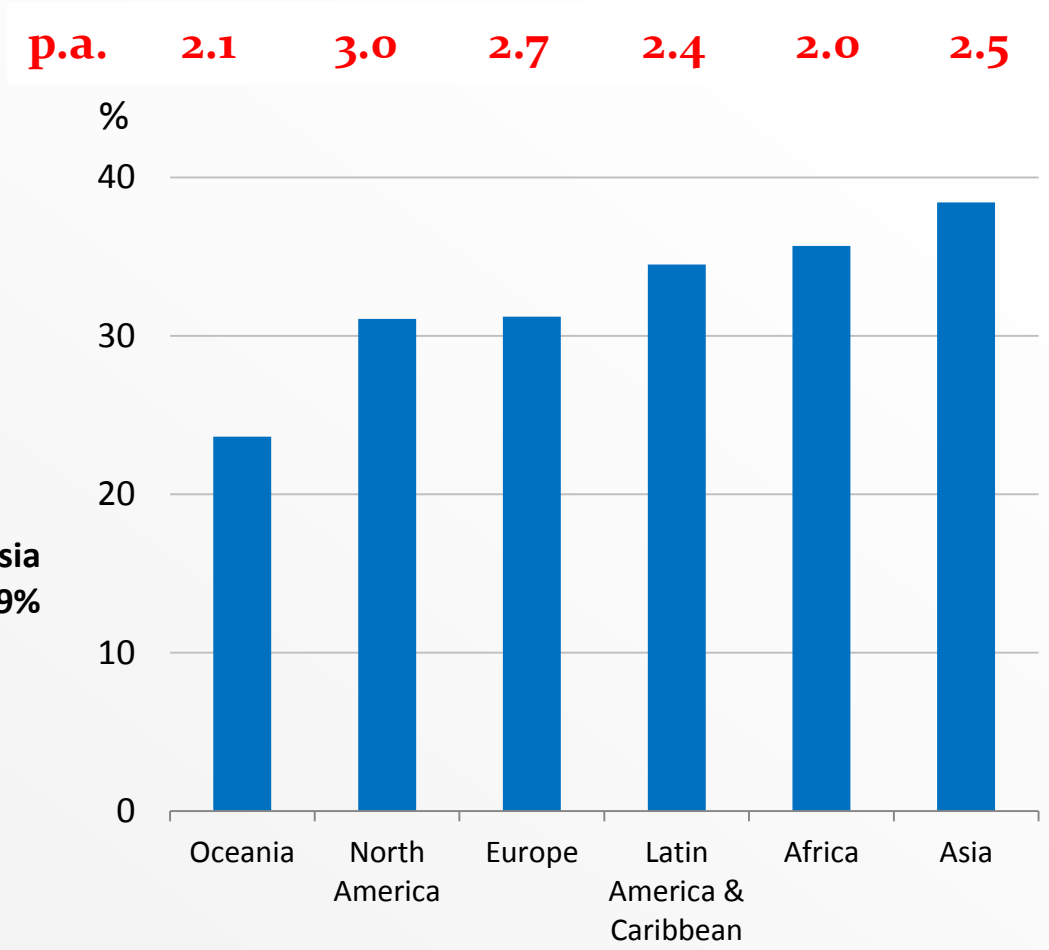


Aquaculture growth

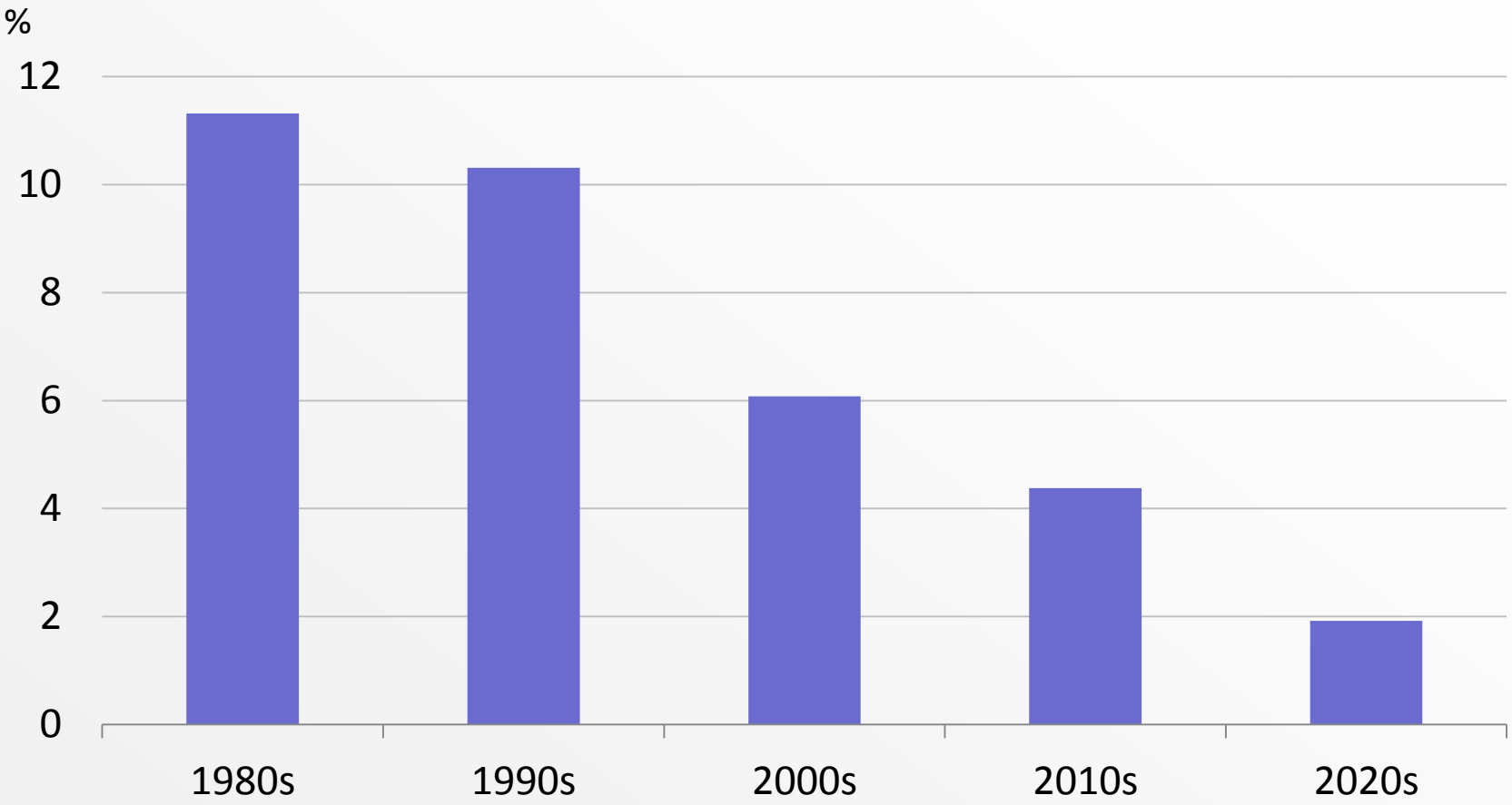
+26.4 million tonnes

94% in developing countries

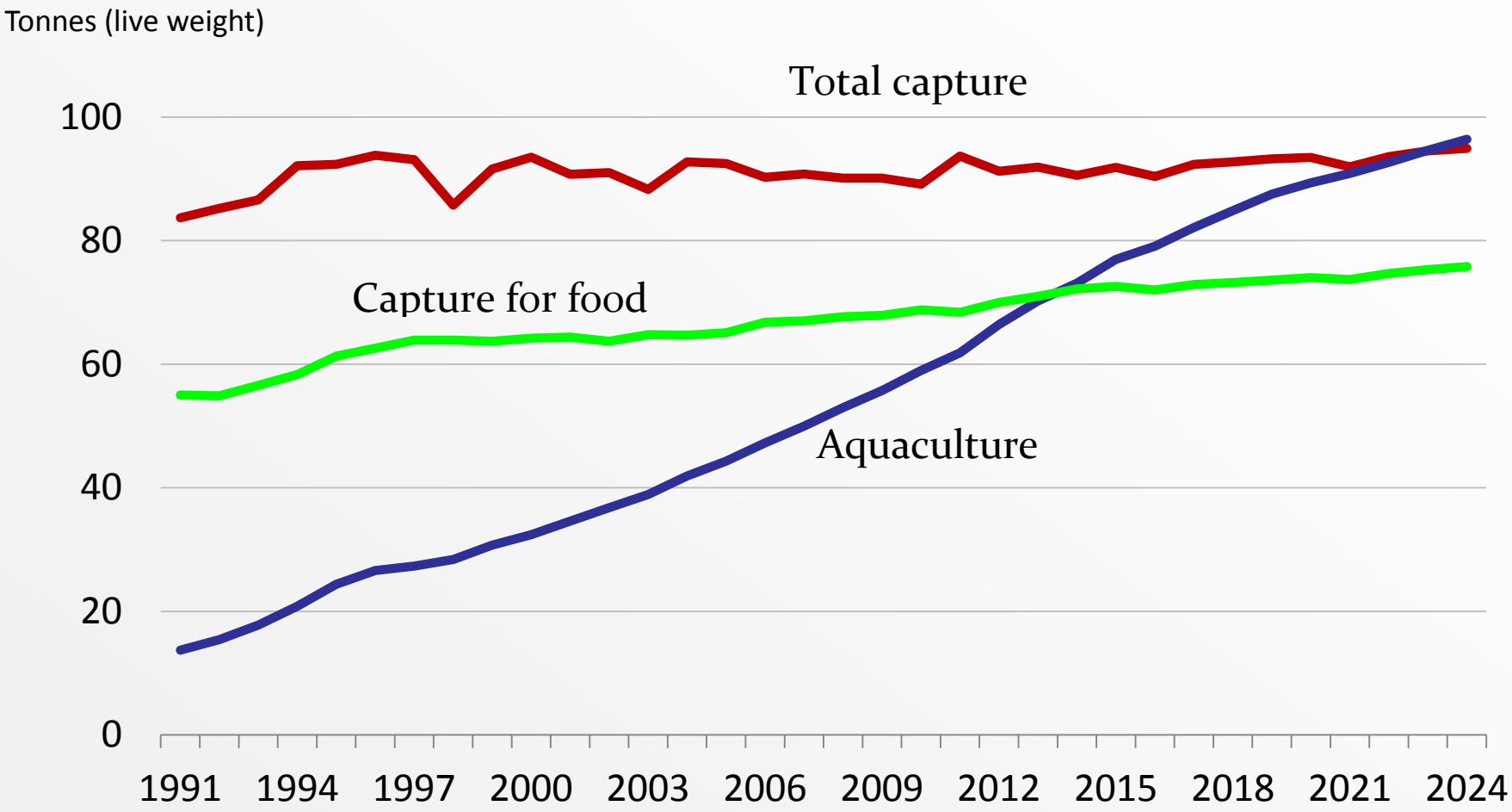




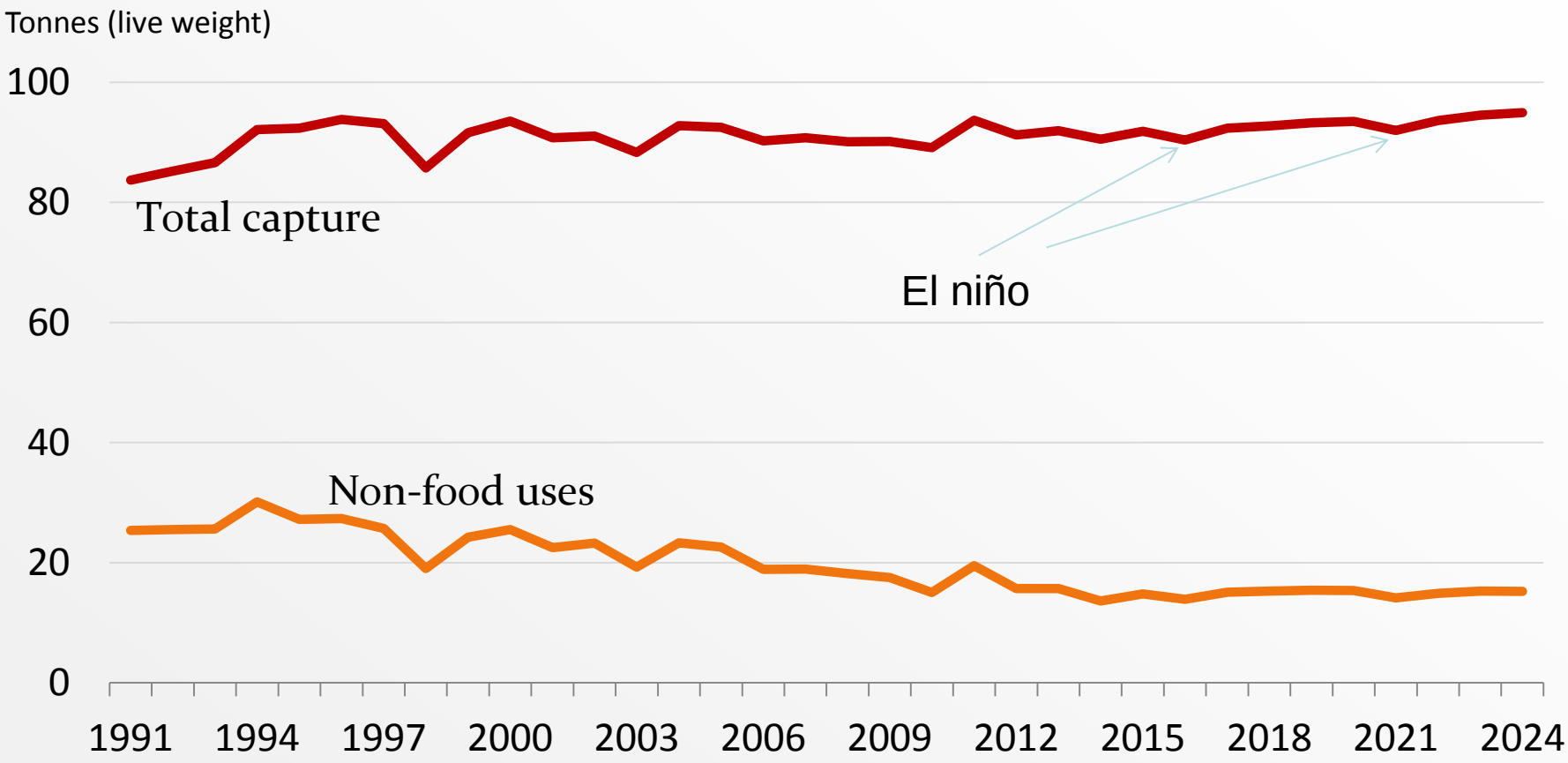
Lower annual growth rate of aquaculture



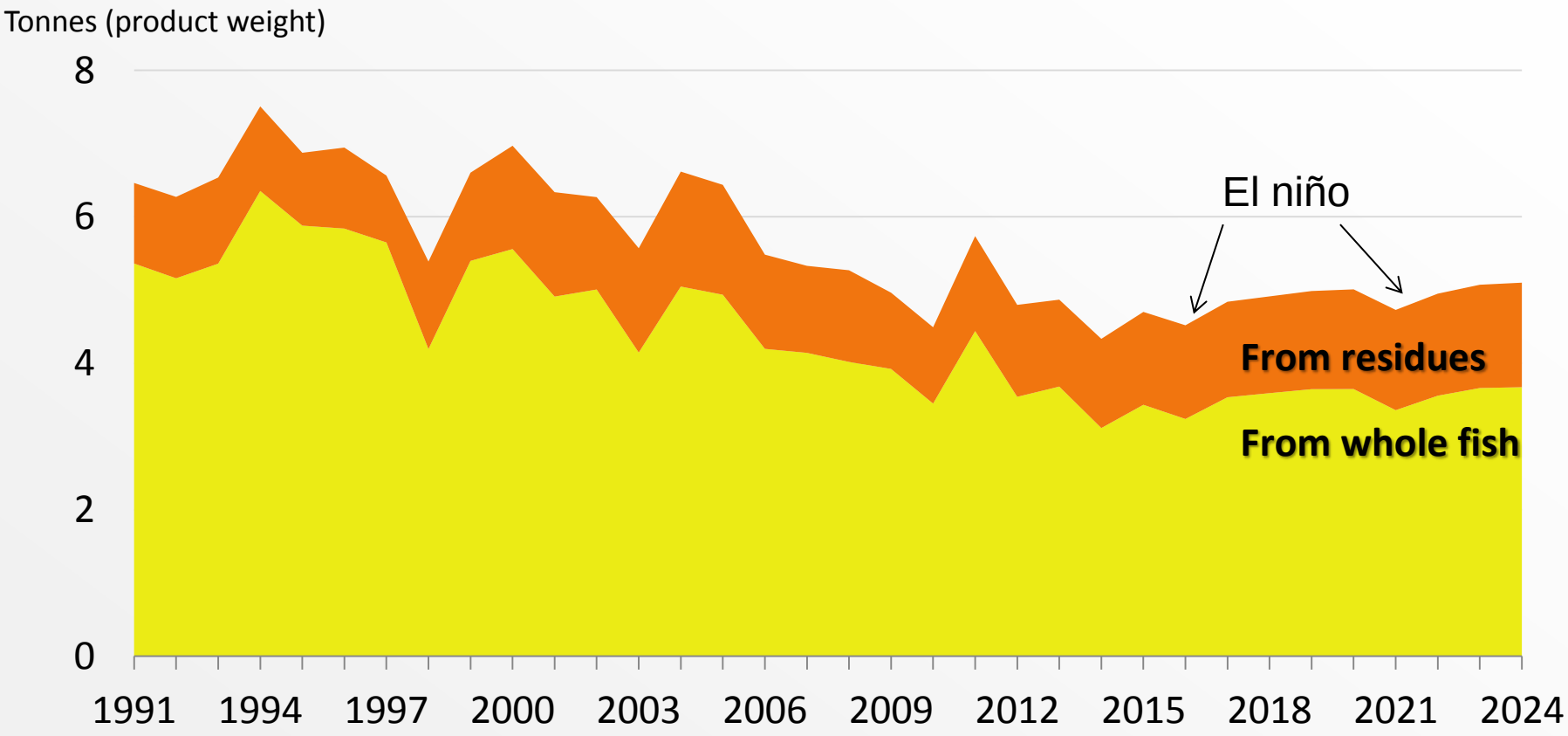
Surpass of aquaculture



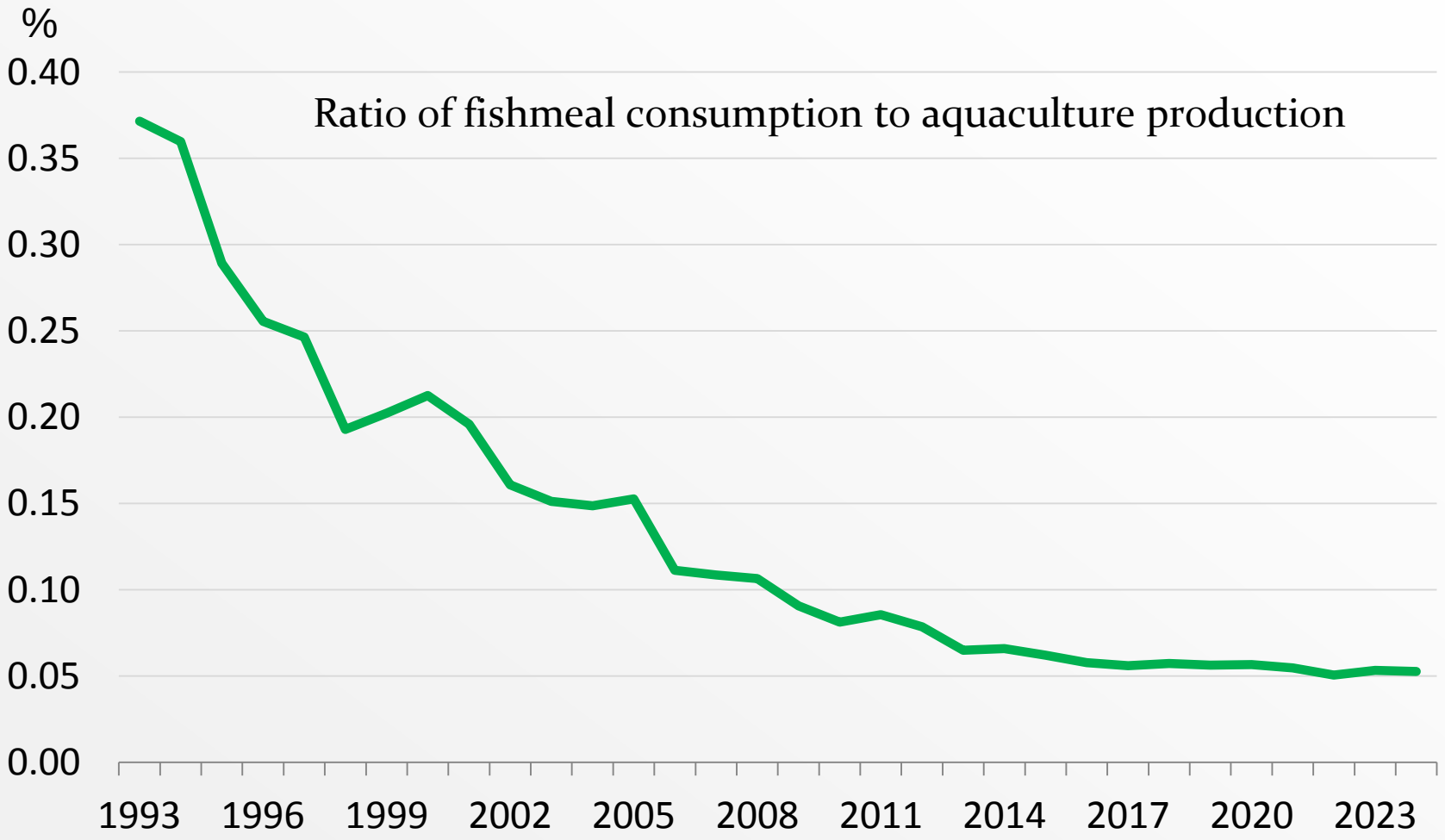
Slight increase of capture fisheries



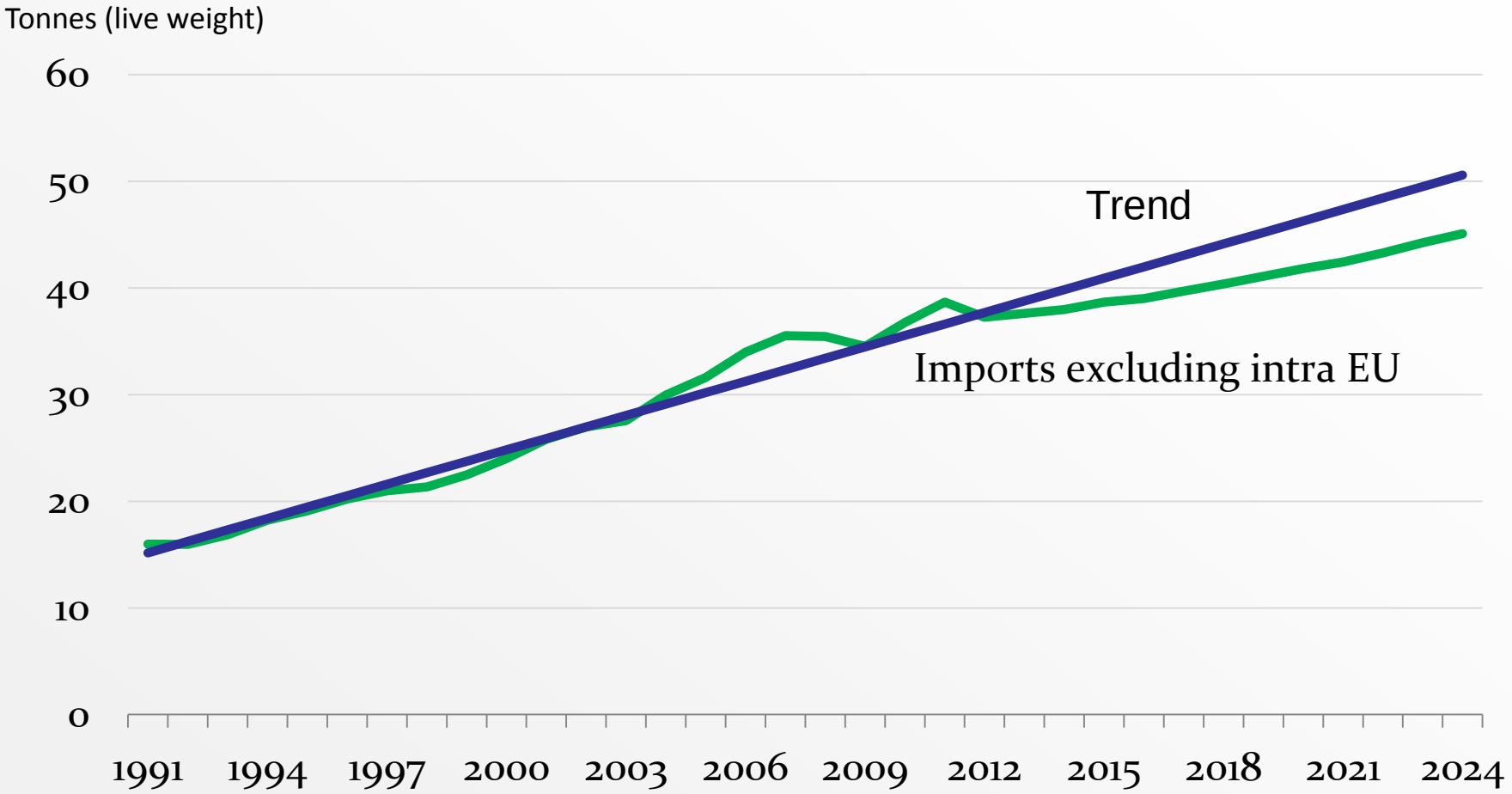
More fishmeal produced from residues



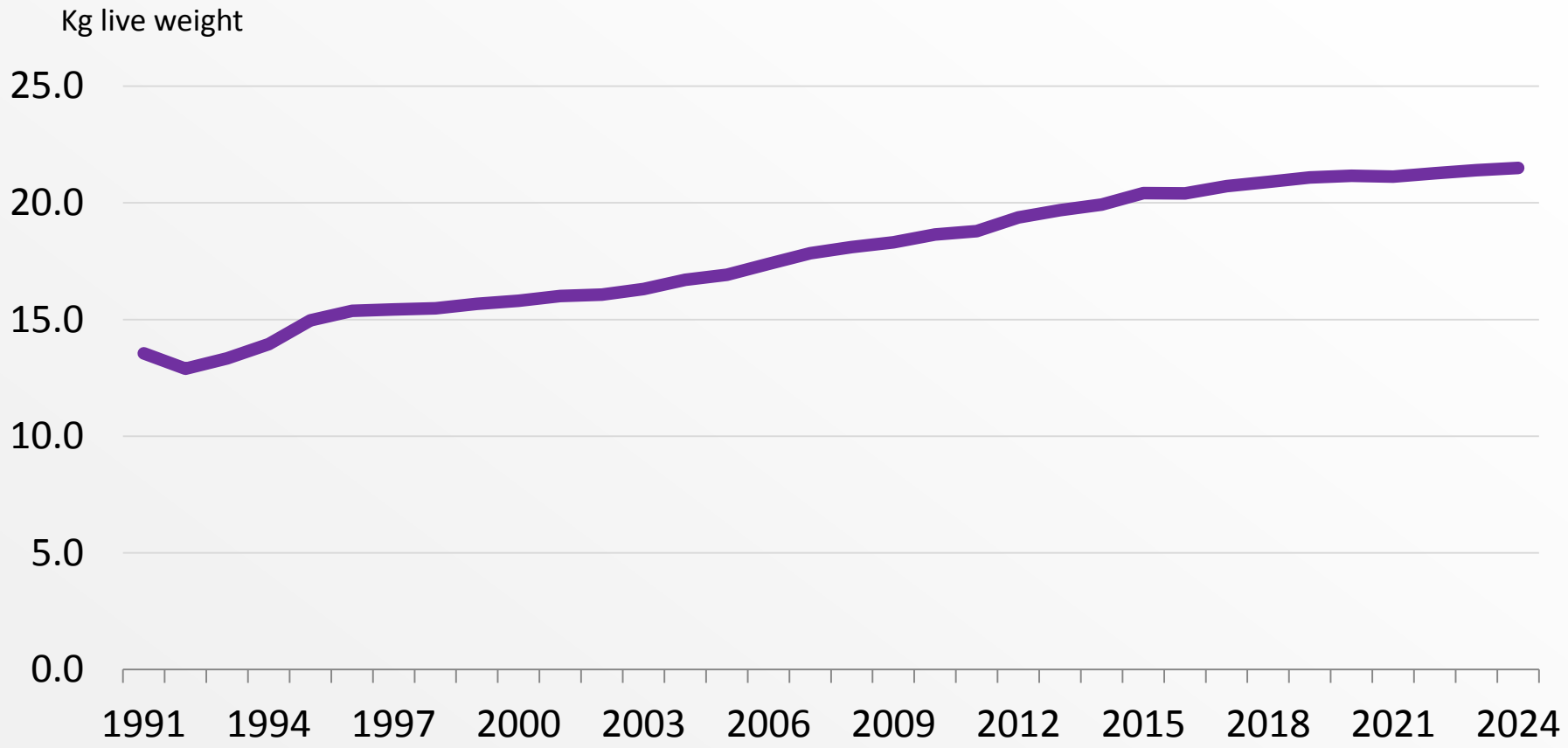
Use of fishmeal in aquaculture



World fishery trade

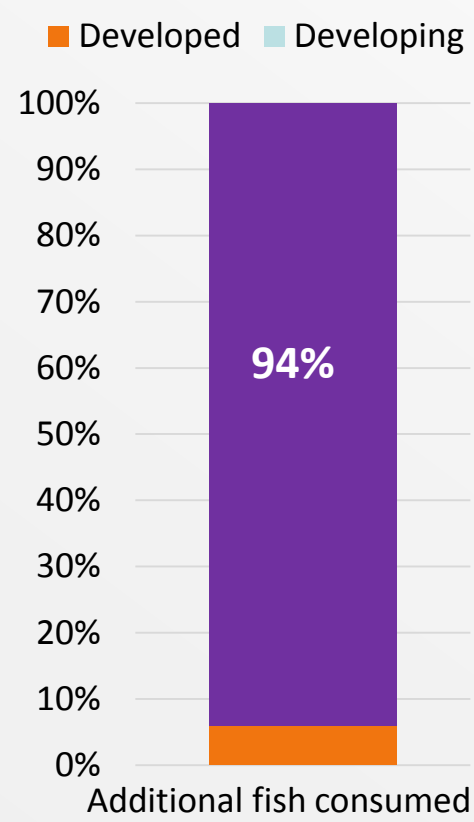


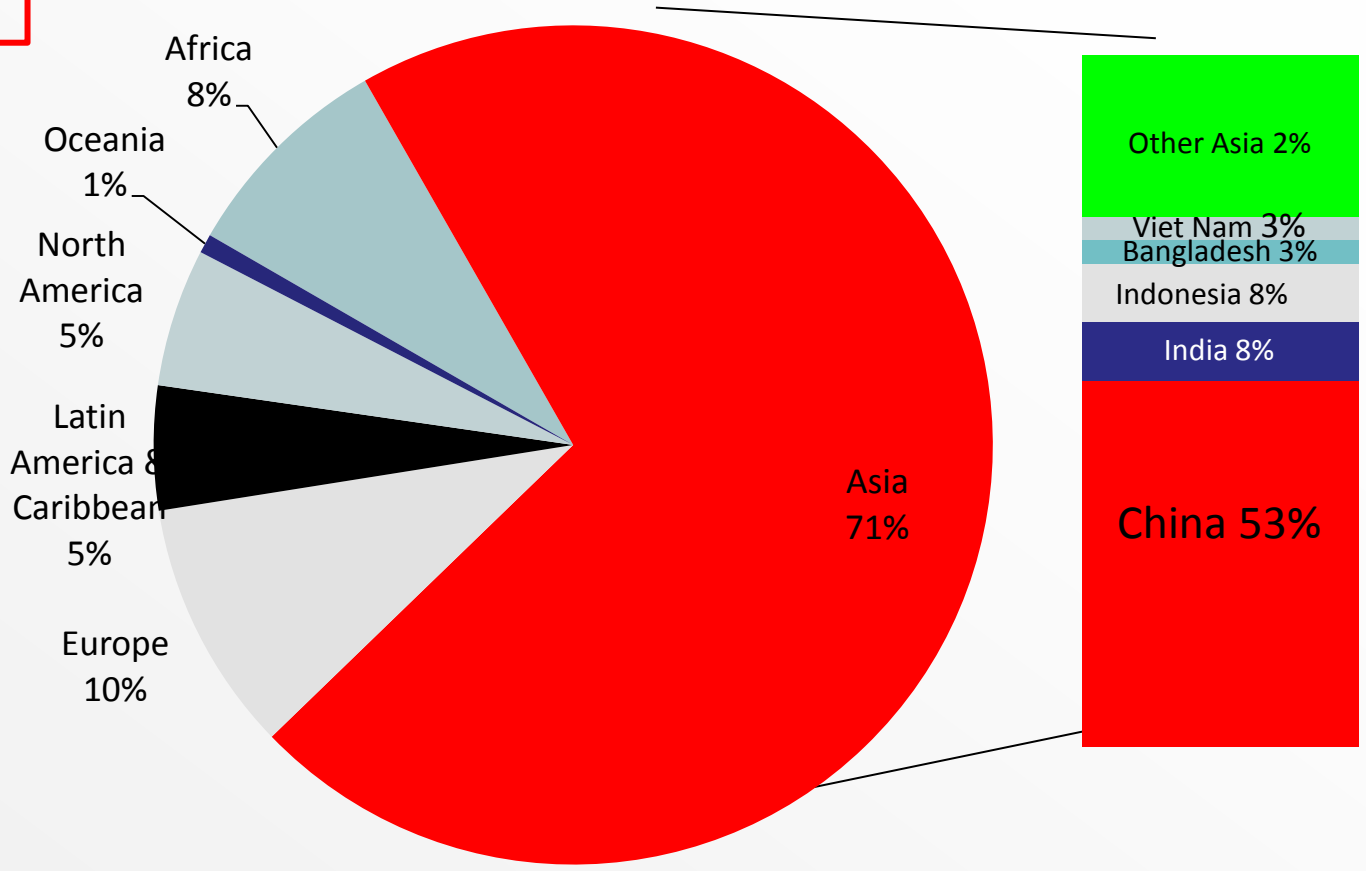
Lower growth of fish consumption



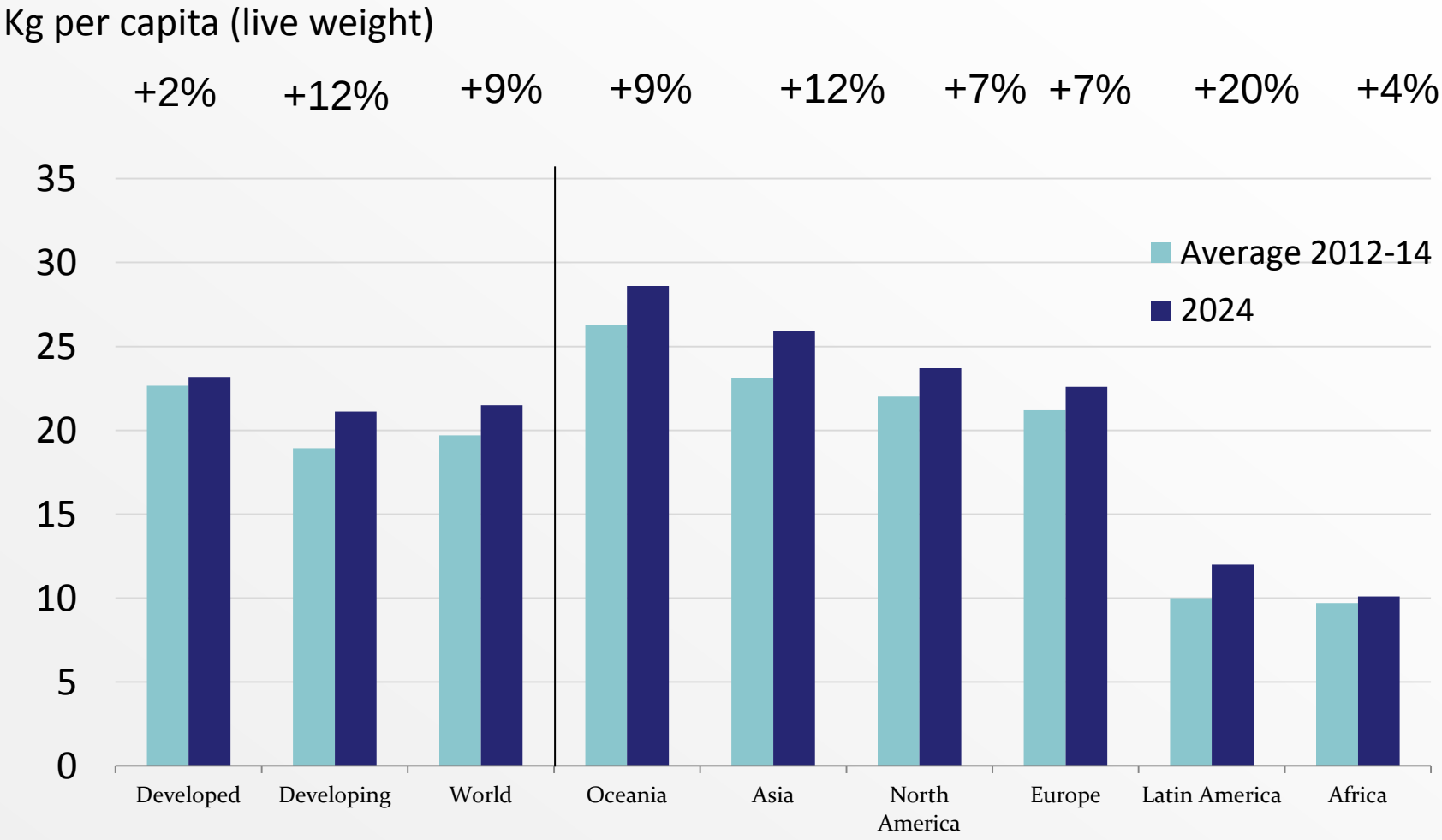
Additional fish

31 million tonnes additional fish consumed by 2024



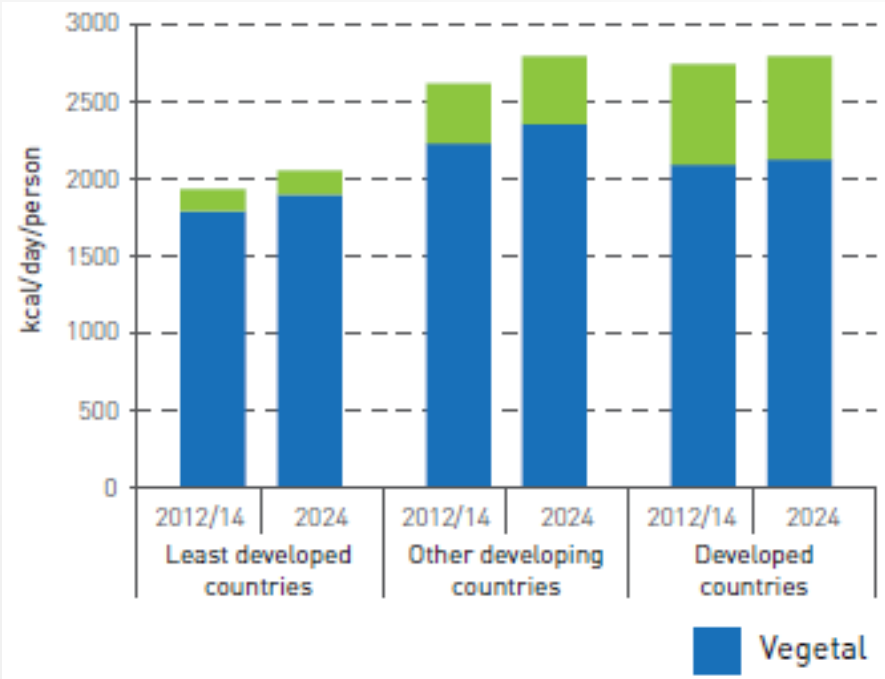


Growth in per capita fish consumption

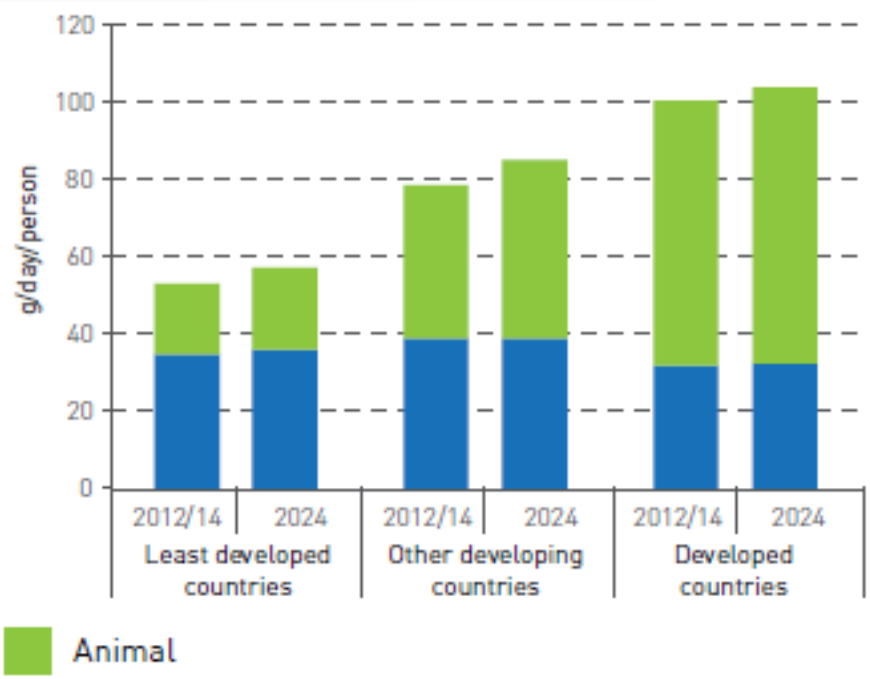


Caloric and Protein intake per capita

Calories



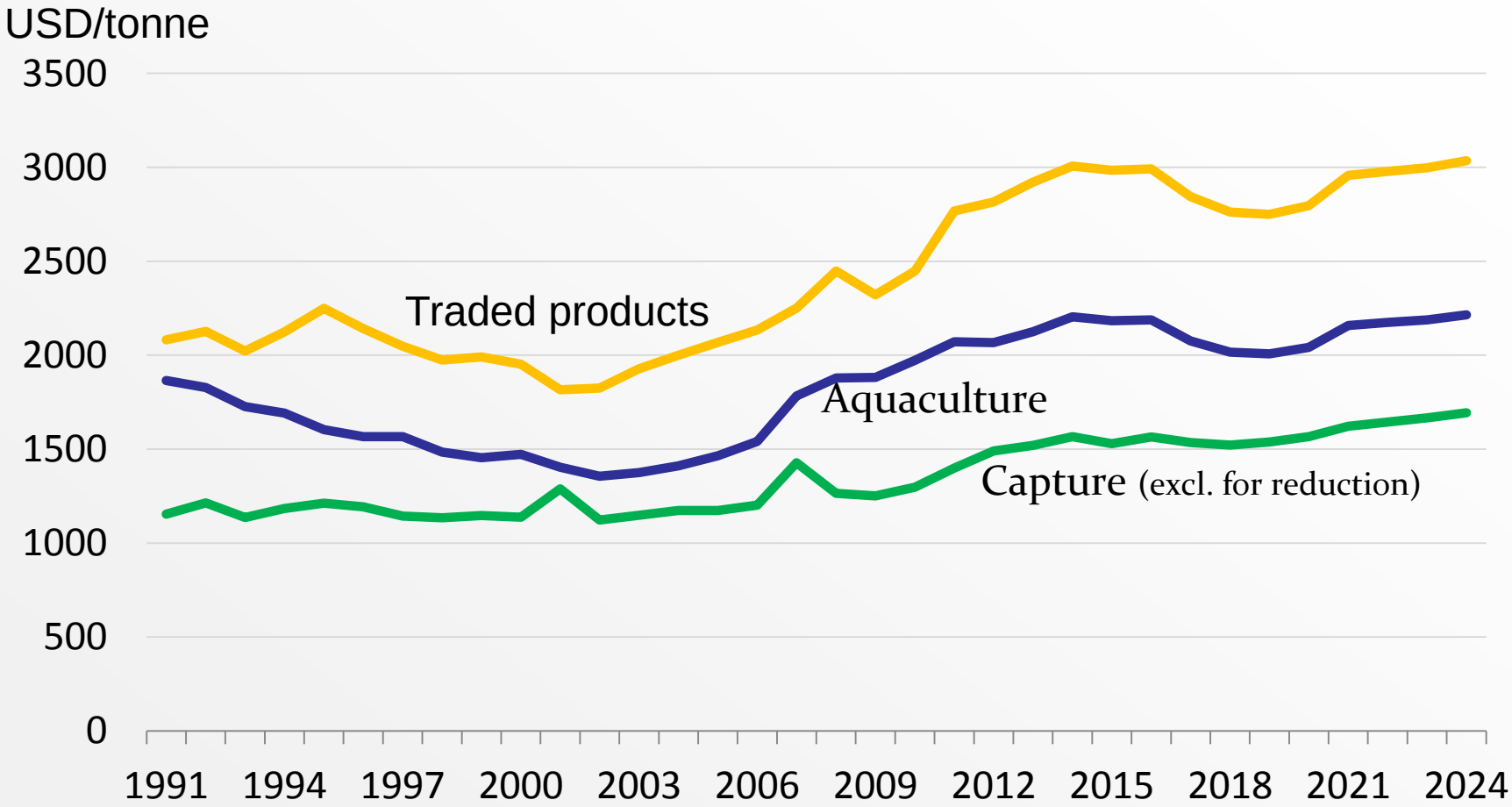
Protein



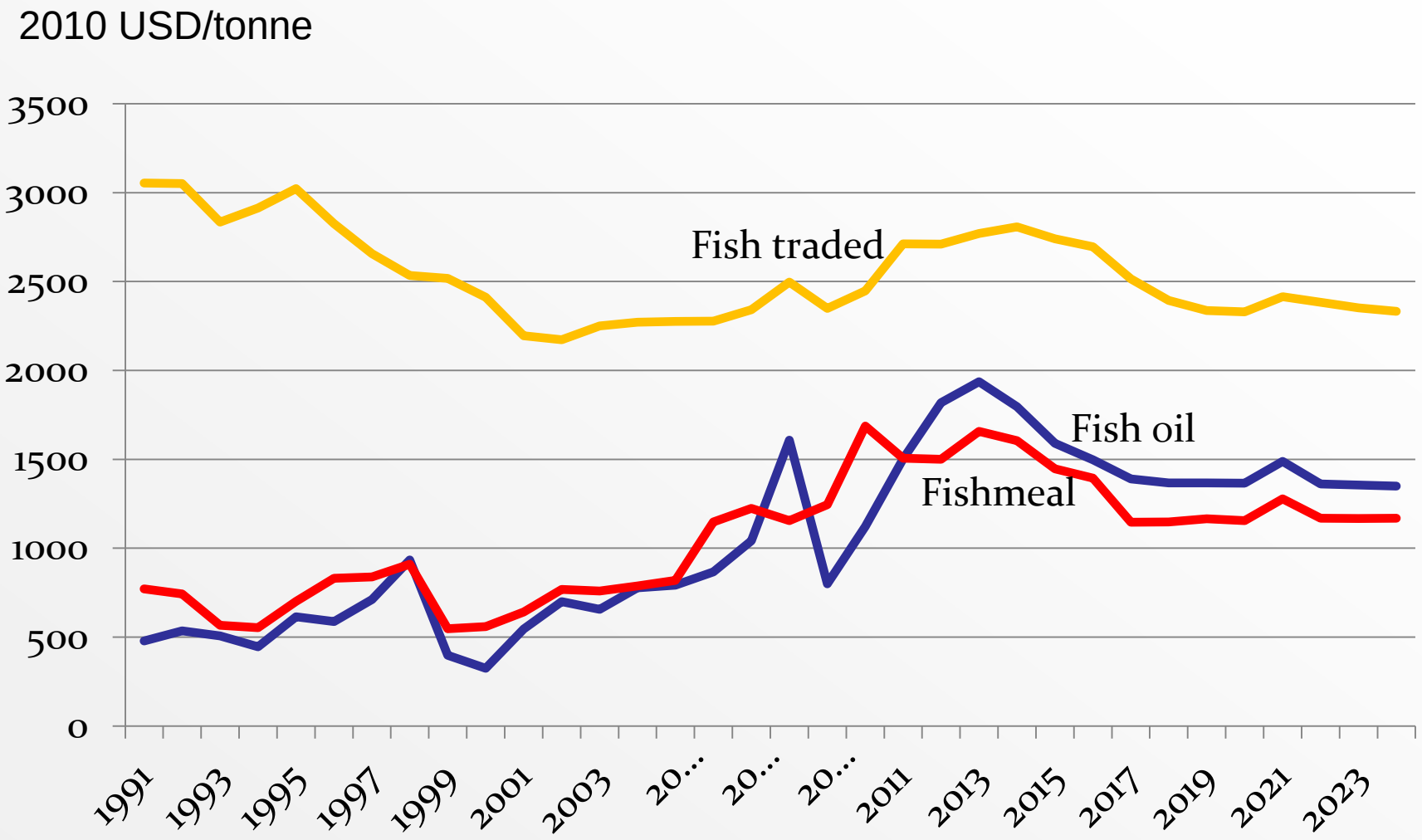
Vegetal

Animal

Slightly higher prices

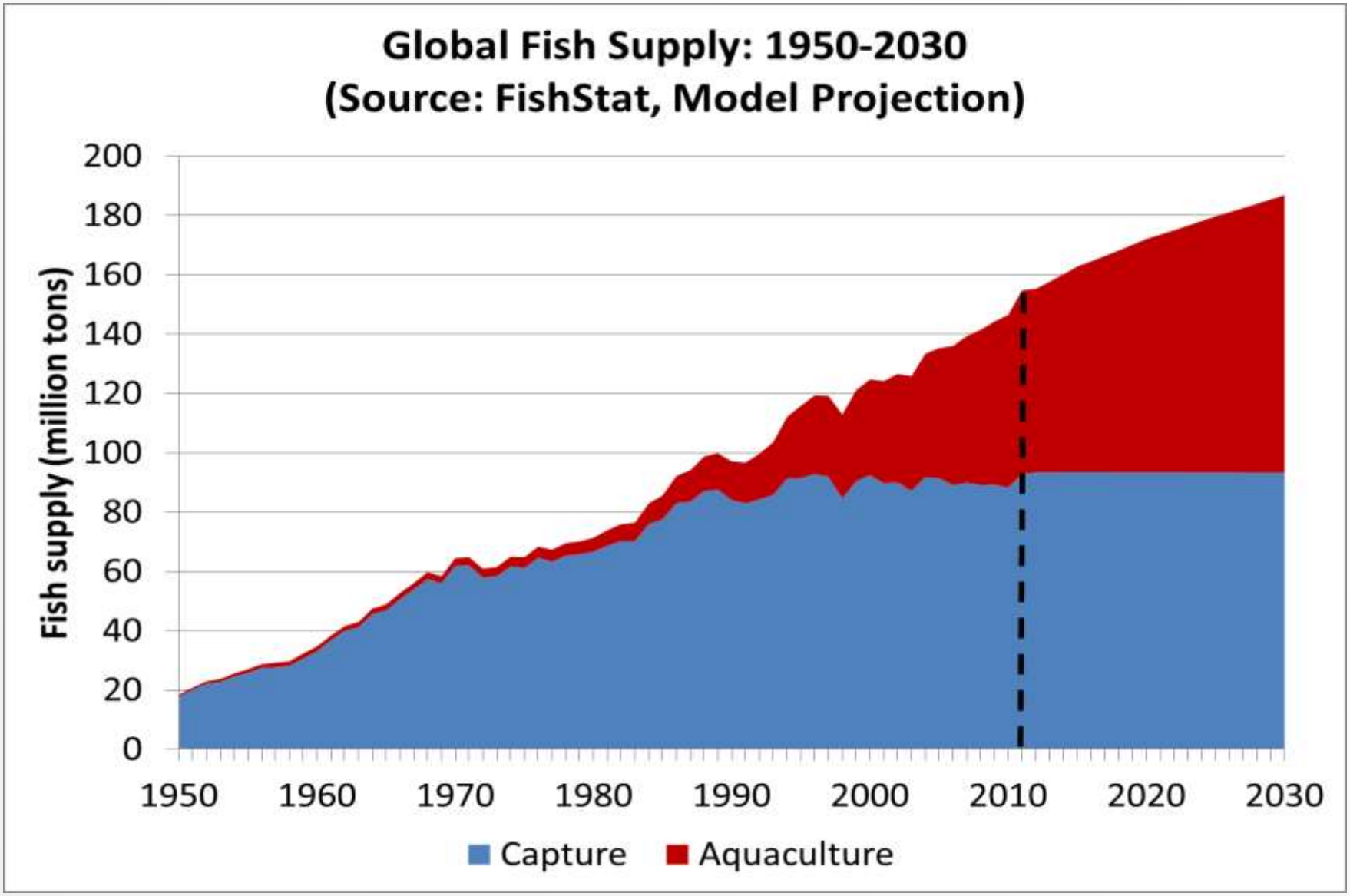


Lower prices in real terms



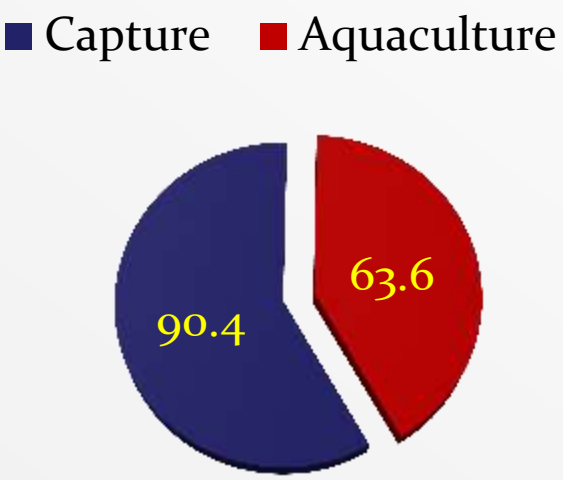
Fish to 2030
Prospects for Fisheries and Aquaculture

- Collaboration: FAO, International Food Policy Research Institute (IFPRI), University of Arkansas, and the World Bank
- 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)
Fish supply (million tons)
200
180
160
140
120
100
80
60
40
20
0
1950
1960
1970
1980
1990
2000
2010
2020
2030
Capture
Aquaculture

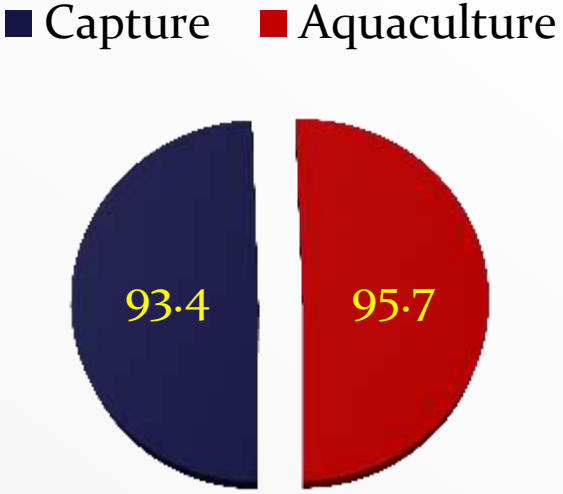
Projected Total Fish Supply

2011 (Data)



Total Harvest
154.0 Million Tonnes

2030 (Model)



Total Harvest
189.1 Million Tonnes

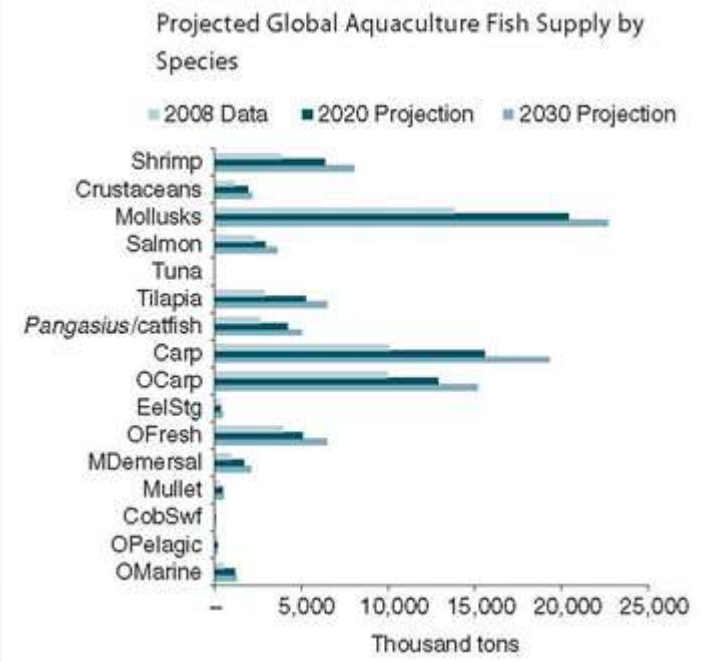
Aquaculture Growth

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

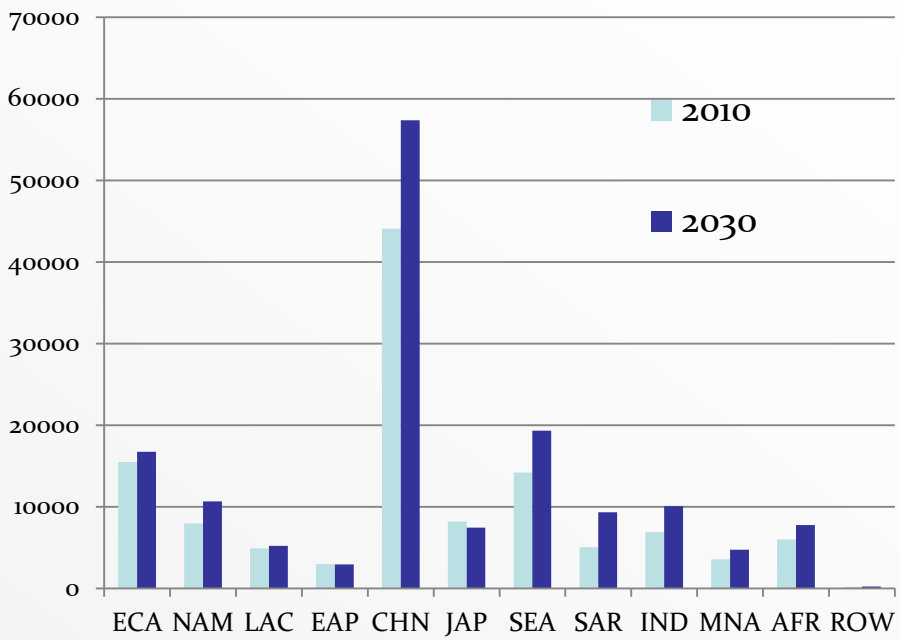


Aquaculture Supply Growth: Regions

- 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

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OECD-FAO Agricultural Outlook: http://www.agri-outlook.org/

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

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