

Rural Migration News

Blog 308

NOVEMBER 2022

FAO: World Fisheries

The FAO reported global production of 178 million tons of aquatic animals and 36 million tons of algae in 2020. Fish and seafood were worth \$200 billion in 2020, an average of \$1.10 a pound, while algae was worth \$0.50 a pound.

Fish, seafood, and algae can be consumed fresh or frozen, canned, or dried; some is used for a non-human food purposes, such as fish meal. About 90 percent of the aquatic animals caught or raised were consumed by humans. The largest share, 44 percent, was consumed fresh, followed by 35 percent that was frozen. The share of fish that are salted and dried is highest in developing countries.

Average global fish and seafood consumption was 20 kilograms or 44 pounds per person in 2020, double average per capita consumption in the 1960s. Fish and seafood provided a sixth of human animal protein. Asians have the highest per capita consumption of fish and seafood of 25 pounds per person per year. Africans and Latin Americans have lower per capita consumption of 10 pounds per year.

There are two major ways to produce fish and seafood: catch or farm. The major story of the 21st century is the stable catch of wild fish and seafood, about 90 million tons a year, and the rising share of farmed fish and seafood, about 90 million tons a year.

China accounts a third of the global fish and seafood volume, both caught and farmed, followed by Norway and Vietnam. A third of the world's fish and seafood are exported, some 60 million tons worth \$150 billion in 2020, making

the 60 million tons traded worth \$2,500 a ton or \$1.25 a pound. Most of the fish and seafood that is traded is frozen.

The EU accounted for a third of global fish and seafood imports, followed by the US with 15 percent and China and Japan, 10 percent each. The top exporters of fish and seafood were China, 12 percent of global exports by value, followed by Norway, eight percent, and Vietnam, Chile, India, and Thailand, about five percent each.

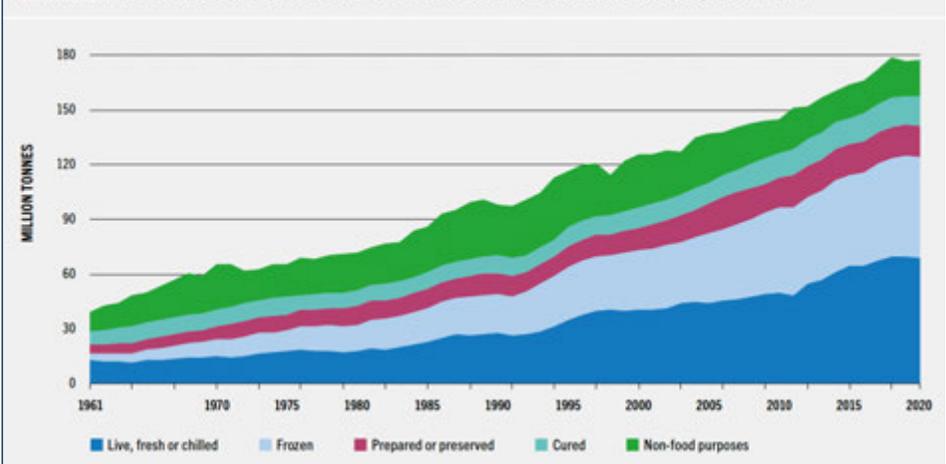
Wild

Some 90 million tons of wild fish were caught in 2020, including 80 million tons from marine waters and 10 million tons from inland waters, by 4.1 million fishing boats, including 2.5 million that are motorized. Finfish are the most caught wild fish led by anchovies. The four high-value groups were tuna, cephalopods or mollusks such as squid and octopus, shrimp, and lobster.

The top 10 countries capturing the most fish were led by China, which accounted for 15 percent of the global catch, and followed by Indonesia and Peru, seven percent each. The top 10 capture-fish countries accounted for 57 percent of

90% of Fish and Seafood are Consumed by Humans, Most Often Fresh or Frozen

FIGURE 35 UTILIZATION OF WORLD FISHERIES AND AQUACULTURE PRODUCTION, 1961–2020



Average Per Capita Fish and Seafood Consumption is 20 kg or 44 lbs a Year

TABLE 14 TOTAL AND PER CAPITA APPARENT CONSUMPTION OF AQUATIC FOODS BY REGION AND ECONOMIC CLASS, 2019

Region/economic class	Total aquatic food consumption (million tonnes, live weight equivalent)	Per capita aquatic food consumption (kg/capita/year)
World	157.7	20.5
World, excluding China	100.3	16.0
Africa	13.1	16.0
Americas	14.8	14.6
North America	8.3	22.7
Latin America and the Caribbean	6.4	9.9
Asia	113.1	24.6
Europe	15.8	21.1
Oceania	1.0	23.2
High-income countries	32.0	26.5
Upper-middle-income countries	72.2	28.1
Lower-middle-income countries	50.0	15.2
Low-income countries	3.5	5.4

the global catch; only Bangladesh caught more wild fish inland than in the sea.

In 1974, the FAO estimated that 90 percent of the world's fish stocks were being fished within biologically sustainable levels. The share of fish stocks that are being fished sustainably has been declining, and was two-thirds in 2020.

The most overfished fish stocks include those off of the western coast of South America and in the Mediterranean, where two-thirds of fish stocks are overfished. The most sustainable fish stocks are in the mid- and north-Pacific Ocean, where over 80 percent of fish stocks are sustainable.

People

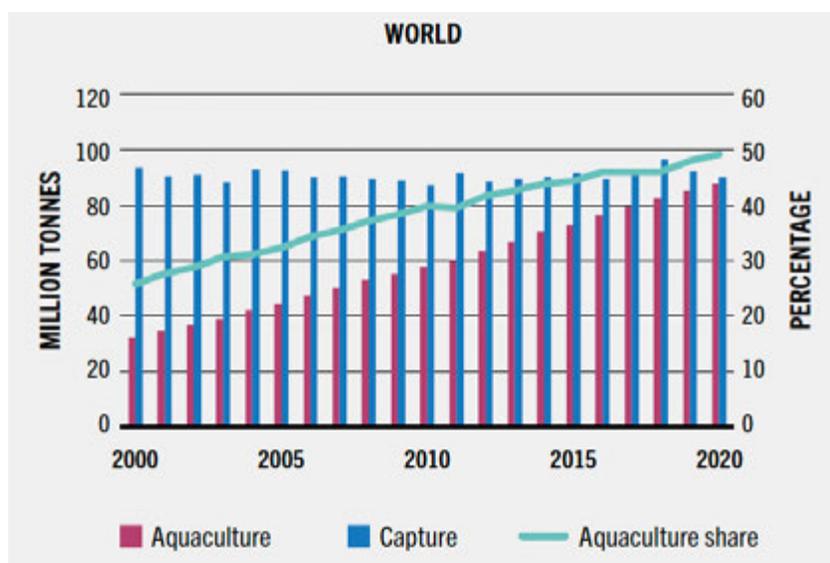
Some 60 million people world-wide are employed full or part time in fishing and seafood, including a third who were employed in aquaculture. Women are about 20 percent of those employed full- or part-time in fishing and seafood, and their share of the workforce is highest in aquaculture.

Most fishing vessels are small; under 12 meters and with only one deck. The 45,000 fishing vessels that were more than 24 meters or 80 feet were only five percent of the motorized fishing fleet, but they caught most of the world's caught fish.

Asia has 2.7 million fishing vessels or two-thirds of the total, including 560,000 Chinese vessels, down from over a million in 2013. Both the EU and China have reduced their fishing fleets.

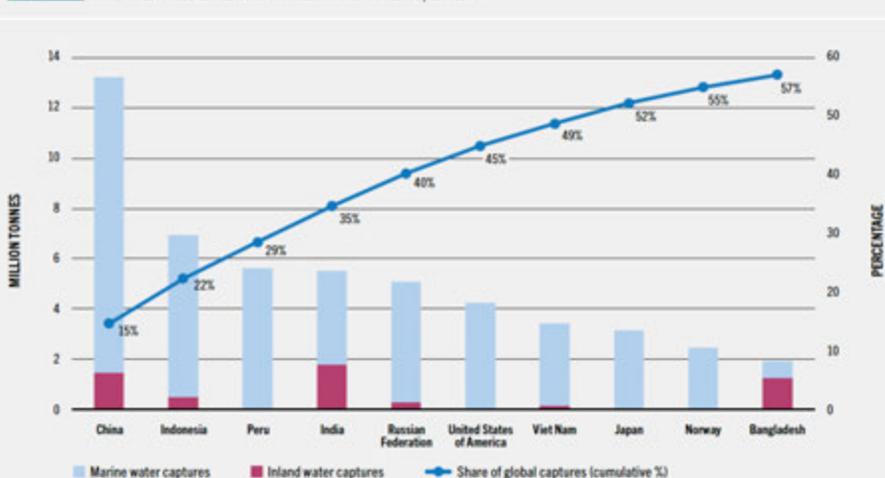
The FAO reported that two-thirds of the 10 most landed fishes are being fished within biologically sustainable levels: anchoveta, Alaska pollock, skipjack tuna, Atlantic herring,

Aquaculture Accounts for Half of the World's Fish and Seafood Tonnage



The top 10 Countries Accounted for 57% of Wild Fish Caught

FIGURE 8 TOP TEN GLOBAL CAPTURE PRODUCERS, 2020



yellowfin, blue whiting, European pilchard, Pacific chub mackerel, Atlantic cod and large-head hairtail.

Aquaculture

Aquaculture produced 88 million tons of fish and seafood, half of 2020's total, and all of the algae. The FAO projects that aquaculture will produce over half of the 200 million tons of aquatic animals expected in 2030.

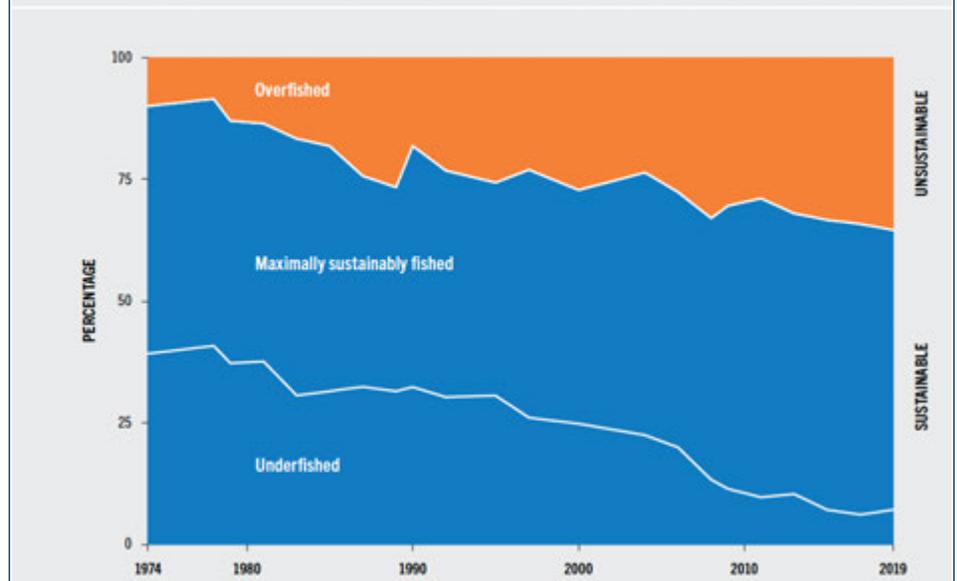
The 60 million tons of farmed finfish, led by carp, catfish, salmon and tilapia, were worth \$150 billion in 2020, the 18 million tons of farmed mollusks such as oysters and mussels were worth \$30 billion, and the 11 million tons of farmed crustaceans including shrimp and crabs were worth \$80 billion.

Fish can be farmed inland in fresh water or in coastal areas in marine or ocean salt water. The leading farmed fresh-water finfish by tonnage are various carp and tilapia, while the leading farmed finfish in salt water is salmon.

A group of 11 NGOs organized into the Financial Transparency Coalition released a report in October 2022 that concluded illegal, unreported, and unregulated (IUU) fishing costs \$25 billion a year, as IUU vessels account for up to 20 percent of the global fisheries catch. One hotbed for IUU fishing with foreign distant water fishing (DWF) fleets from China and other countries is the West Coast of Africa; eight of the top 10 IUU fishing fleets are Chinese.

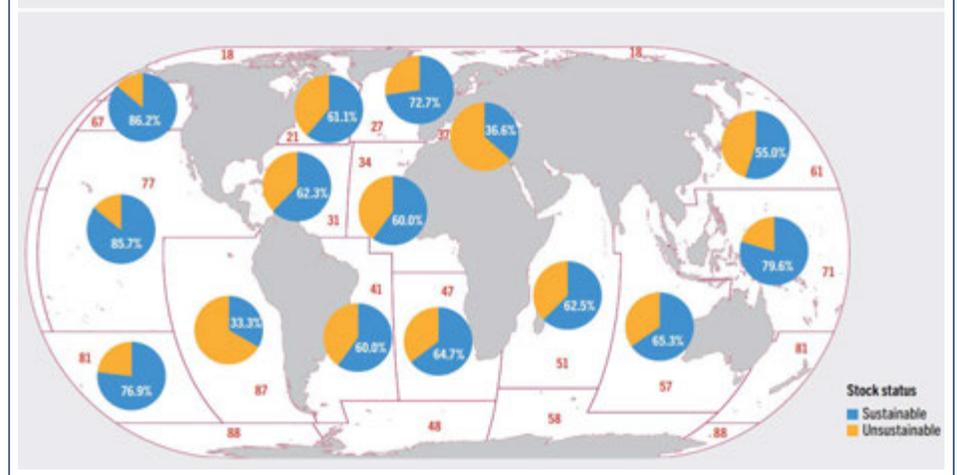
One-Third of the World's Fish Stocks were Overfished in 2020

FIGURE 23 GLOBAL TRENDS IN THE STATE OF THE WORLD'S MARINE FISHERY STOCKS, 1974–2019



A Third of Fish Stocks Off Peru and in the Mediterranean are Sustainable

FIGURE 24 PERCENTAGES OF BIOLOGICALLY SUSTAINABLE AND UNSUSTAINABLE FISHERY STOCKS BY FAO MAJOR FISHING AREA, 2019



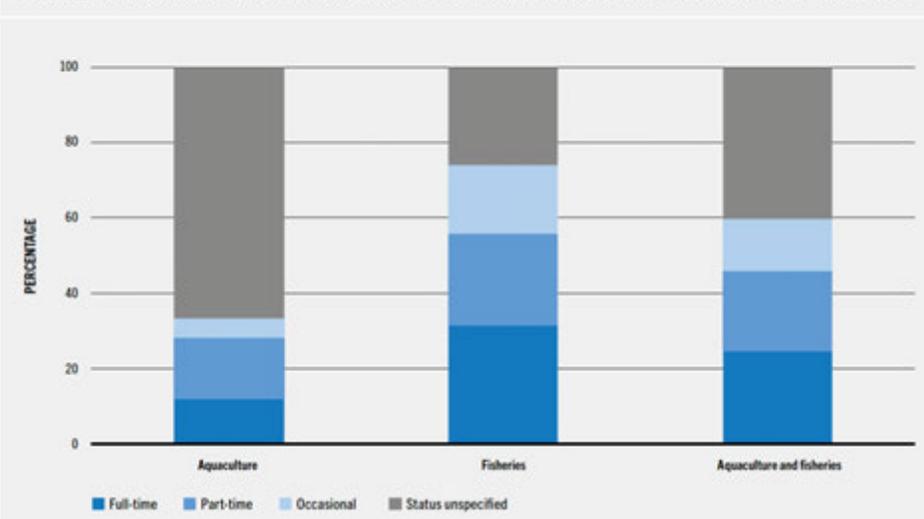
Almost 85 Percent of the World's Fishing Workforce is in Asia

TABLE 12 WORLD EMPLOYMENT FOR FISHERS AND FISH FARMERS BY REGION FOR SELECTED YEARS, 1995–2020

	1995	2000	2005	2010	2015	2020
	<i>(thousands)</i>					
Fisheries and aquaculture						
Africa	2 812	3 589	4 159	5 032	5 562	5 641
Americas	2 072	1 905	1 978	2 321	2 501	2 621
Asia	31 632	41 265	45 693	50 401	52 079	49 425
Europe	476	514	463	426	375	388
Oceania	466	475	478	482	481	474
Total	37 456	47 748	52 770	58 662	60 999	58 549
Fisheries						
Africa	2 743	3 395	3 906	4 671	5 057	5 007
Americas	1 793	1 605	1 679	1 981	2 156	2 015
Asia	24 205	28 335	30 476	31 994	31 833	30 102
Europe	378	418	380	333	286	294
Oceania	460	465	469	473	471	464
Total	29 579	34 219	36 909	39 452	39 803	37 882
Aquaculture						
Africa	69	194	252	361	505	634
Americas	279	301	299	340	345	606
Asia	7 426	12 930	15 217	18 407	20 246	19 323
Europe	98	96	83	93	89	94
Oceania	6	9	9	9	10	10
Total	7 878	13 529	15 861	19 211	21 195	20 667

Persons Employed in Aquaculture Tend to be Employed Full Time

FIGURE 33 TIME USE CATEGORIES REPORTING IN THE PRIMARY SECTOR OF FISHERIES AND AQUACULTURE

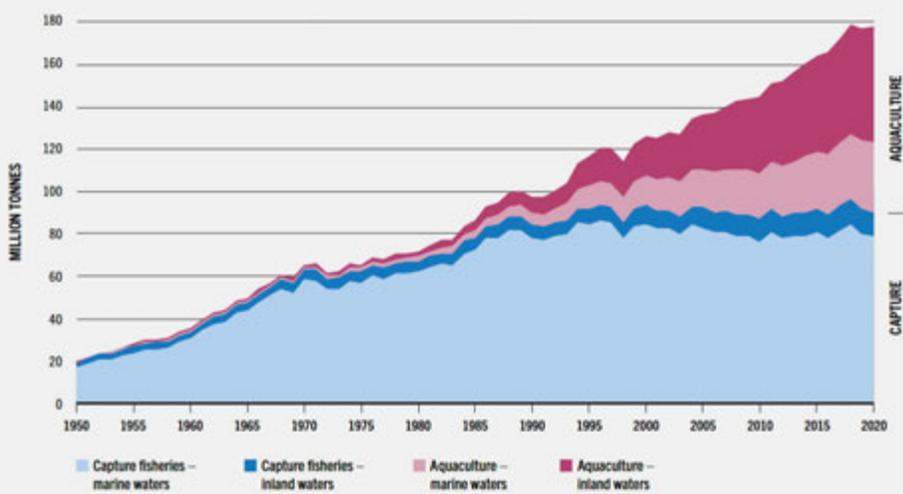


There were 2.5 Million Motorized and 1.5 Million Non-Motorized Fishing Boats in 2020



Aquaculture Produces Half of the World's Fish and Seafood, and Most of the Inland Fish

FIGURE 1 WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION



Carp are the Leading Farmed Fresh Water Fish, and Salmon the Leading Farmed Saltwater Fish

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

	2000	2005	2010	2015	2020	Percentage of total, 2020
	(thousand tonnes, live weight)					
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>	3 034.7	3 690.0	3 972.0	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
Carassius 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	343.3	923.7	1 249.0	2.5
Tilapiai 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
Finfish in marine and coastal aquaculture						
Atlantic salmon, <i>Salmo salar</i>	895.7	1 266.6	1 433.8	2 380.2	2 719.6	32.6
Milkfish, <i>Chanos chanos</i>	429.7	542.9	750.5	1 012.3	1 167.8	14
Mulleti nei, Mugilidae	92.4	173.7	102.7	129.2	291.2	3.5
Gilthead seabream, <i>Sparus aurata</i>	87.3	110.8	142.3	168.8	282.1	3.4
Large yellow croaker, <i>Larimichthys croceus</i>	0.0	60.9	83.3	142.4	254.1	3
European seabass, <i>Dicentrarchus labrax</i>	60.7	90.9	118.0	149.1	243.9	2.9
Groupers nei, <i>Epinephelus</i> spp.	7.6	57.1	77.2	149.2	226.2	2.7
Coho(=Silver) salmon, <i>Oncorhynchus kisutch</i>	108.6	115.1	124.8	140.7	221.8	2.7
Rainbow trout, <i>Oncorhynchus mykiss</i>	155.3	202.0	287.7	204.1	220.1	2.6
Japanese seabass, <i>Lateolabrax japonicus</i>	0.6	79.6	104.8	120.6	196.9	2.4
Pompano, <i>Trachinotus ovatus</i>	0.0	0.0	80.0	110.0	160.0	1.9
Japanese amberjack, <i>Seriola quinqueradiata</i>	136.8	159.7	138.9	140.3	137.1	1.6
Nile tilapia, <i>Oreochromis niloticus</i>	1.6	5.3	20.3	49.8	107.4	1.3
Barramundi(=Giant seaperch), <i>Lates calcarifer</i>	18.1	27.0	52.7	68.7	105.8	1.3
Red drum, <i>Sciaenops ocellatus</i>	2.1	42.4	53.0	71.3	84.3	1
Subtotal of 15 major species	1 996.6	2 933.9	3 569.9	5 036.7	6 418.2	77

References

FAO. 2022. The State of World Fisheries and Aquaculture
<https://www.fao.org/3/cc0461en/cc0461en.pdf>

<https://financialtransparency.org/half-illegal-fishing-vessels-operate-africa-majority-chinese-european-new-report/>

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Appendix Table 1. World Fisheries Yielded 180 Million Tons in 2020, Half From Aquaculture

TABLE 1 WORLD FISHERIES AND AQUACULTURE PRODUCTION, UTILIZATION AND TRADE¹

	1990s	2000s	2010s	2018	2019	2020
Average per year						
<i>Million tonnes (live weight equivalent)</i>						
Production						
Capture:						
Inland	7.1	9.3	11.3	12.0	12.1	11.5
Marine	81.9	81.6	79.8	84.5	80.1	78.8
Total capture	88.9	90.9	91.0	96.5	92.2	90.3
Aquaculture:						
Inland	12.6	25.6	44.7	51.6	53.3	54.4
Marine	9.2	17.9	26.8	30.9	31.9	33.1
Total aquaculture	21.8	43.4	71.5	82.5	85.2	87.5
Total world fisheries and aquaculture	110.7	134.3	162.6	178.9	177.4	177.8
Utilization²						
Human consumption	81.6	109.3	143.2	156.8	158.1	157.4
Non-food uses	29.1	25.0	19.3	22.2	19.3	20.4
Population (billions) ³	5.7	6.5	7.3	7.6	7.7	7.8
Per capita apparent consumption (kg)	14.3	16.8	19.5	20.5	20.5	20.2
Trade						
Exports – in quantity	39.6	51.6	61.4	66.8	66.6	59.8
Share of exports in total production	35.8%	38.5%	37.7%	37.3%	37.5%	33.7%
Exports – in value (USD 1 billion)	46.6	76.4	141.8	165.3	161.8	150.5

The FAO Aims for Sustainable Fishing

