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Status of tilapia aquaculture in Africa and production projections (regional and international)

Martin Van der Knaap

Project Inception Workshop of GCP/RAF/510/MUL:
Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to African tilapia aquaculture
Southern Sun Mayfair Hotel, 23-24 October 2018, Nairobi, Kenya

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Outlook models

- 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

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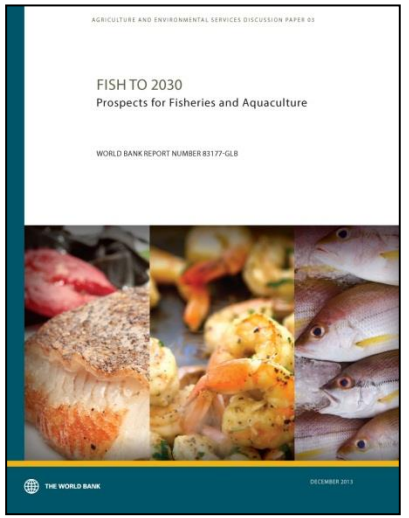
Fish to 2030
Prospects for Fisheries and Aquaculture

- World Bank, International Food Policy Research Institute (IFPRI), FAO, University of Arkansas
- IFPRI's IMPACT Model
- Capture and aquaculture supply modeled for 16 fish species group and 115 country/regions
- http://www.fao.org/docrep/019/i3640e/i3640e.pdf



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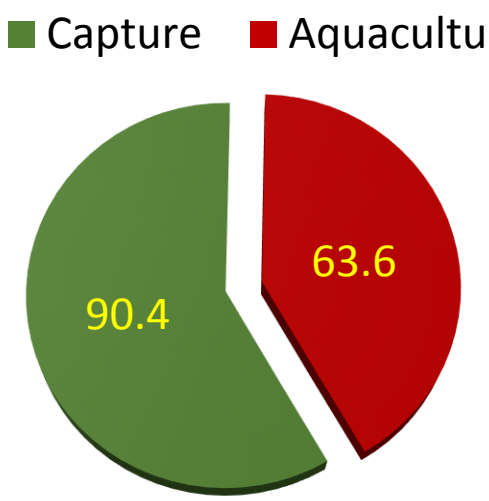
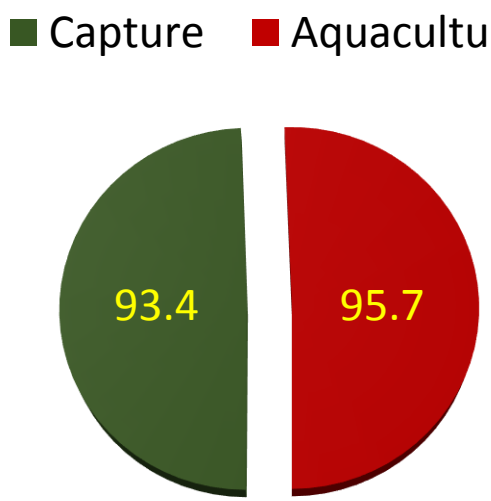
Projected Total Fish Supply

2011 (Data)



Total Harvest
154.0 Million Tonnes

2030 (Model)



Total Harvest
189.1 Million Tonnes

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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

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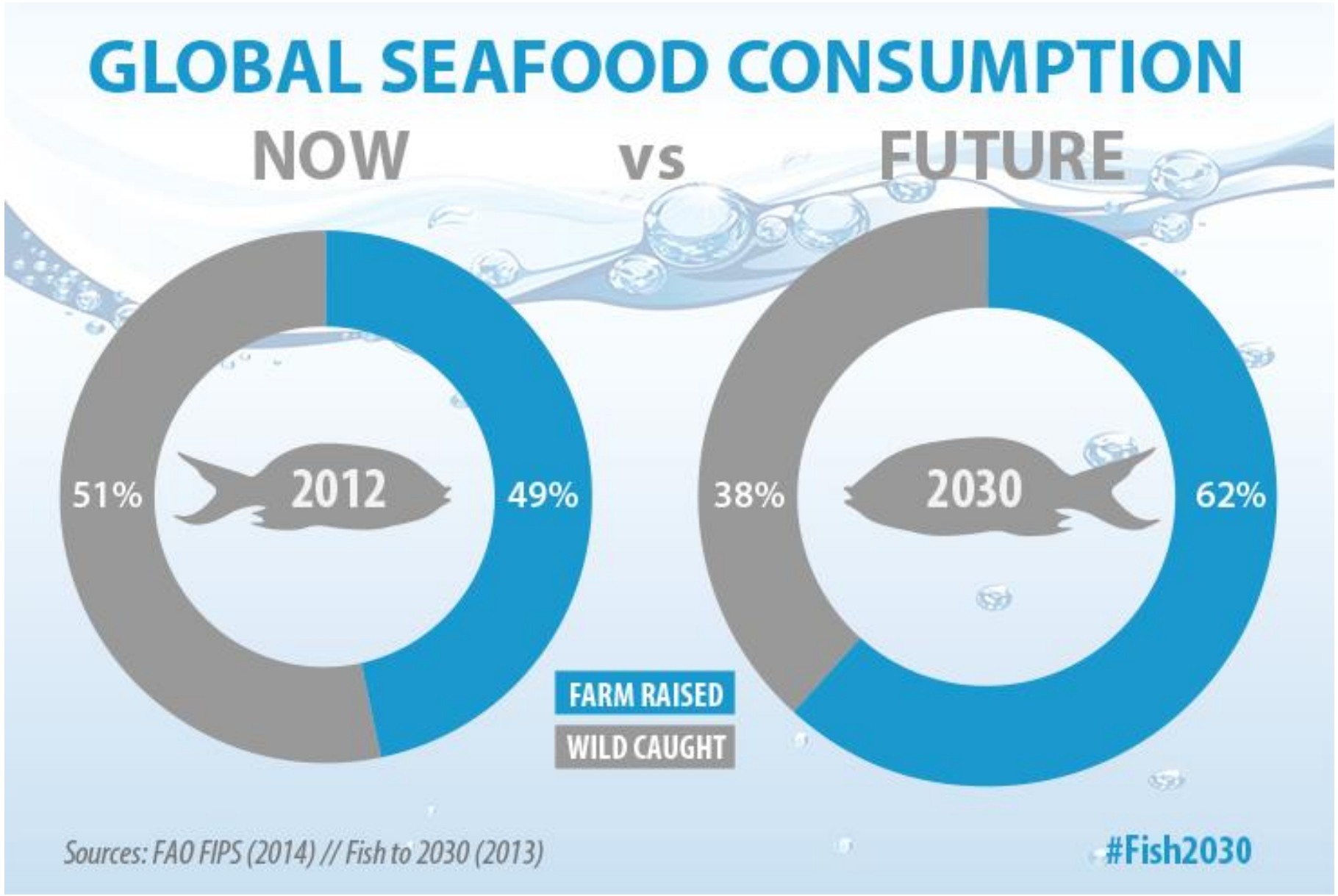

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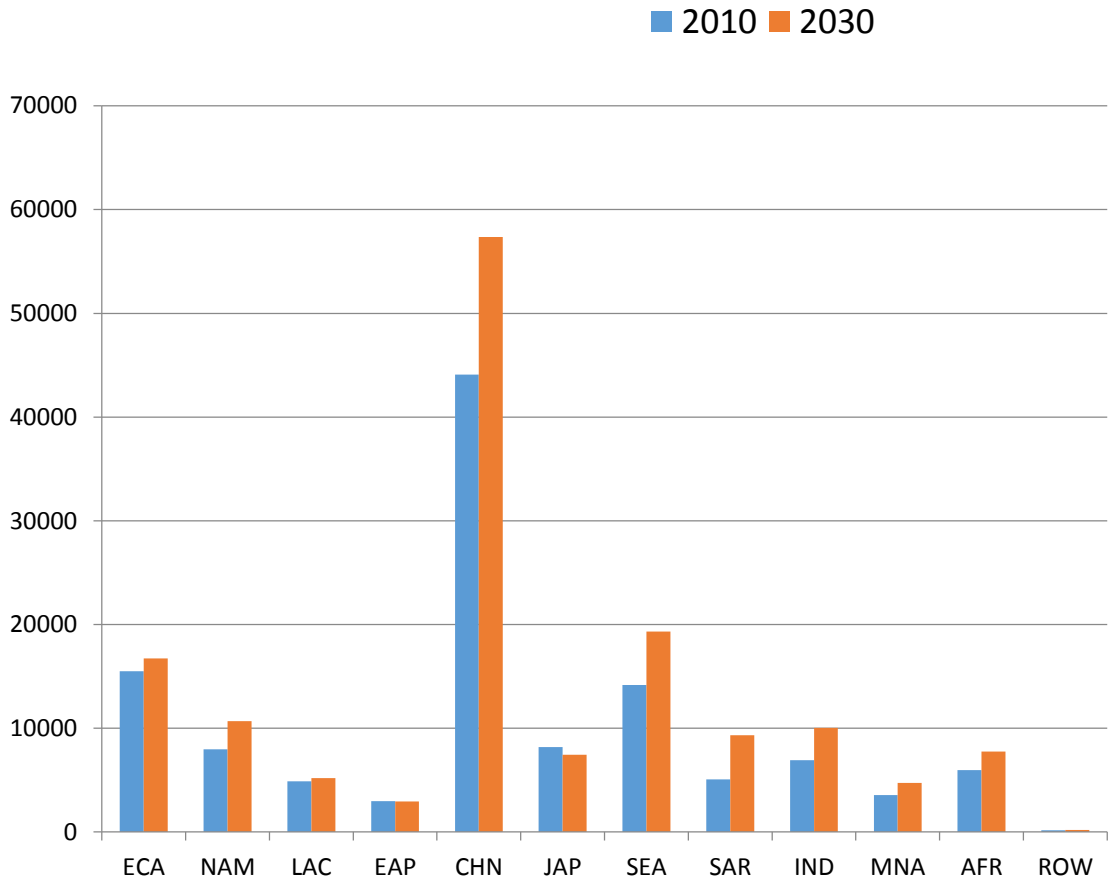
Consumption Growth: Regions

- 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



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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 and in Tilapia aquaculture worldwide
- 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

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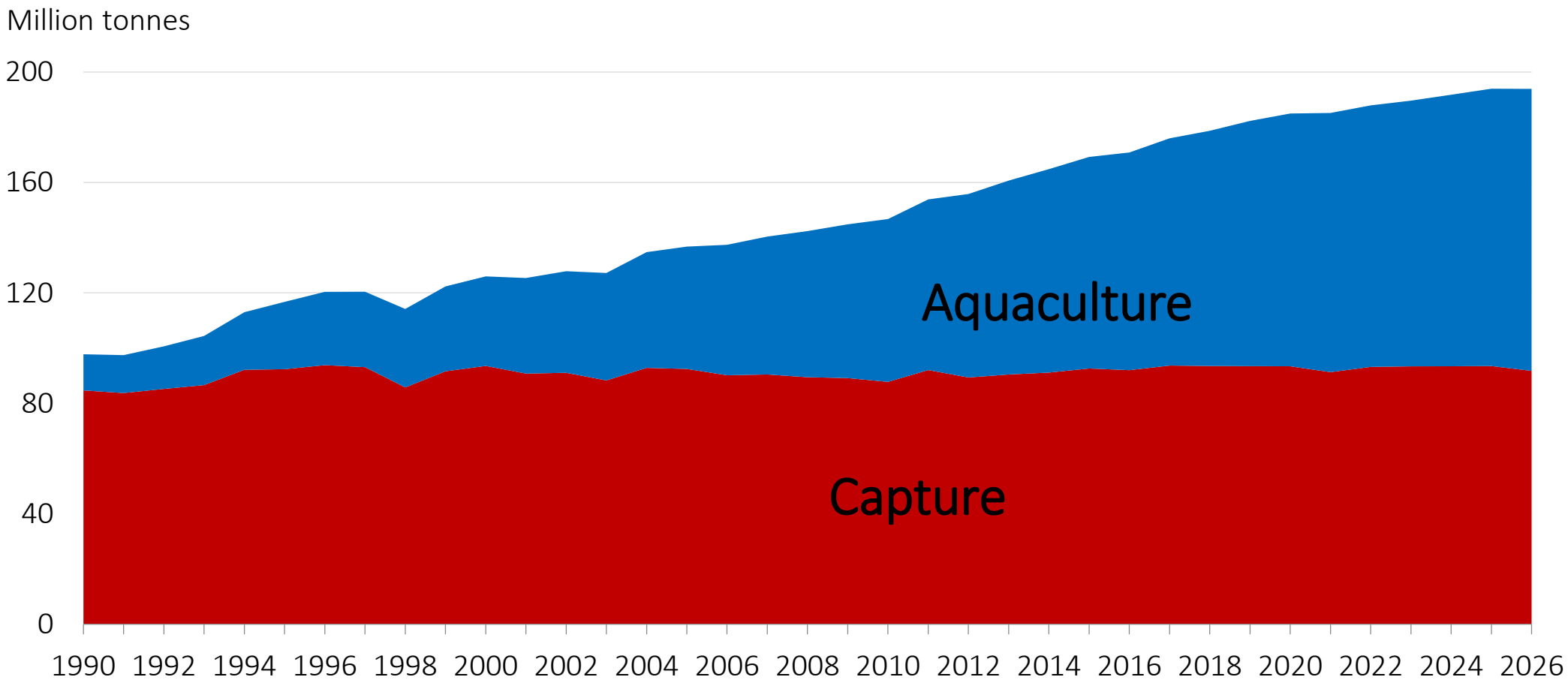
Total fish production



OECD-FAO Agricultural Outlook 2017-2026 *Excluding aquatic plants.*

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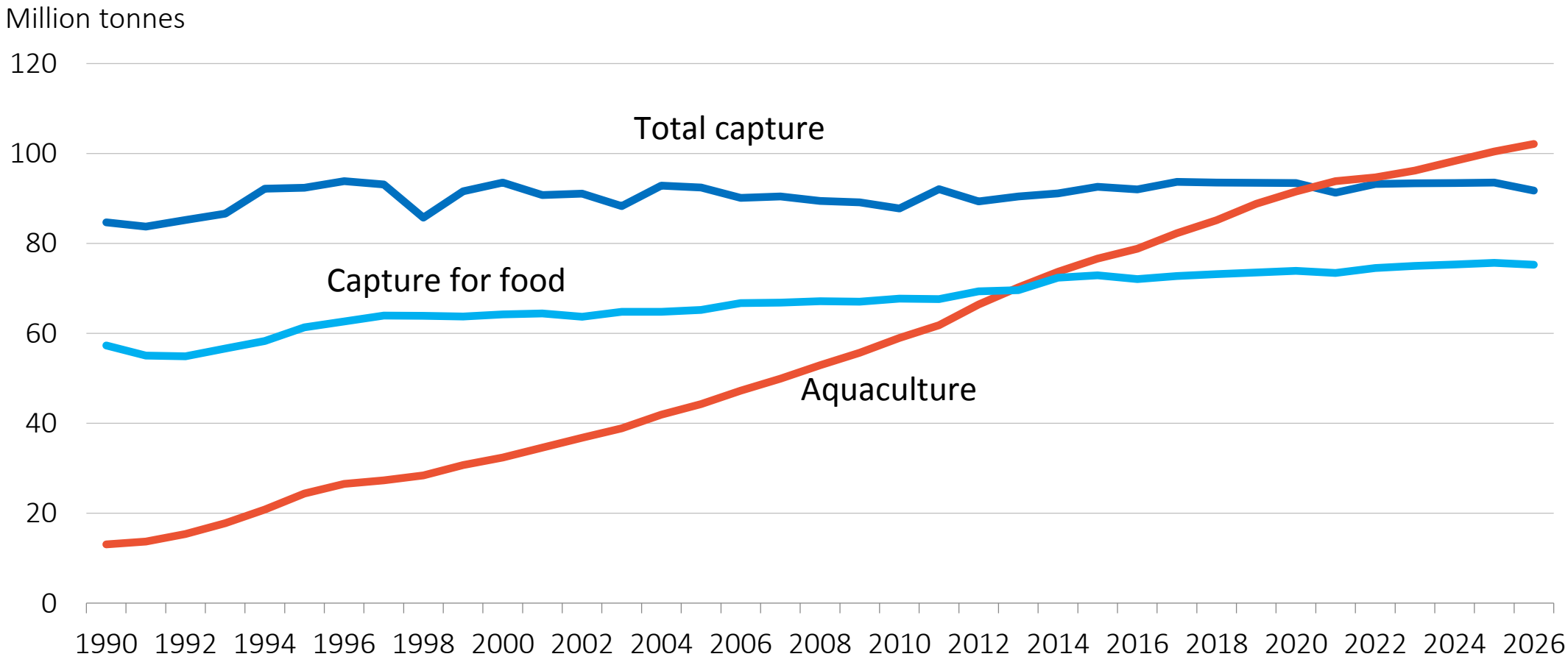
Surpass of aquaculture (2013 and 2021)



OECD-FAO Agricultural Outlook 2017-2026 *Excluding aquatic plants.*

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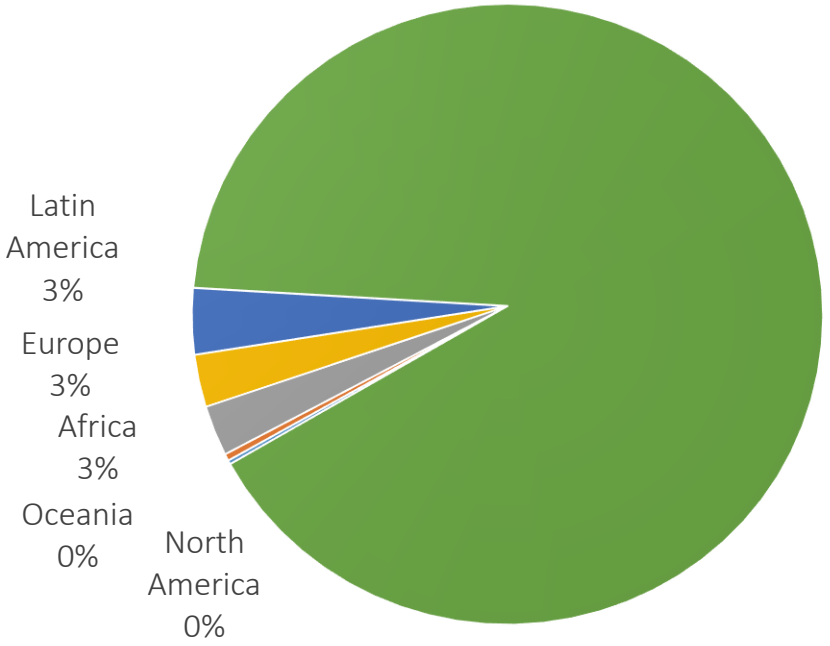
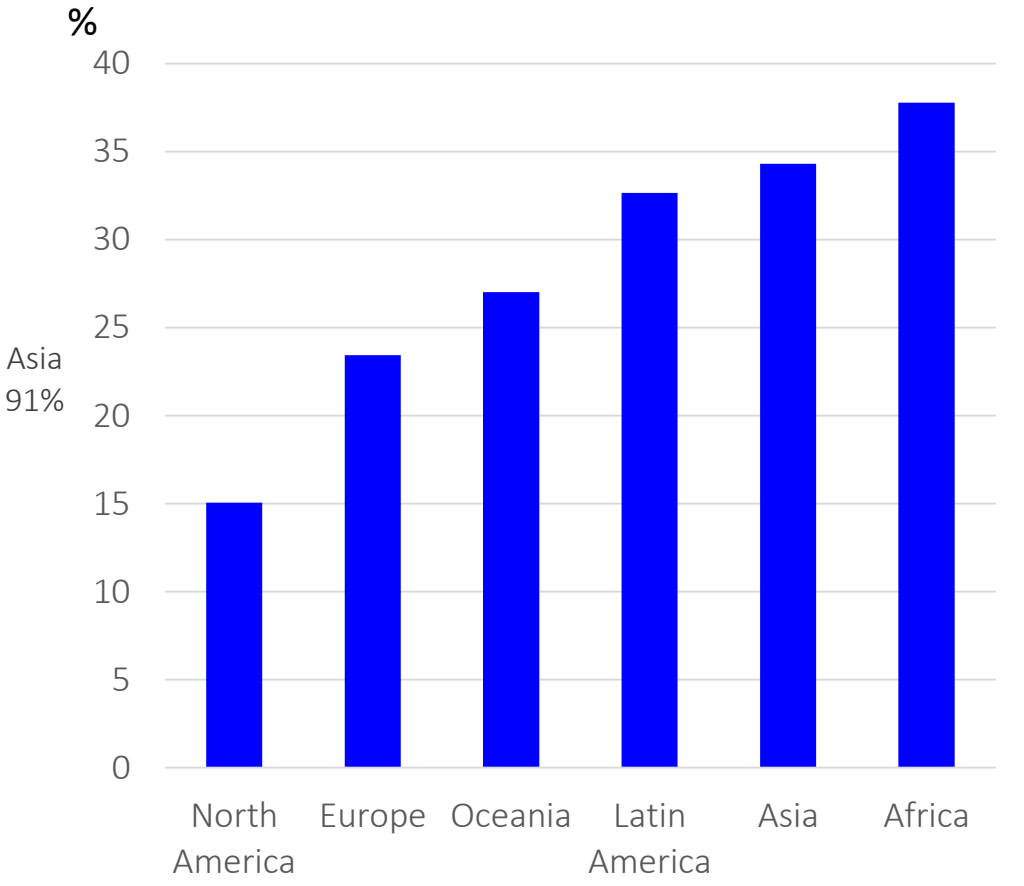
Aquaculture growth

+26 million tonnes



p.a.	0.7	1.8	1.5	3.1	2.3	3.3



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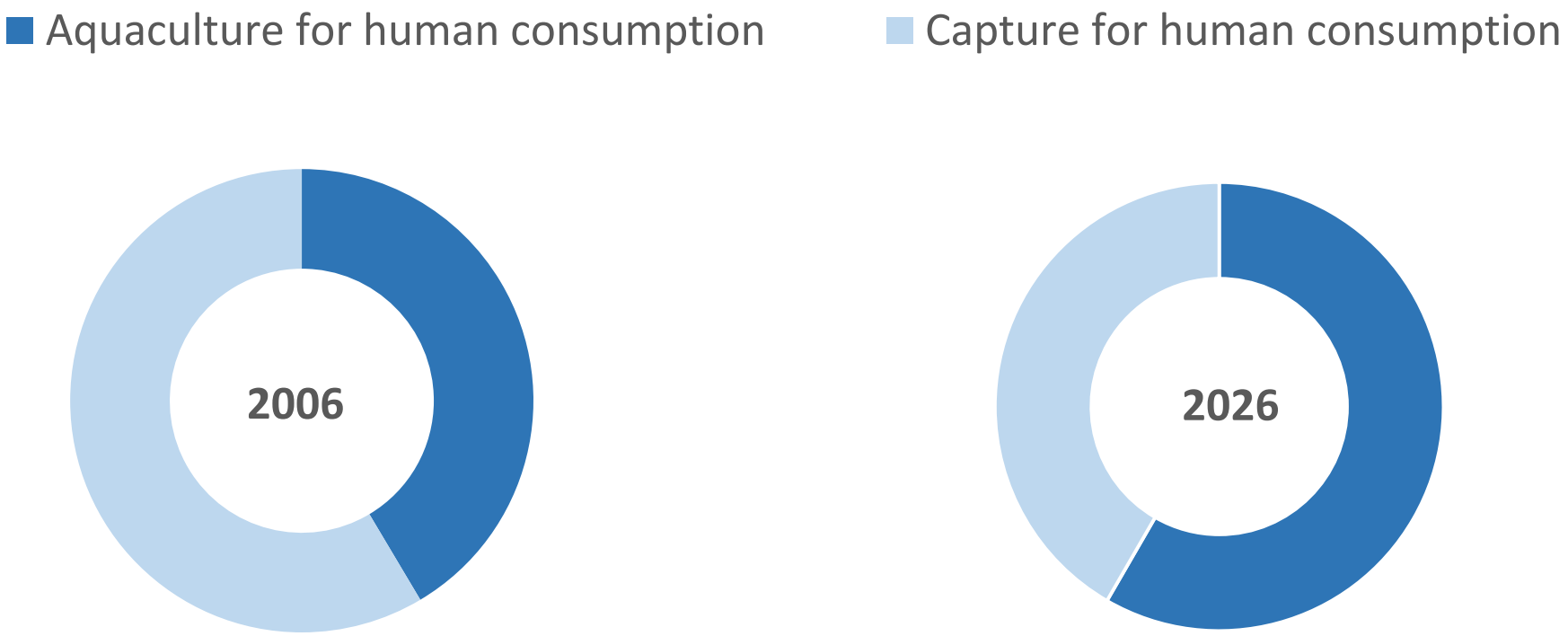
Per capita fish consumption



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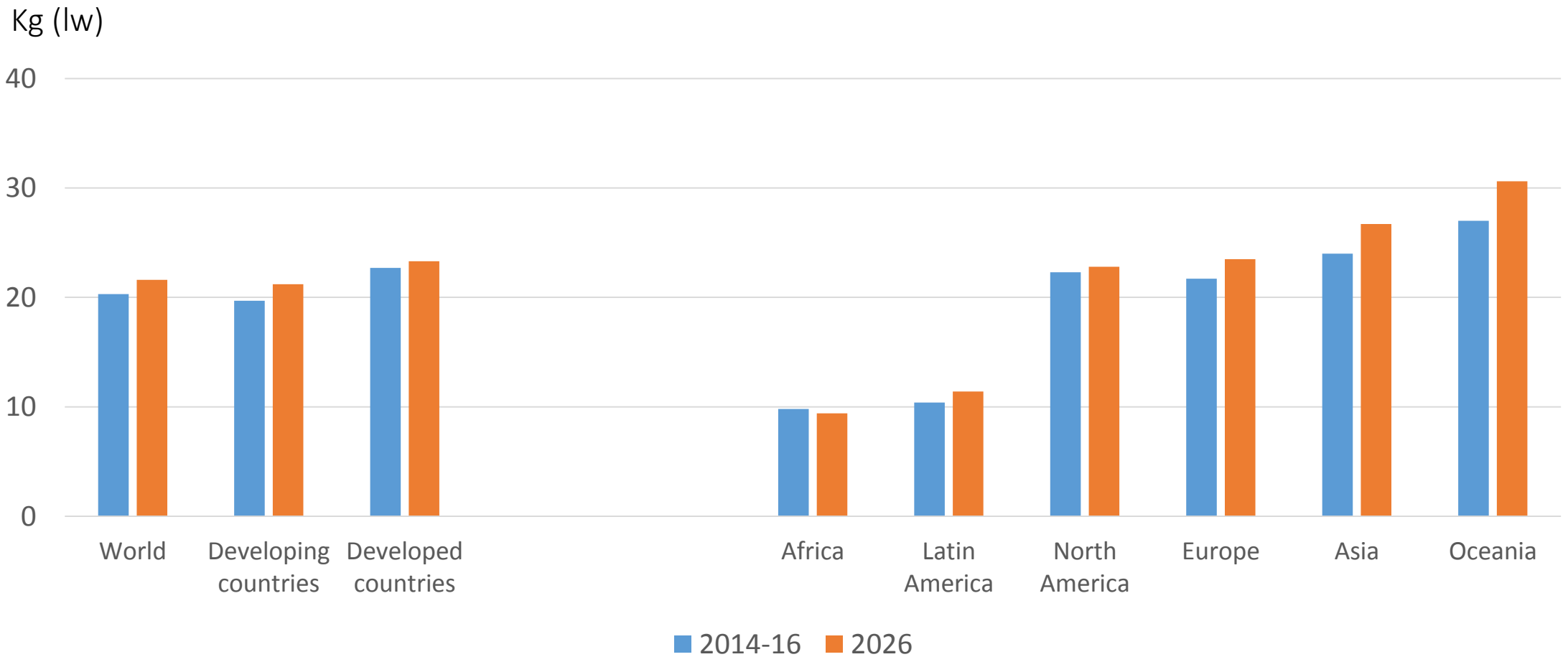
Per capita fish consumption



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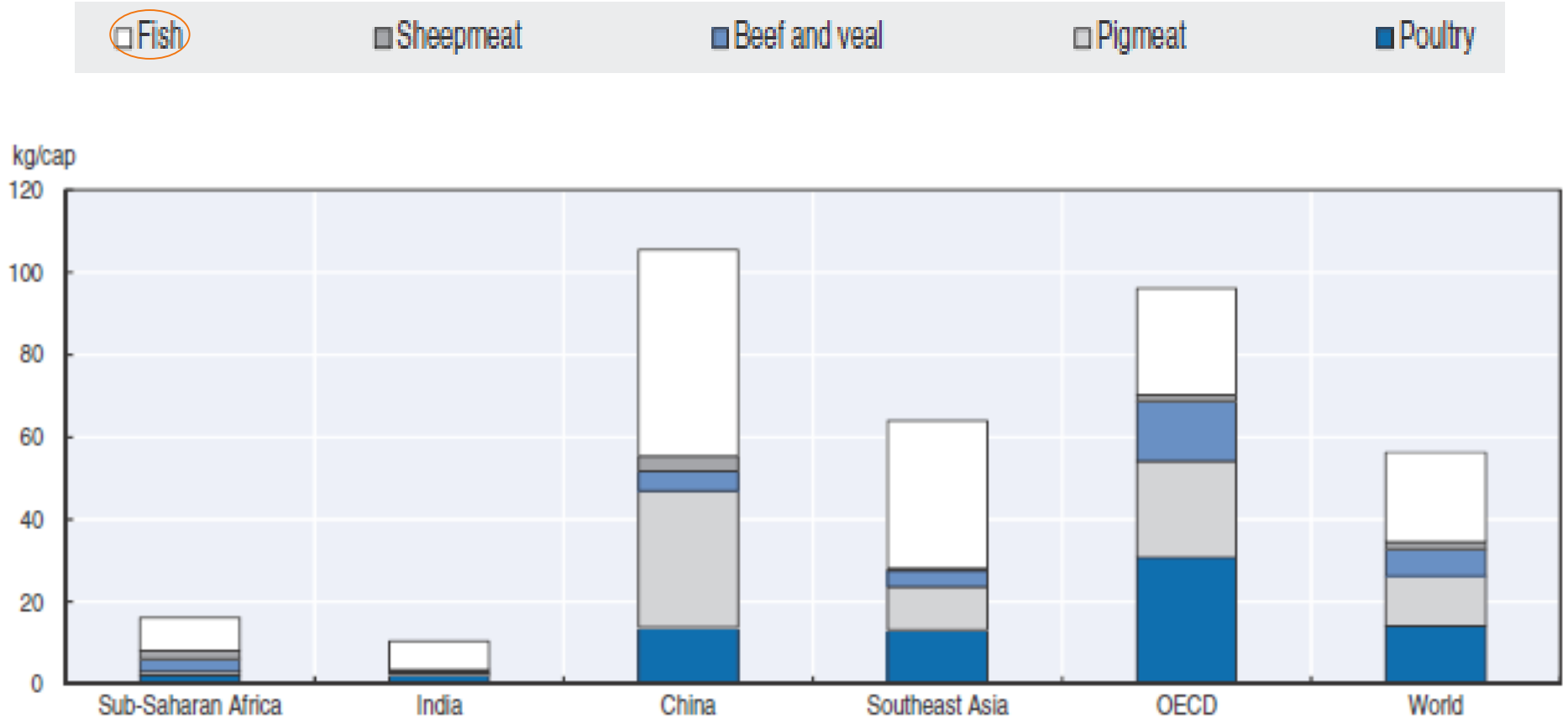
Per capita consumption: fish and meat in 2026



OECD-FAO Agricultural Outlook 2017-2026

MAIN RESULTS OF THE FISH MODEL: COMPARISON 2025 VS 2013–15: TRADE (LIVE WEIGHT EQUIVALENT)

	EXPORTS			IMPORTS		
	AVERAGE 2013–15	2025	GROWTH OF 2025 VS 2013–15	AVERAGE 2013–15	2025	GROWTH OF 2025 VS 2013–15
	(Thousand tonnes)		*(%)*	*(Thousand tonnes)*		*(%)*
Africa	**2 110**	**1 483**	**–29.7**	**3 949**	**5 527**	**40.0**
North Africa	*622*	*603*	*–3.1*	*687*	*1 247*	*81.5*
Egypt	26	20	–23.1	404	820	103.0
Sub-Saharan Africa	*1 488*	*880*	*–40.9*	*3 263*	*4 280*	*31.2*
Ghana	31	30	–3.2	335	321	–4.2
Nigeria	11	9	–18.2	1 053	1 525	44.8

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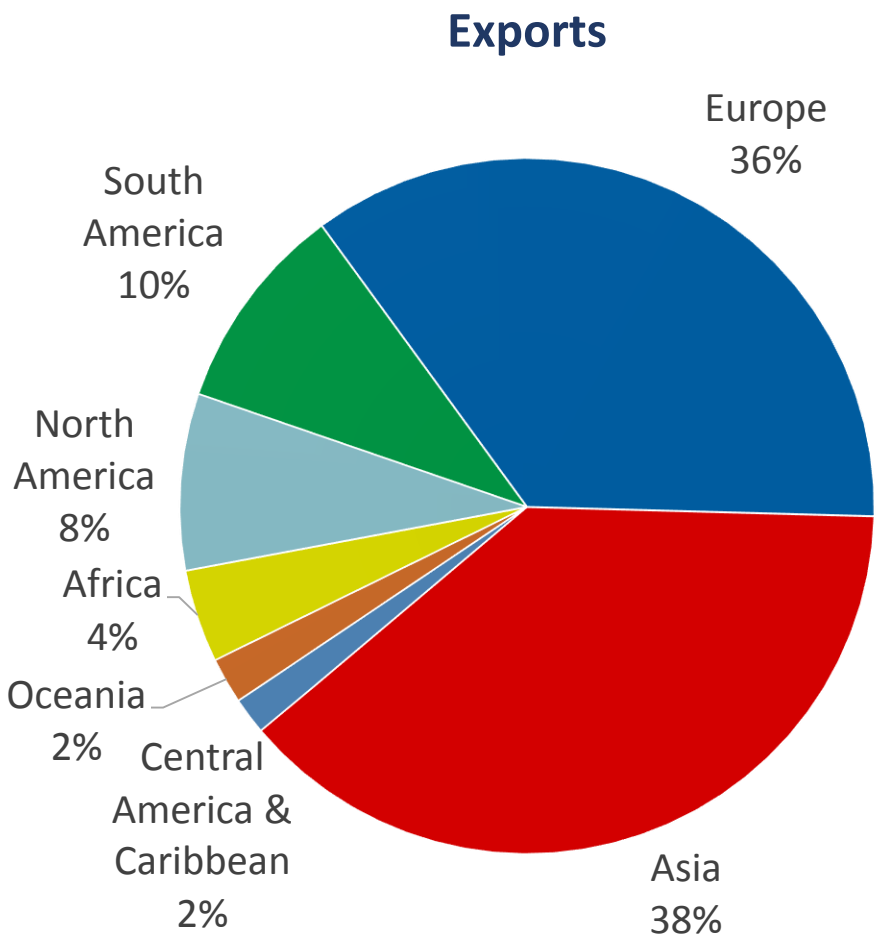
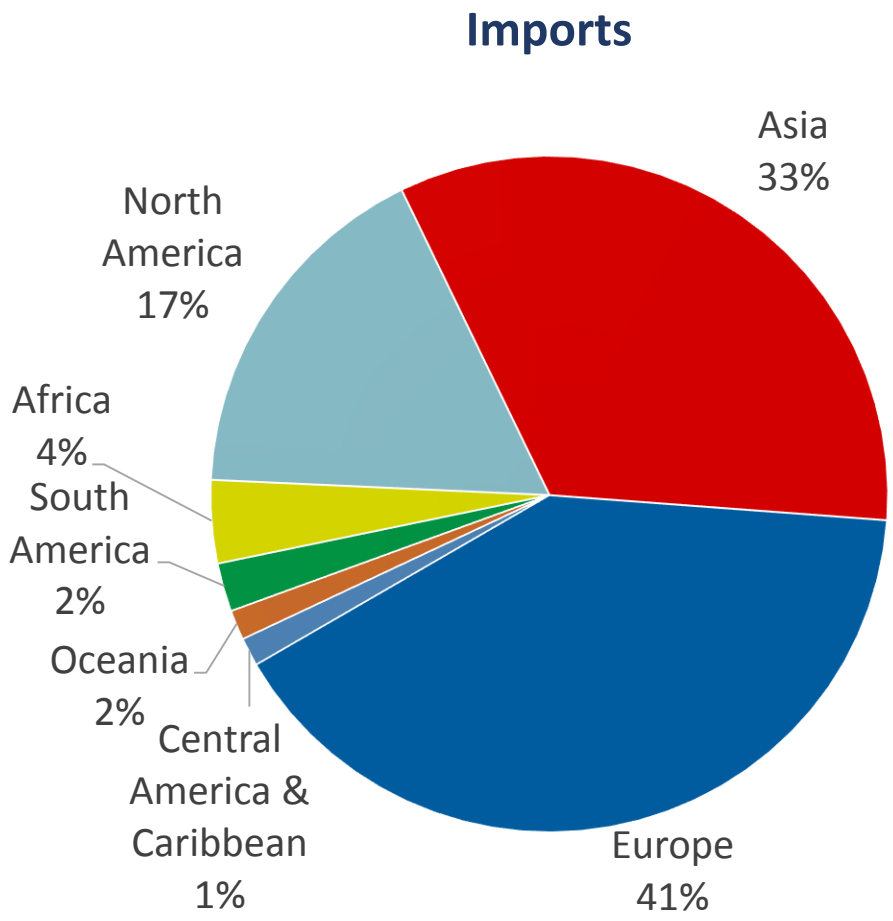
Trade of fish and fishery products (2015 value)





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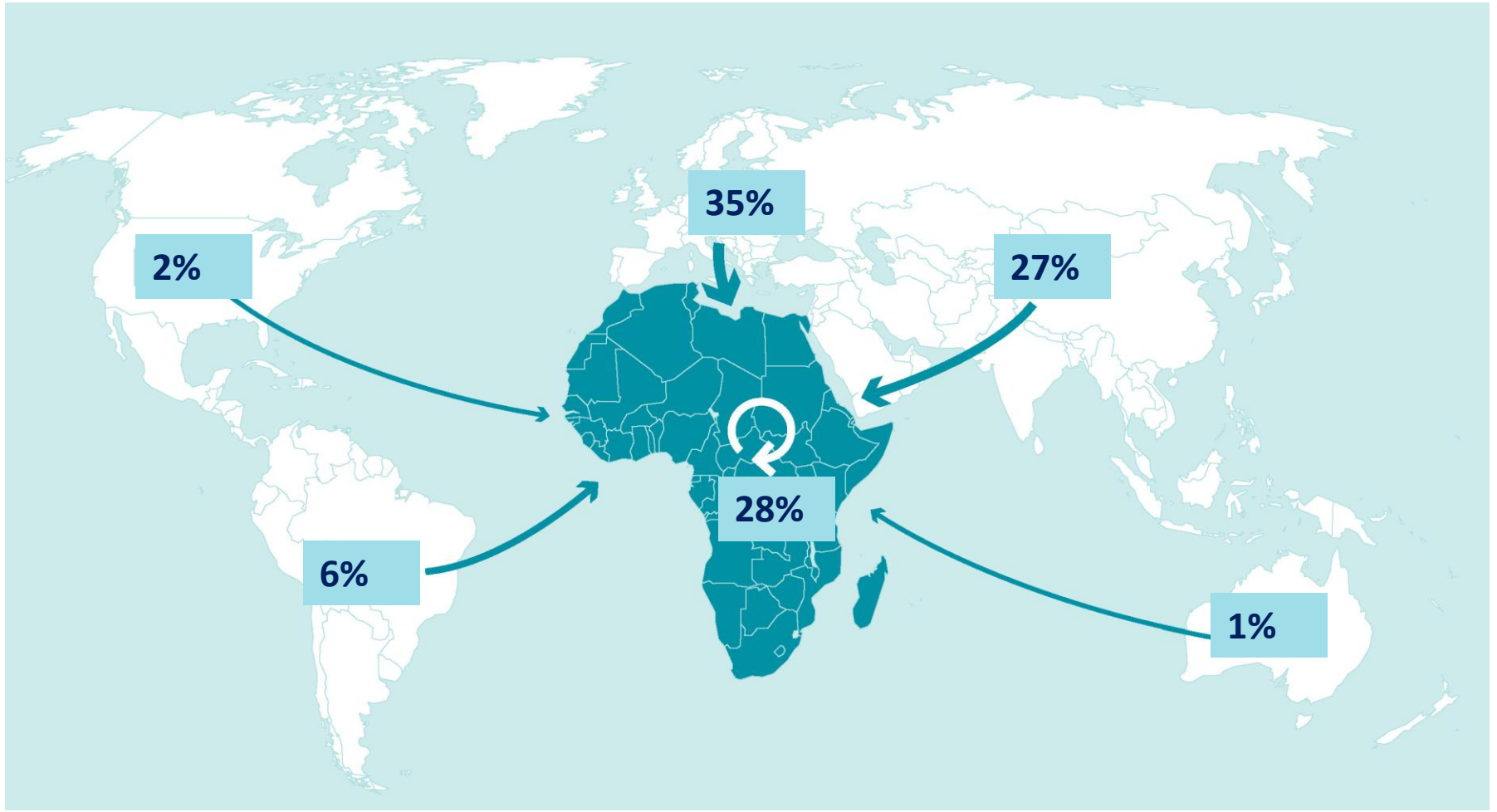
Africa: imports (average 2013-2015 Value)



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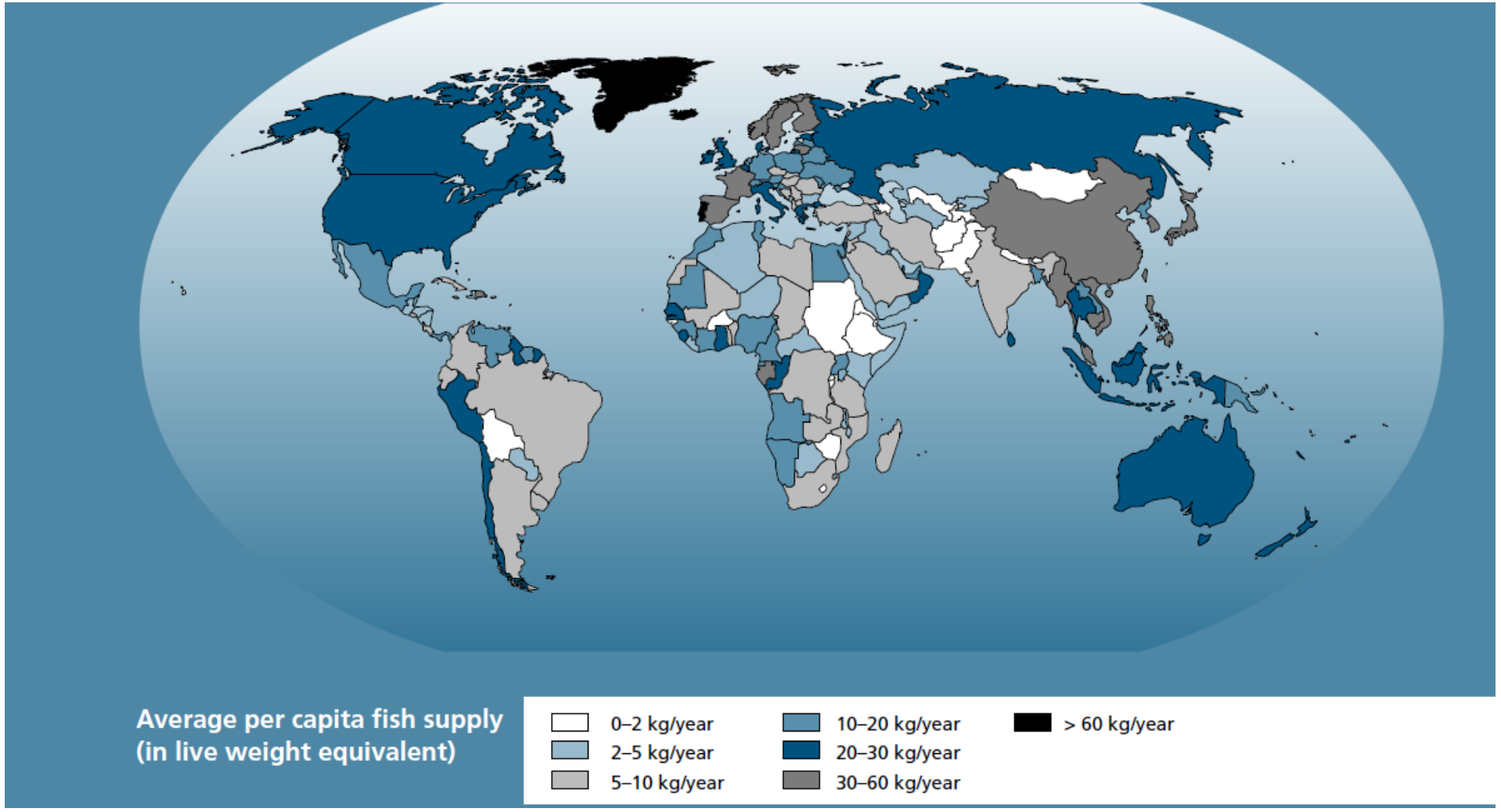
Fish food supply



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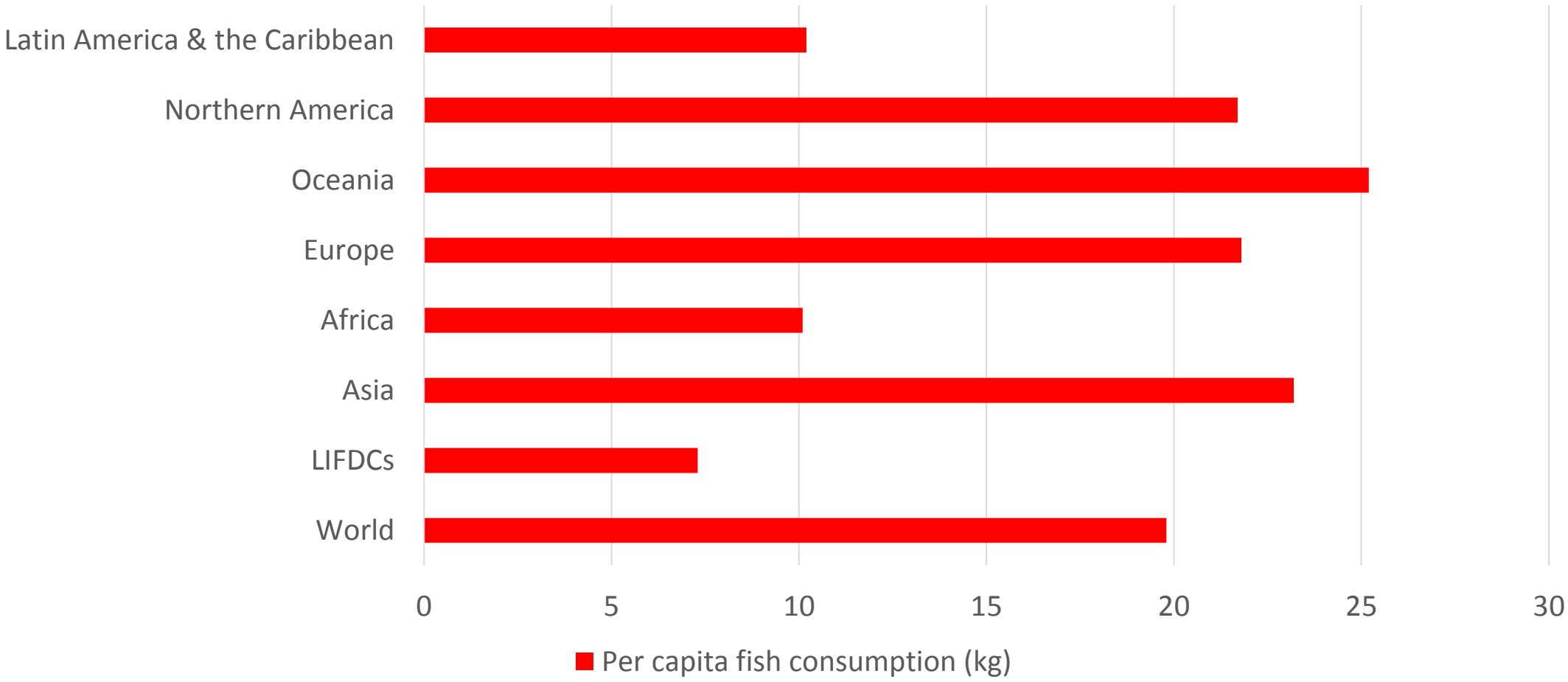
Per capita fish consumption



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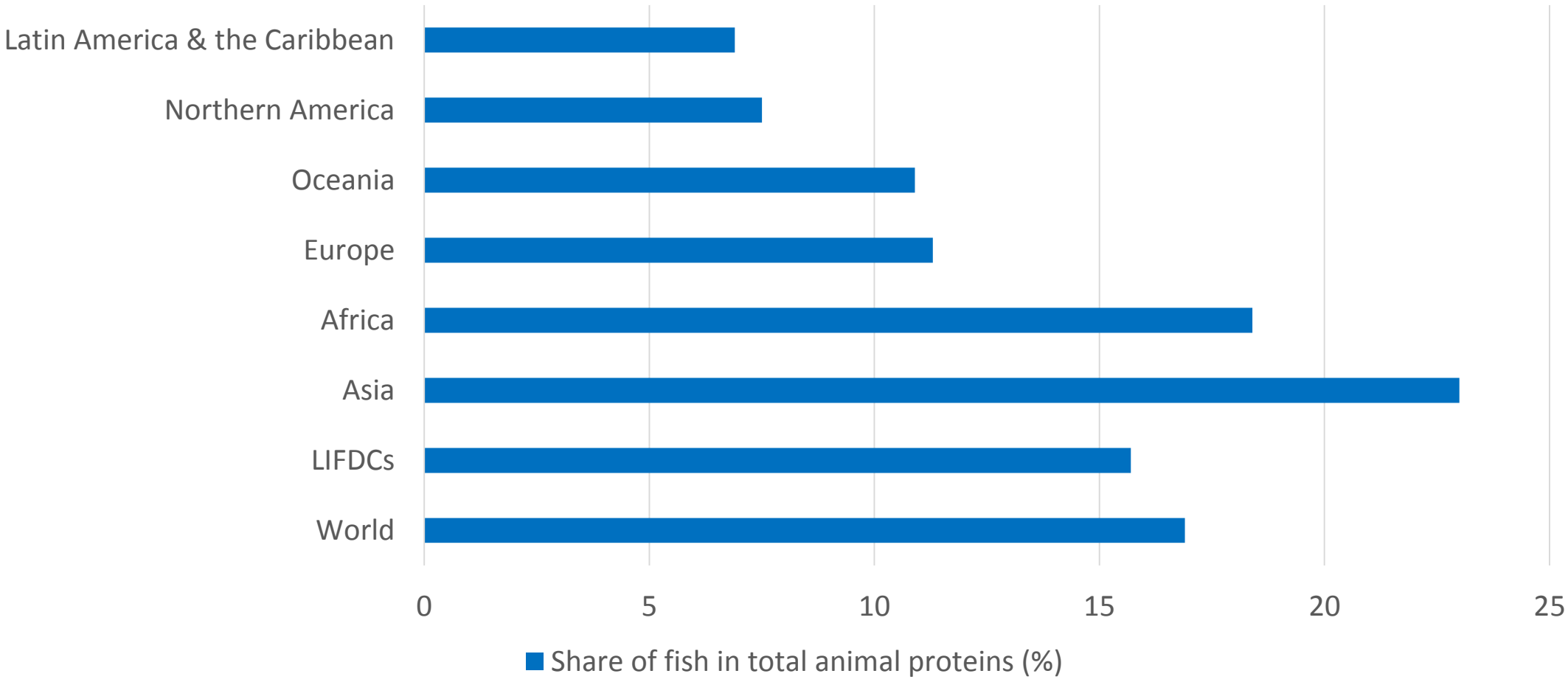
Fish contribution to human nutrition



Tilapia production projection

- **Global tilapia production is expected to almost double from 4.3 million tons to 7.3 million tons between 2010 and 2030.**

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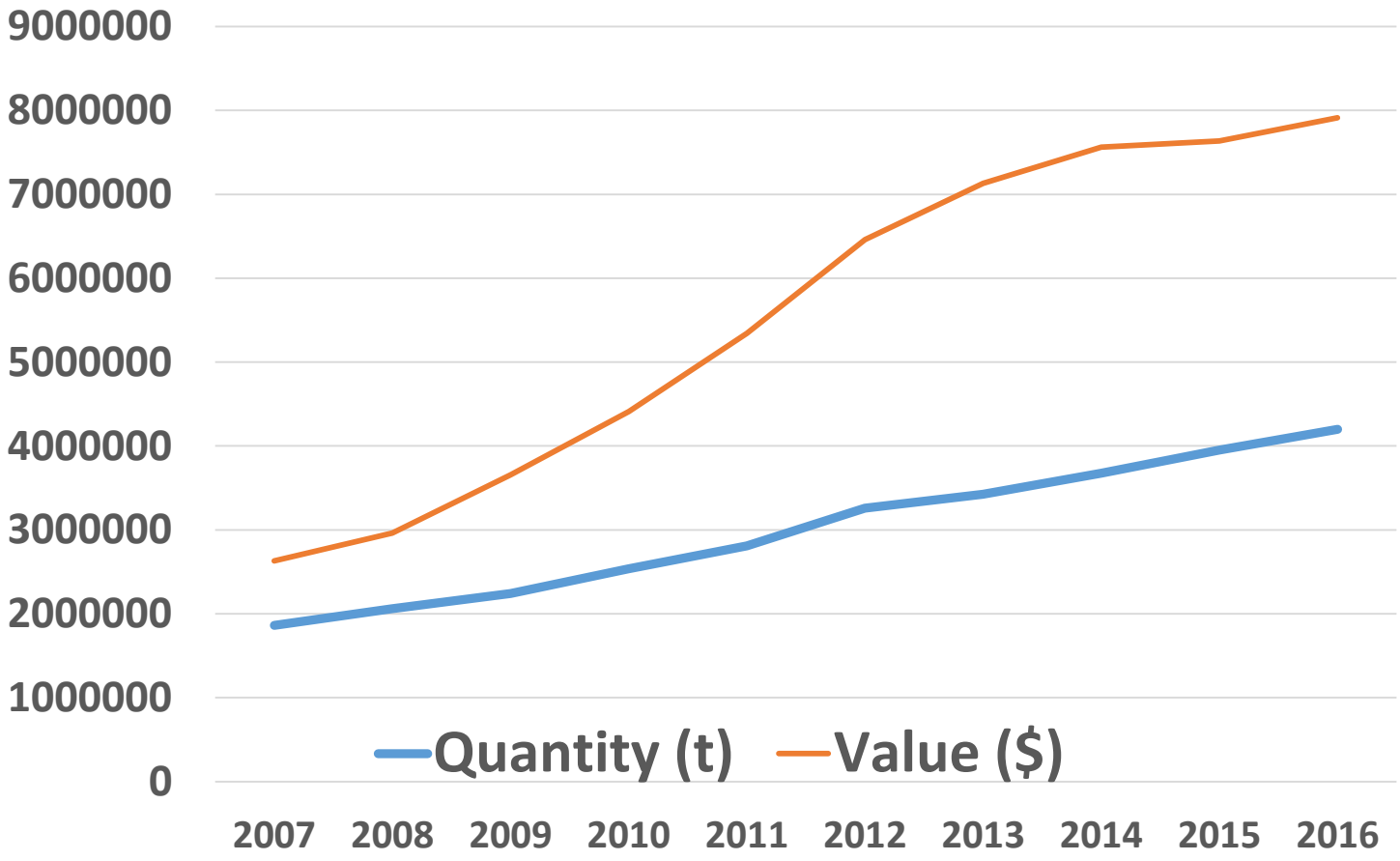
Oreochromis niloticus from Aquaculture (global)



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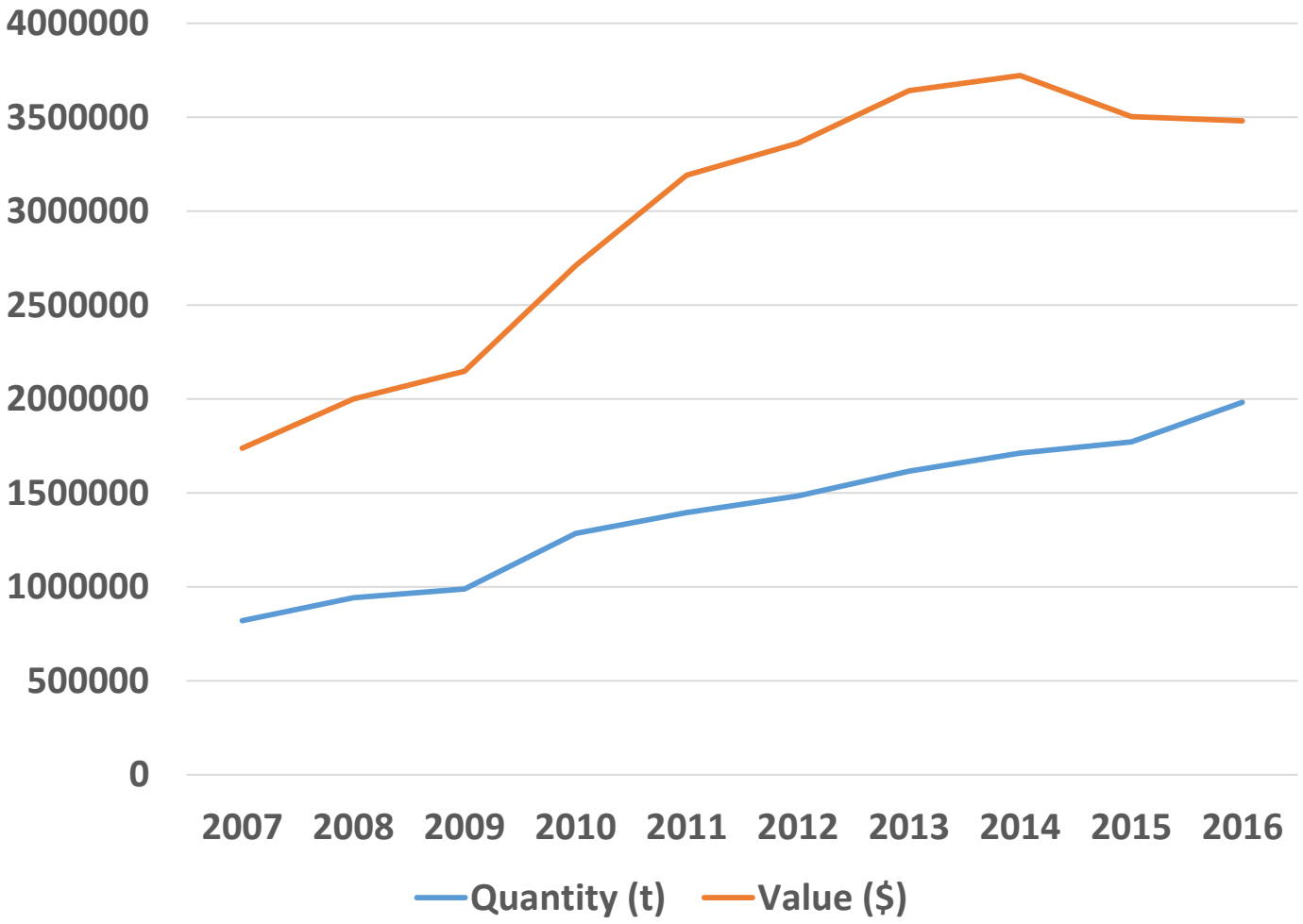
Tilapia aquaculture production in Africa



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African aquaculture in 2014 (t/yr)

Country*	Freshwater fish	Marine fish	Diadrom fish	Total finfish	Molluscs	Crustacea	Aquatic plants	Total others	TOTAL
Egypt	972188	157664	4	1129856		7235		7235	1137091
Nigeria	313231			313231				0	313231
Zanzibar			10	10			133020	133020	133030
Uganda	111023			111023				0	111023
Ghana	38535			38535		10		10	38545
Kenya	23855		243	24098				0	24098
Zambia	19281			19281				0	19281
Madagascar	3763		10	3773		4696	8363	13059	16832
Tunisia	763	10358	2	11123	156			156	11279
Zimbabwe	10520		80	10600				0	10600
Tanzania	3007		214	3221		391	6705	7096	10317
South Africa	250	150	1500	1900	2255	5	2000	4260	6160
Malawi	4637		105	4742				0	4742
Cote d'Ivoire	3750			3750				0	3750
D.R. Congo	2870			2870				0	2870
Algeria	1459	921		2380	31			31	2411

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Thank you for your attention

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