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Global Aquaculture: Where is Nigeria?

Rohana Subasinghe
WorldFish



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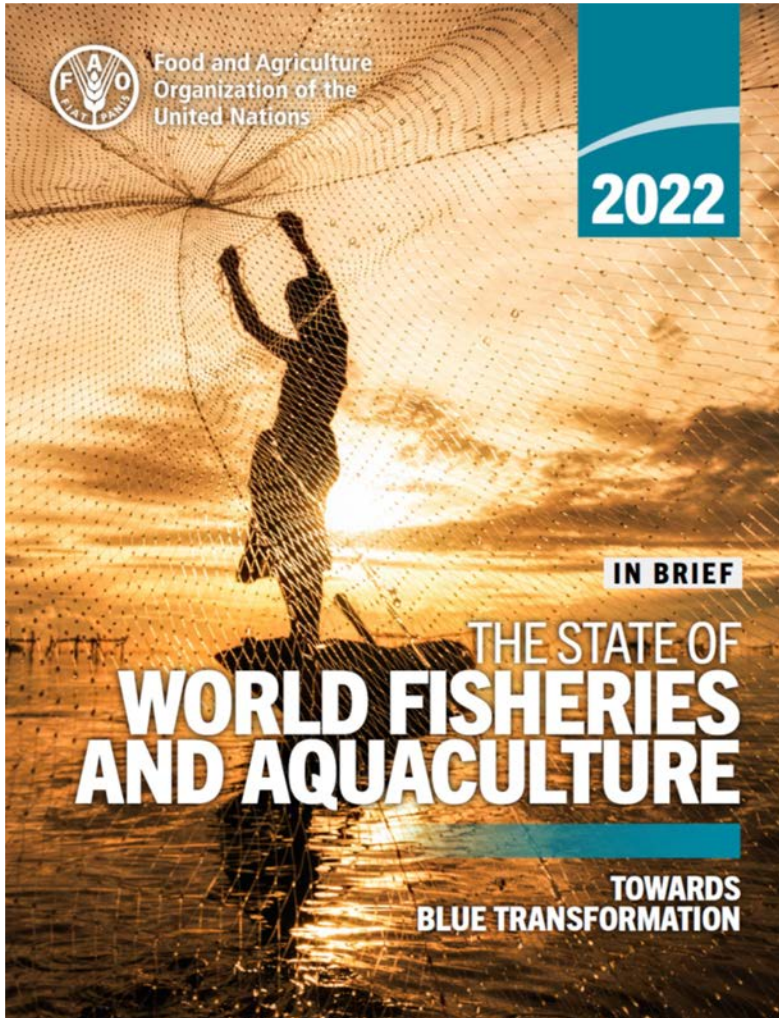


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This presentation is largely based on the recent FAO assessment of the status of world fisheries and aquaculture 2022 – SOFIA 2022



The State of World Fisheries and Aquaculture 2022 (full text)



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According to FAO, global fisheries and aquaculture production is at a record high and the sector will play an increasingly important role in providing food and nutrition in the future.

Total fisheries and aquaculture production reached a record 214 million tonnes in 2020, comprising 178 million tonnes of aquatic animals and 36 million tonnes of algae, largely due to the growth of aquaculture, particularly in Asia. The amount destined for human consumption (excluding algae) was 20.2 kg per capita, more than double the average of 9.9 kg per capita in the 1960s.



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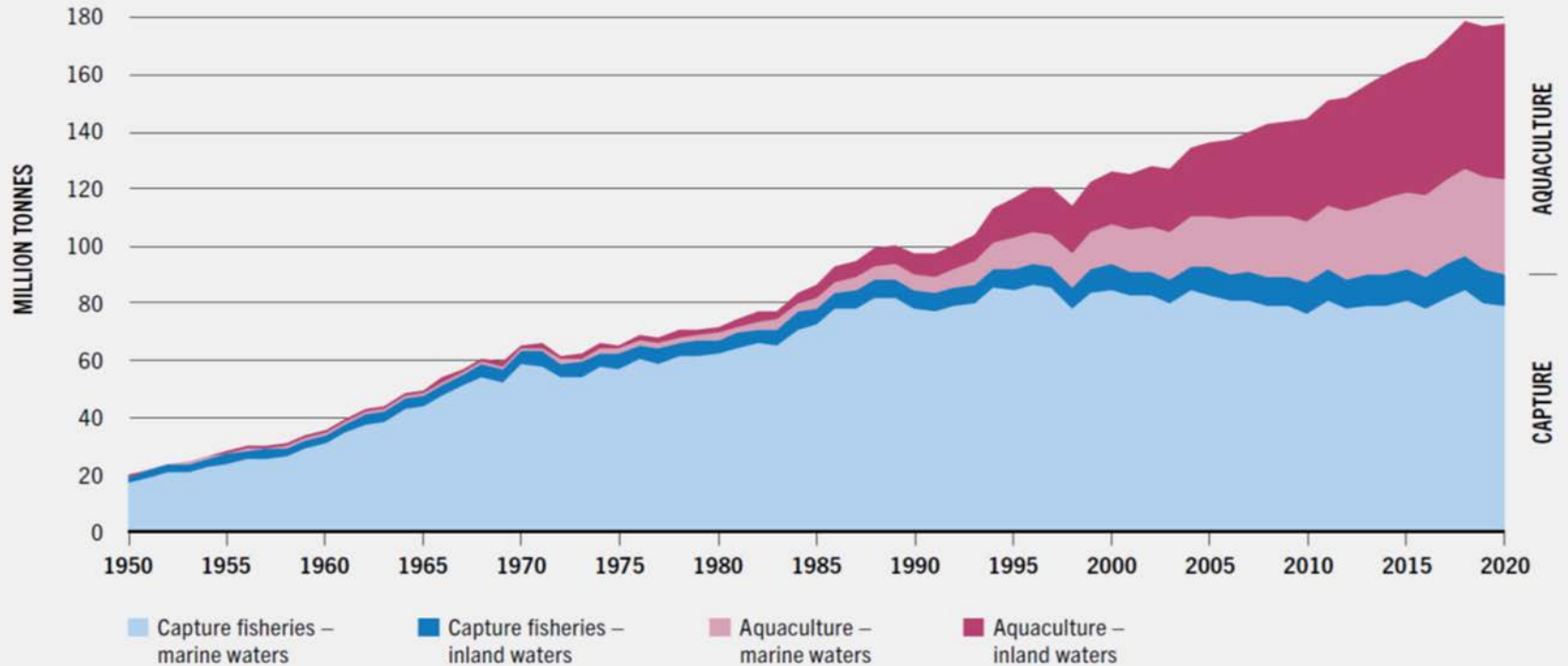
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FIGURE 1 WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION



NOTES: Excluding aquatic mammals, crocodiles, alligators, caimans and algae. Data expressed in live weight equivalent.
SOURCE: FAO.



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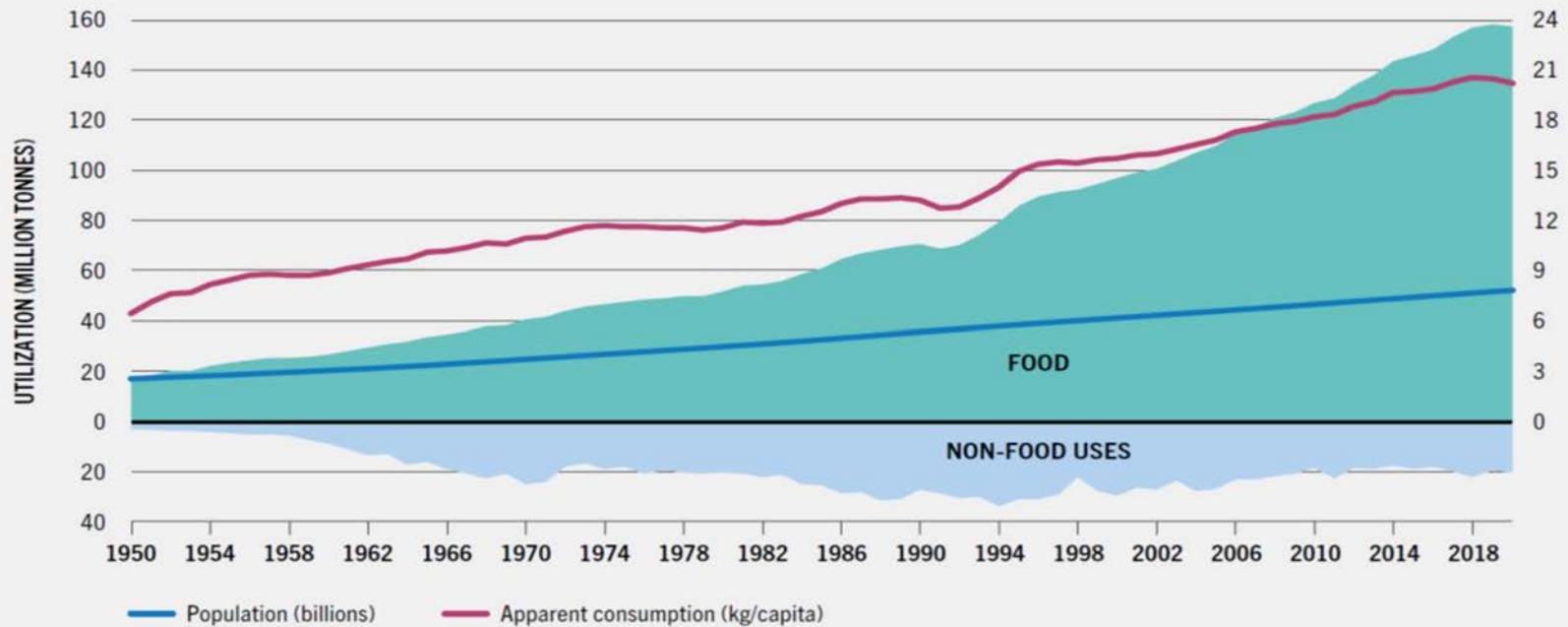
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FIGURE 2 WORLD FISHERIES AND AQUACULTURE PRODUCTION: UTILIZATION AND APPARENT CONSUMPTION



NOTES: Excluding aquatic mammals, crocodiles, alligators, caimans and algae. Data expressed in live weight equivalent. For algae and apparent consumption, see Glossary in the main report, including Context of SOFIA 2022. Source of population figures: United Nations. 2019 Revision of World Population Prospects. In: *UN*. New York. Cited 22 April 2022. <https://population.un.org/wpp>
 SOURCE: FAO.



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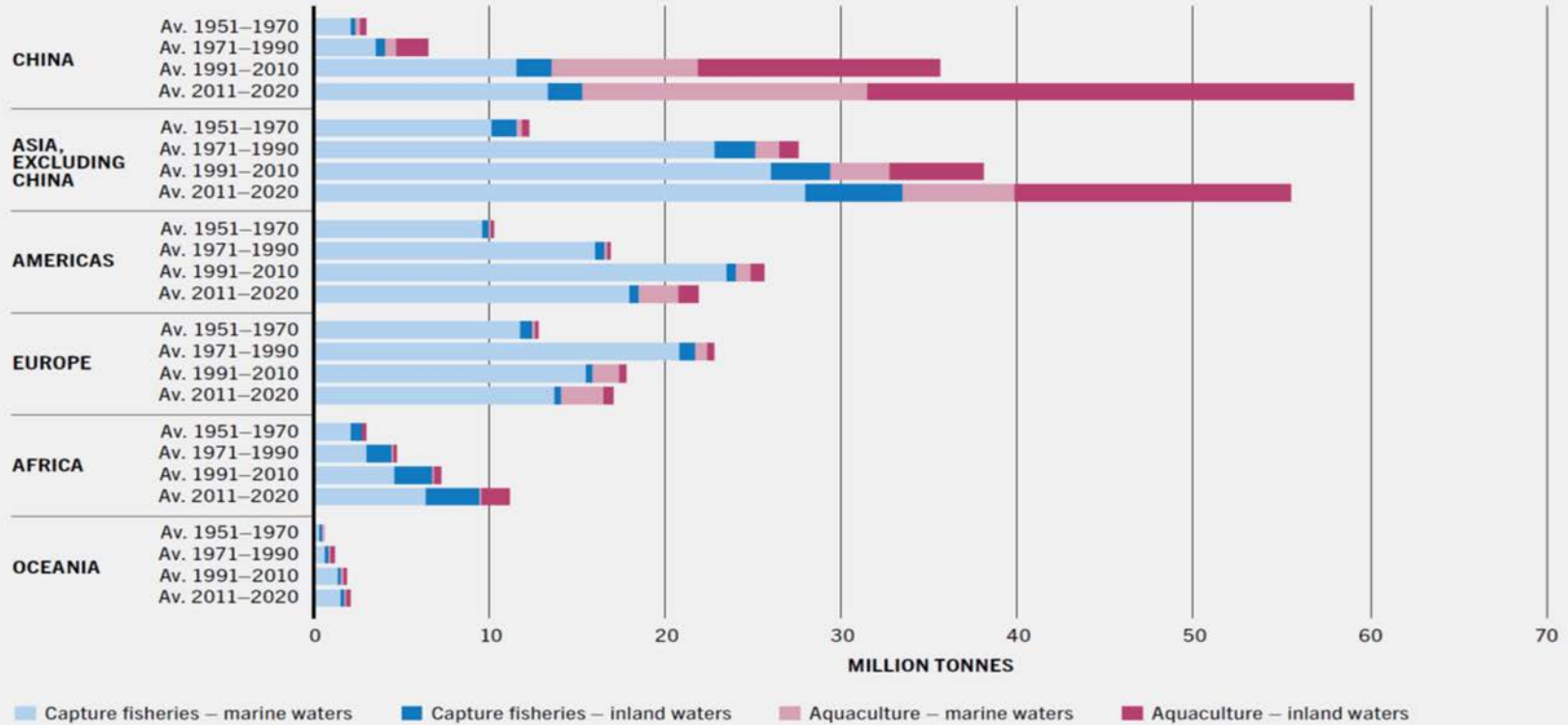
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FIGURE 5 REGIONAL CONTRIBUTION TO WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION



NOTES: Excluding aquatic mammals, crocodiles, alligators and caimans and algae. Data expressed in live weight equivalent. SOURCE: FAO.



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An estimated 58.5 million people were employed in the primary sector. Including subsistence and secondary sector workers, and their dependents, it is estimated that about 600 million livelihoods depend at least partially on fisheries and aquaculture.

The international trade of fisheries and aquaculture products generated around USD 151 billion in 2020, down from the record high of USD 165 billion in 2018 mainly due to the outbreak of COVID-19.



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Aquaculture has great potential to feed and nourish the world's growing population. But growth must be sustainable.



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In 2020, global aquaculture production reached a record 122.6 million tonnes, with a total value of USD 281.5 billion. Aquatic animals accounted for 87.5 million tonnes and algae comprised 35.1 million tonnes.



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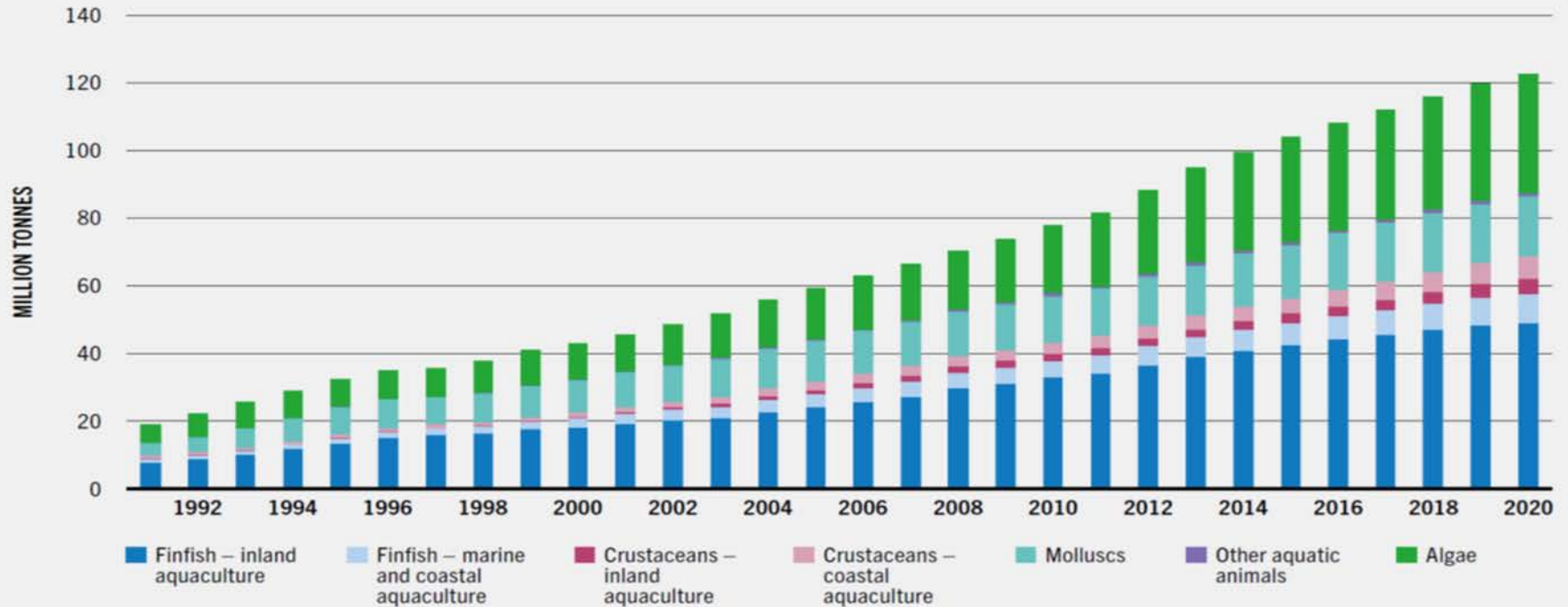
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FIGURE 13 WORLD AQUACULTURE PRODUCTION, 1991–2020



NOTES: Data exclude shells and pearls. Data expressed in live weight equivalent.

SOURCE: FAO.



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In 2020, driven by expansion in Chile, China and Norway, global aquaculture production grew in all regions except Africa, due to a decrease in the two major producing countries, Egypt and Nigeria. The rest of Africa enjoyed 14.5 percent growth from 2019.

Asia continued to dominate world aquaculture, producing 91.6 percent of the total. Aquaculture growth has often occurred at the expense of the environment. Sustainable aquaculture development remains critical to supply the growing demand for aquatic foods.



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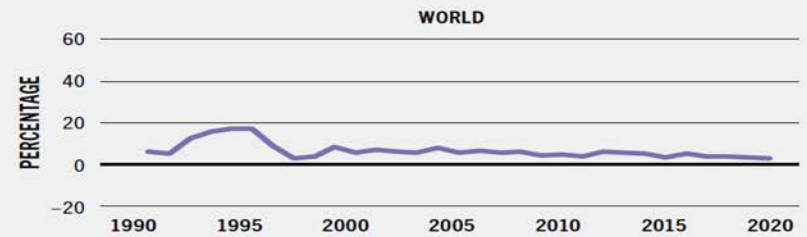
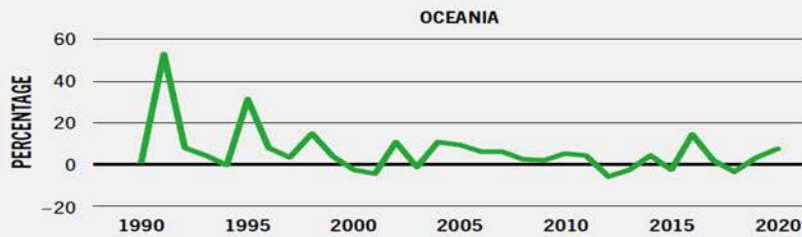
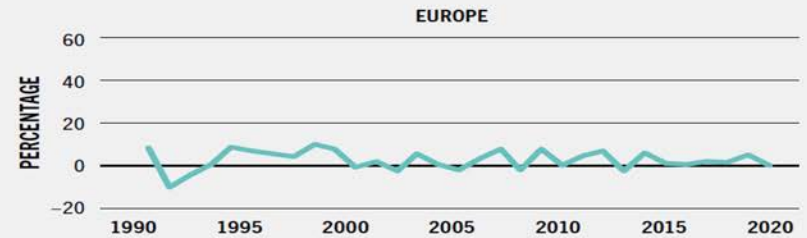
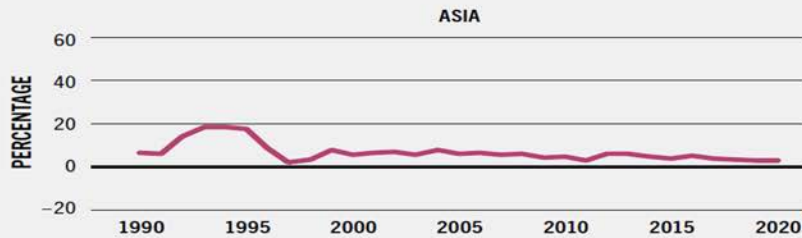
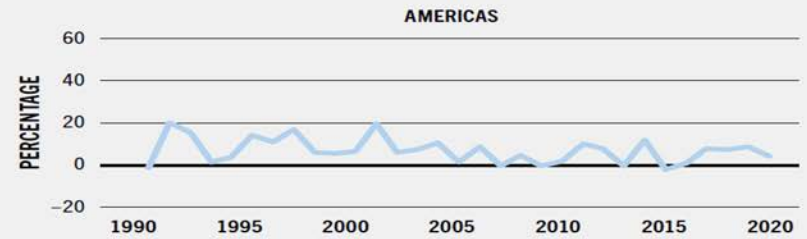
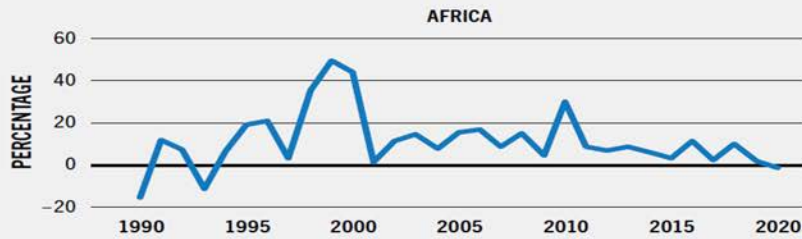
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FIGURE 14 ANNUAL GROWTH RATE OF AQUATIC ANIMAL AQUACULTURE PRODUCTION BY CONTINENT, 1990–2020



SOURCE: FAO.



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TABLE 7 WORLD AQUACULTURE PRODUCTION BY REGION AND SELECTED MAJOR PRODUCERS

Regions and selected countries	2010			2020		
	Animals	Algae	All species	Animals	Algae	All species
	<i>(thousand tonnes, live weight)</i>					
Africa <i>(percentage in world)</i>	1 286.1 <i>(2.23)</i>	138.3 <i>(0.69)</i>	1 424.4 <i>(1.83)</i>	2 250.2 <i>(2.57)</i>	104.1 <i>(0.30)</i>	2 354.3 <i>(1.92)</i>
Egypt <i>(percentage in Africa)</i>	919.6 (71.50)		919.6 <i>(64.56)</i>	1 591.9 <i>(70.74)</i>		1 591.9 (67.62)
Northern Africa, excluding Egypt <i>(percentage in Africa)</i>	10.1 <i>(0.78)</i>		10.1 <i>(0.71)</i>	40.1 <i>(1.78)</i>	0.3 <i>(0.27)</i>	40.4 <i>(1.72)</i>
Nigeria <i>(percentage in Africa)</i>	200.5 (15.59)		200.5 <i>(14.08)</i>	261.7 <i>(11.63)</i>		261.7 (11.12)
Sub-Saharan Africa, excluding Nigeria <i>(percentage in Africa)</i>	155.9 <i>(12.12)</i>	138.3 <i>(100.00)</i>	294.2 <i>(20.66)</i>	356.5 <i>(15.84)</i>	103.8 <i>(99.73)</i>	460.3 <i>(19.55)</i>

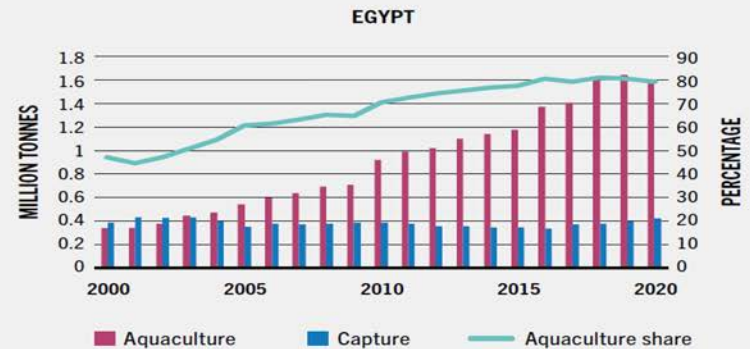
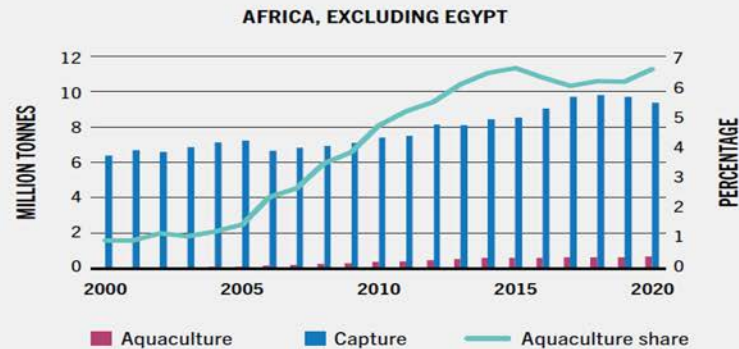
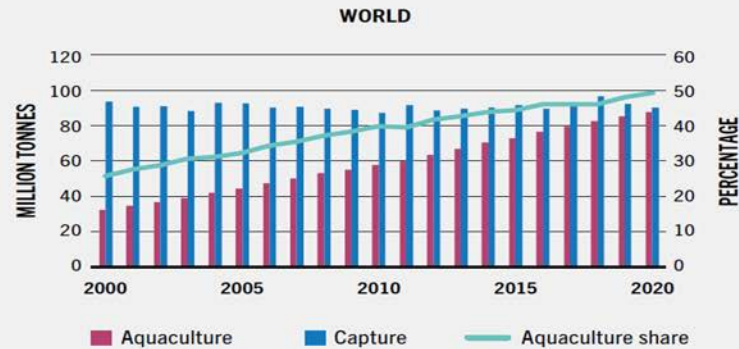




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FIGURE 16 CONTRIBUTION OF AQUACULTURE TO TOTAL FISHERIES AND AQUACULTURE PRODUCTION (EXCLUDING ALGAE) BY REGION, 2000–2020



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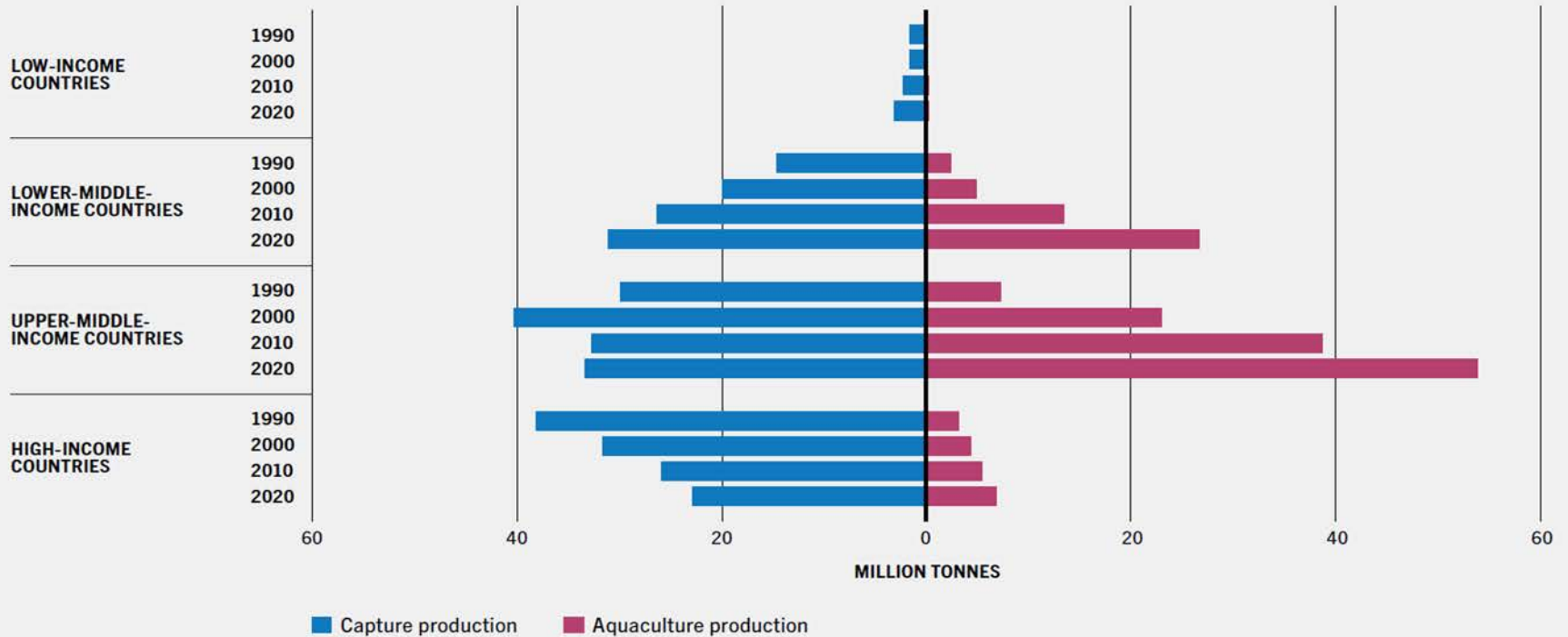
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FIGURE 17 FISHERIES AND AQUACULTURE GROWTH COMPARISON BY COUNTRY GROUP BY INCOME LEVEL (EXCLUDING ALGAE), 1990–2020



NOTE: Data expressed in live weight equivalent.
SOURCE: FAO.



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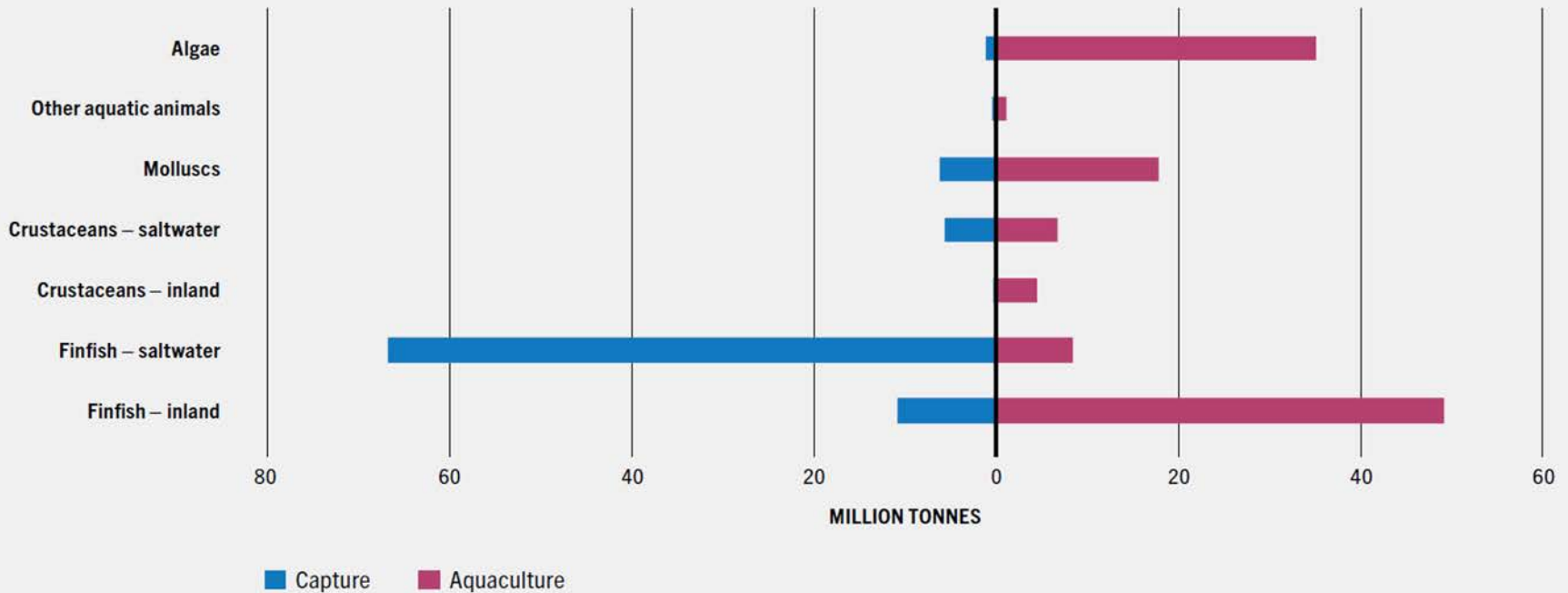
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FIGURE 18 SHARE OF AQUACULTURE IN TOTAL FISHERIES AND AQUACULTURE PRODUCTION BY MAJOR SPECIES GROUP, 2020



NOTE: Data expressed in live weight equivalent.
SOURCE: FAO.



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TABLE 10 WORLD PRODUCTION OF MAJOR AQUACULTURE SPECIES (INCLUDING SPECIES GROUPS)

	2000	2005	2010	2015	2020	Percentage of total, 2020
	<i>(thousand tonnes, live weight)</i>					
Finfish in inland aquaculture						
Grass carp, <i>Ctenopharyngodon idellus</i>	2 976.5	3 396.6	4 213.1	5 315.0	5 791.5	11.8
Silver carp, <i>Hypophthalmichthys molitrix</i>	2 034.7	2 600.0	3 072.0	4 713.6	4 896.6	10
Nile tilapia, <i>Oreochromis niloticus</i>	1 001.5	1 721.3	2 637.4	4 000.9	4 407.2	9
Common carp, <i>Cyprinus carpio</i>	2 410.4	2 666.3	3 331.0	4 025.8	4 236.3	8.6
Catla, <i>Catla catla</i>	602.3	1 317.5	2 526.4	2 313.4	3 540.3	7.2
Bighead carp, <i>Hypophthalmichthys nobilis</i>	1 438.9	1 929.5	2 513.6	3 109.1	3 187.2	6.5
<i>Carassius</i> spp.	1 198.5	1 798.2	2 137.8	2 644.1	2 748.6	5.6
Striped catfish, <i>Pangasianodon hypophthalmus</i>	113.2	411.2	1 749.4	2 083.2	2 520.4	5.1
Roho labeo, <i>Labeo rohita</i>	733.9	1 435.9	1 133.2	1 785.3	2 484.8	5.1
Clarias catfishes, <i>Clarias</i> spp.	48.8	149.5	242.2	923.7	1 249.0	2.5
Tilapias nei, <i>Oreochromis</i> spp.	123.9	199.3	449.6	929.9	1 069.9	2.2
Wuchang bream, <i>Megalobrama amblycephala</i>	445.9	477.2	629.2	723.2	781.7	1.6
Rainbow trout, <i>Oncorhynchus mykiss</i>	340.4	360.0	464.7	546.5	739.5	1.5
Black carp, <i>Mylopharyngodon piceus</i>	149.0	280.7	409.5	541.2	695.5	1.4
Largemouth black bass, <i>Micropterus salmoides</i>	0.2	140.3	179.5	321.5	621.3	1.3
Subtotal of 15 major species	14 618.2	19 973.5	26 689.7	33 976.3	38 970.1	79.3
Subtotal other species	3 546.6	4 260.1	6 337.7	8 535.7	10 150.4	20.7
Total	18 164.7	24 233.6	33 027.4	42 512.0	49 120.5	100



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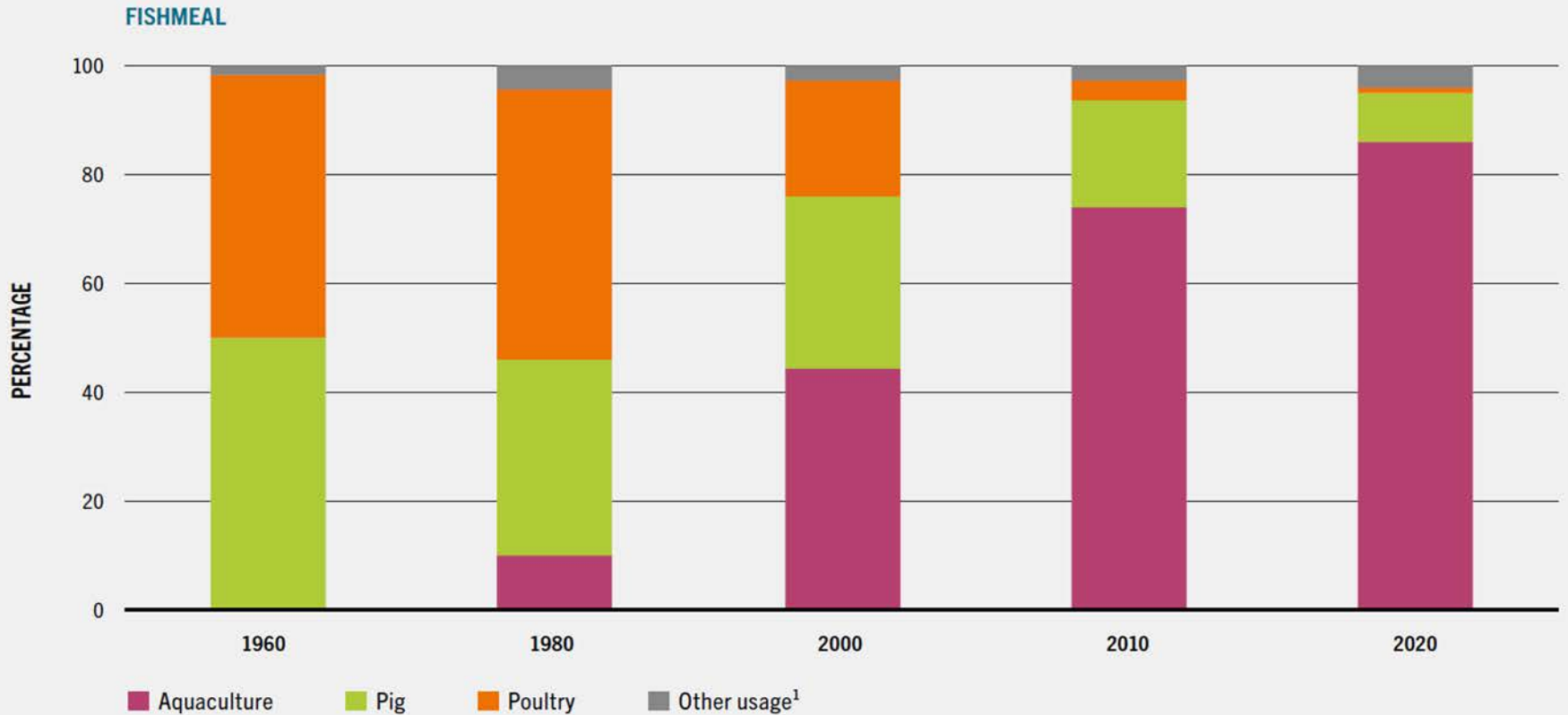
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FIGURE 36 UTILIZATION OF FISHMEAL AND FISH OIL



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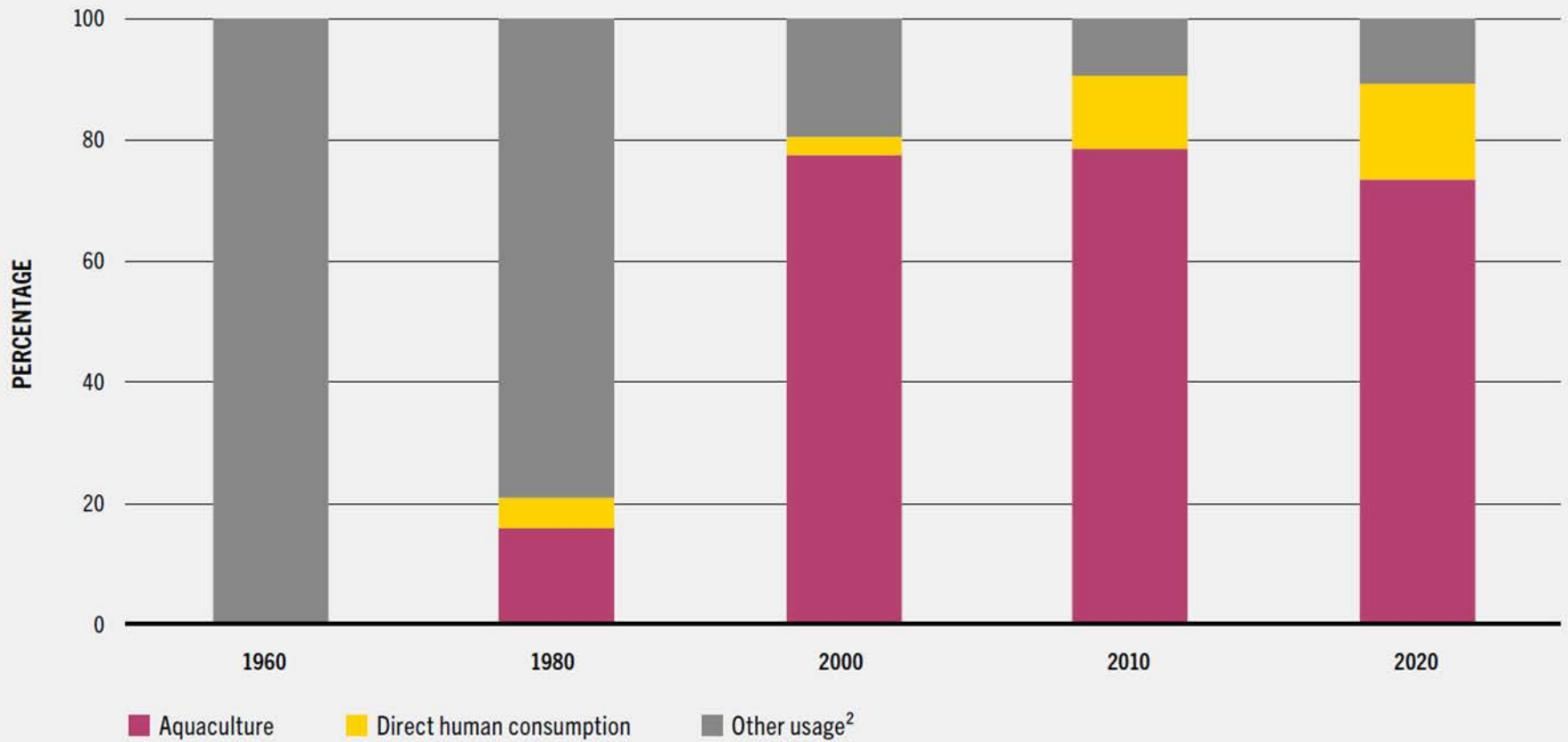
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FIGURE 37 SHARE OF RAW MATERIAL UTILIZED FOR REDUCTION INTO FISHMEAL AND FISH OIL, 2020



SOURCE: IFFO.



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The world's consumption of aquatic foods has increased significantly in recent years and will continue to rise.

Global consumption of aquatic foods (excluding algae) has increased at an average annual rate of 3.0 percent since 1961, compared with a population growth rate of 1.6 percent.



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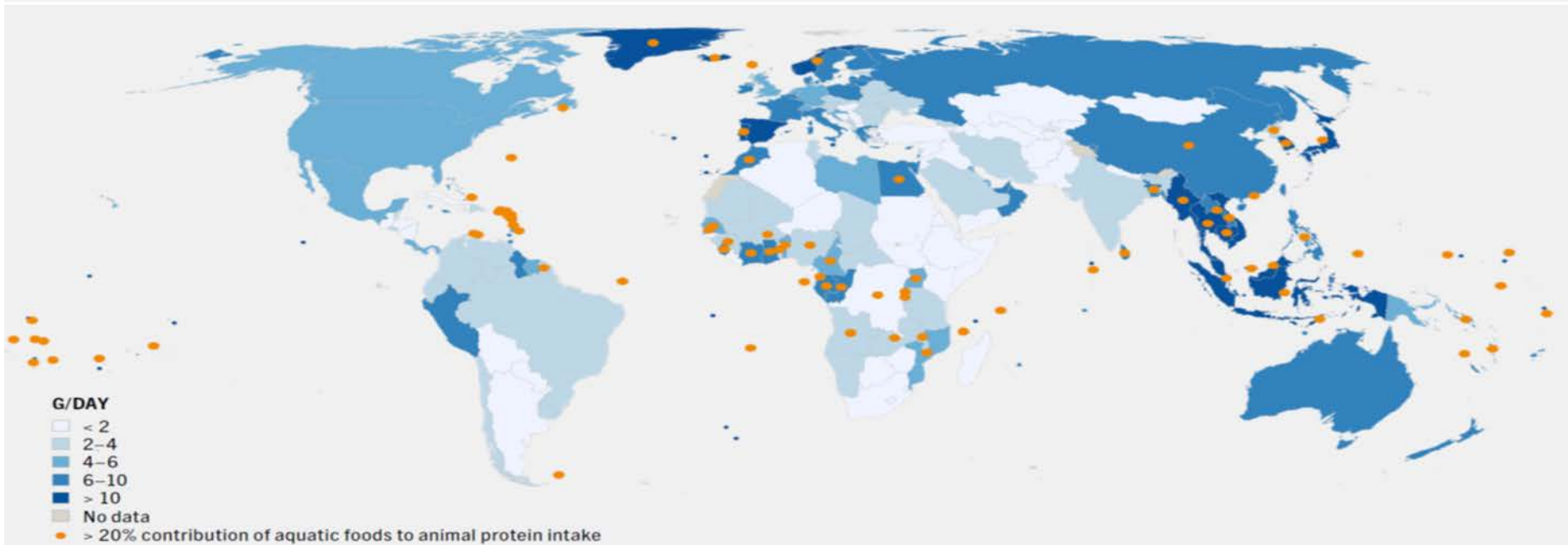
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FIGURE 43 CONTRIBUTION OF AQUATIC FOODS TO ANIMAL PROTEIN SUPPLY PER CAPITA, AVERAGE 2017–2019



The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. Final status of the Abyei area is not yet determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

SOURCE: FAO.



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On a per capita basis, consumption of aquatic food grew from an average of 9.9 kg in the 1960s to a record high of 20.5 kg in 2019, while it slightly declined to 20.2 kg in 2020. Rising incomes and urbanization, improvements in post-harvest practices and changes in dietary trends are projected to drive a 15 percent increase in aquatic food consumption, to supply on average 21.4 kg per capita in 2030.



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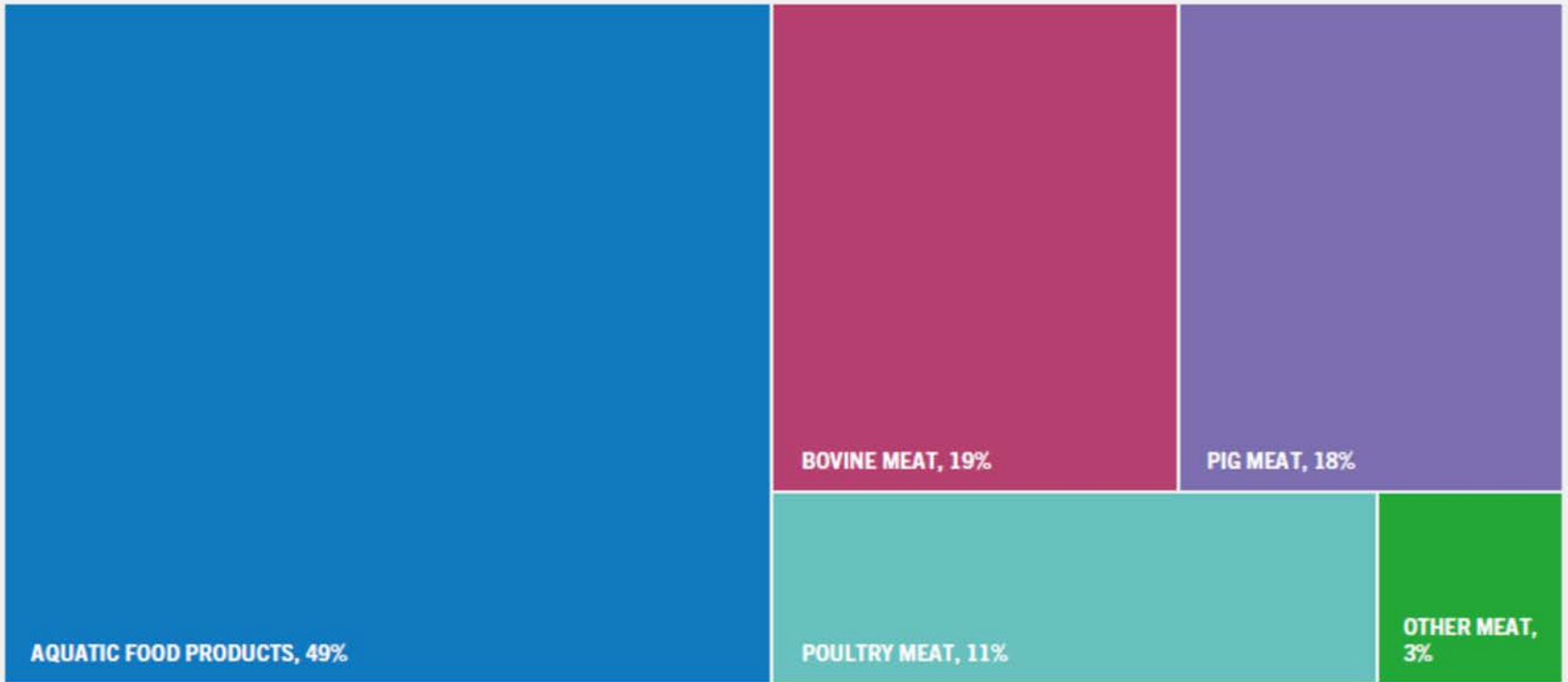
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FIGURE 45 GLOBAL EXPORT VALUE OF AQUATIC FOOD PRODUCTS AND TERRESTRIAL MEATS, 2020



NOTES: Excluding algae.

SOURCE: FAO.



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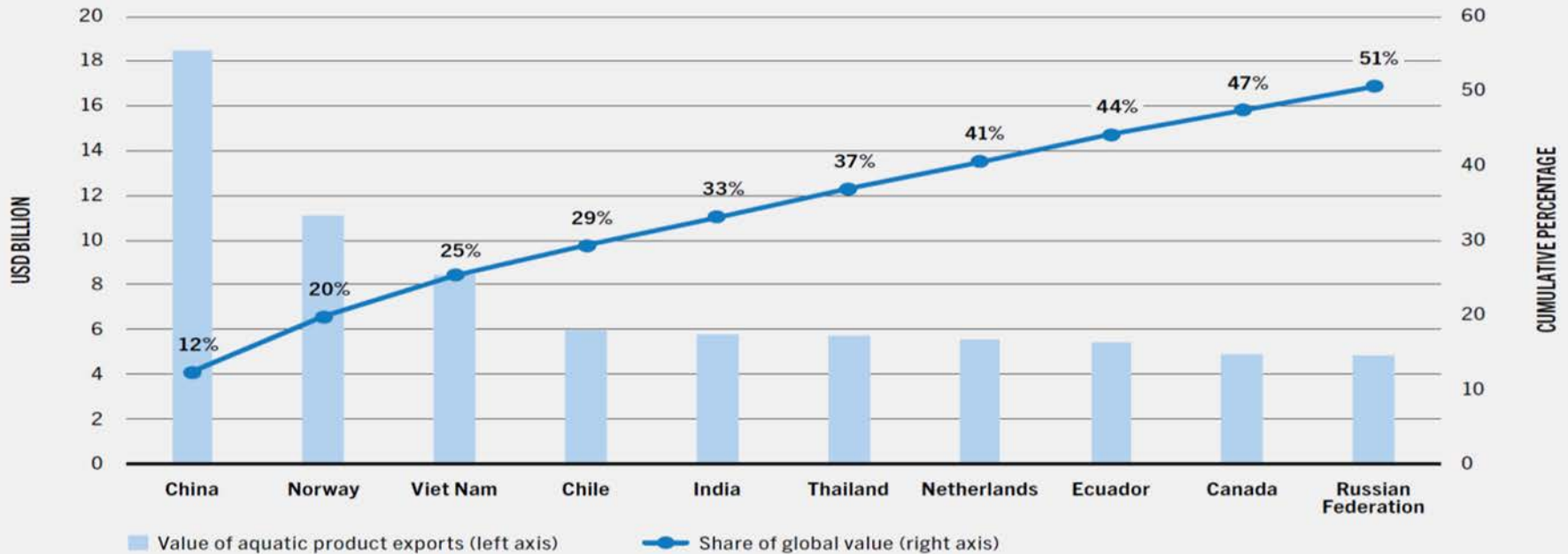
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FIGURE 52 TOP TEN EXPORTING COUNTRIES OF AQUATIC PRODUCTS BY VALUE, 2020



NOTE: Excluding aquatic mammals, reptiles, amphibians, turtles, algae, sponges and corals.
SOURCE: FAO.



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Aquatic animal production is forecast to grow another 14 percent by 2030. It is vital this growth goes hand in hand with safeguarding ecosystems, reducing pollution, protecting biodiversity and ensuring social equity.

FAO's outlook for fisheries and aquaculture to 2030 projects an increase in production, consumption and trade, albeit at slower growth rates. Total production of aquatic animals is expected to reach 202 million tonnes in 2030, thanks mainly to sustained growth of aquaculture, projected to reach 100 million tonnes for the first time in 2027 and 106 million tonnes in 2030.



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“As its population increases from 196 million in 2018 to 263 million in 2030, under Business-as-Usual scenario, Nigeria would need **752 thousand tonnes more fish to maintain 11.2 kg of per capita fish consumption** and would need 3.14 million tonnes more fish to reach 20.3 kg global per capita fish consumption, by 2030. (FAO)”



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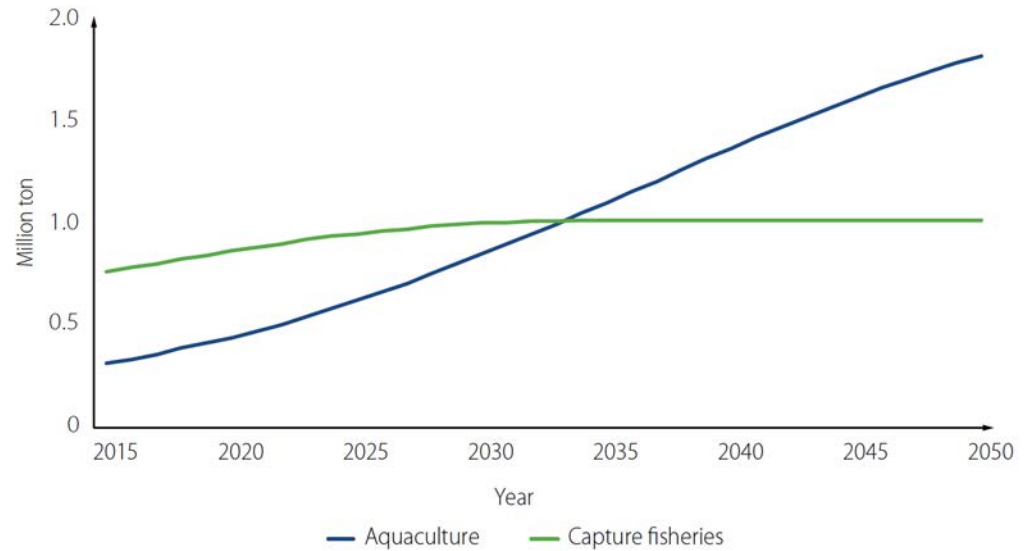
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Nigeria fish futures

Aquaculture in Nigeria: Increasing Income, Diversifying Diets and Empowering Women
Report of the scoping study



Source: WorldFish foresight model projections 2019 (Chan, et., al. 2021).

Figure 13. Future fish production in quantity.



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