

Nearly 60 percent of global fisheries subsidies go to unsustainable, capacity-enhancing activities.



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Subsidizing Global Fisheries

A Summary of a New Scientific Analysis

Sumaila, U.R., A.S. Khan, A.J. Dyck, R. Watson, G. Munro, P. Tydemers and D. Pauly. 2010. A bottom-up re-estimation of global fisheries subsidies. *Journal of Bioeconomics*. DOI: 10.1007/s10818-010-9091-8

Global fisheries receive billions of dollars in subsidies each year. Although some of this money, such as that to improve fisheries management, can promote sustainable fishing practices, other funding can lead to overfishing in the world's oceans. Capacity-enhancing subsidies, for example for fuel or boat construction, reduce costs for fishers, enabling them to increase their capacity and catch more fish. The unintended consequence of this kind of assistance is that encouraging fishers to bring in larger catches contributes to unsustainable fishing practices over the long-term.

Rashid Sumaila of the University of British Columbia and his co-authors improved upon previous estimates of global subsidies using updated data and methodology and calculated global amounts and types of fisheries subsidies for 2003. They found global subsidies totaled roughly \$27 billion,* 60 percent of which went toward unsustainable capacity-enhancing subsidies. Instead of continuing to invest billions of dollars into activities that aggravate overfishing, the authors suggest directing those funds toward fishery conservation and improved management. This *Pew Ocean Science Series* report is a summary of the scientists' findings.

* Amounts throughout are in U.S. dollars.

Global Fisheries Subsidies

According to the authors, subsidies either can help to sustain fish populations or lead to overfishing and a decline in fish stocks. Beneficial expenditures, such as those for marine protected areas, can promote healthy fish populations through conservation, enforcement of regulations or improved fish-catching methods (*e.g.*, those with less bycatch). Capacity-enhancing subsidies, however, can lead to overexploitation and the depletion of fish. Tax exemption or boat construction subsidies, for instance, reduce costs and increase revenue for fishers, who can then increase capacity—the ability to catch more fish than previously possible. The result is often overcapacity—the ability to catch more fish than can be replaced naturally. Ambiguous subsidies are those that could either enhance resources or result in resource overexploitation. Vessel buyback programs, for example, are designed to reduce fishing pressure by buying back permits or retiring licenses, but capacity later tends to increase again.

Study Methods

The authors collected subsidy data for 146 maritime countries and 13 types of fisheries subsidies for 2003. Fisheries subsidies are defined as financial transfers (either direct or indirect) from public entities to the fishing sector that help the sector become more profitable than it would otherwise. Subsidies were categorized as beneficial, capacity-enhancing or ambiguous depending on their potential effect on fisheries resources (Figure 1). The authors calculated the proportion of capacity-enhancing subsidies, as well as resource-enhancing subsidies (*i.e.*, beneficial subsidies). In addition, the authors estimated the amount and extent of each subsidy type nationally and regionally. They identified countries as developed or developing using the U.N. Development Programme Human Development Index (HDI), which measures longevity, level of education and standard of living. The authors took into account a nation's industrial fisheries sector, so countries such as Russia and China with lower HDI scores, for example, were placed in the developed group.

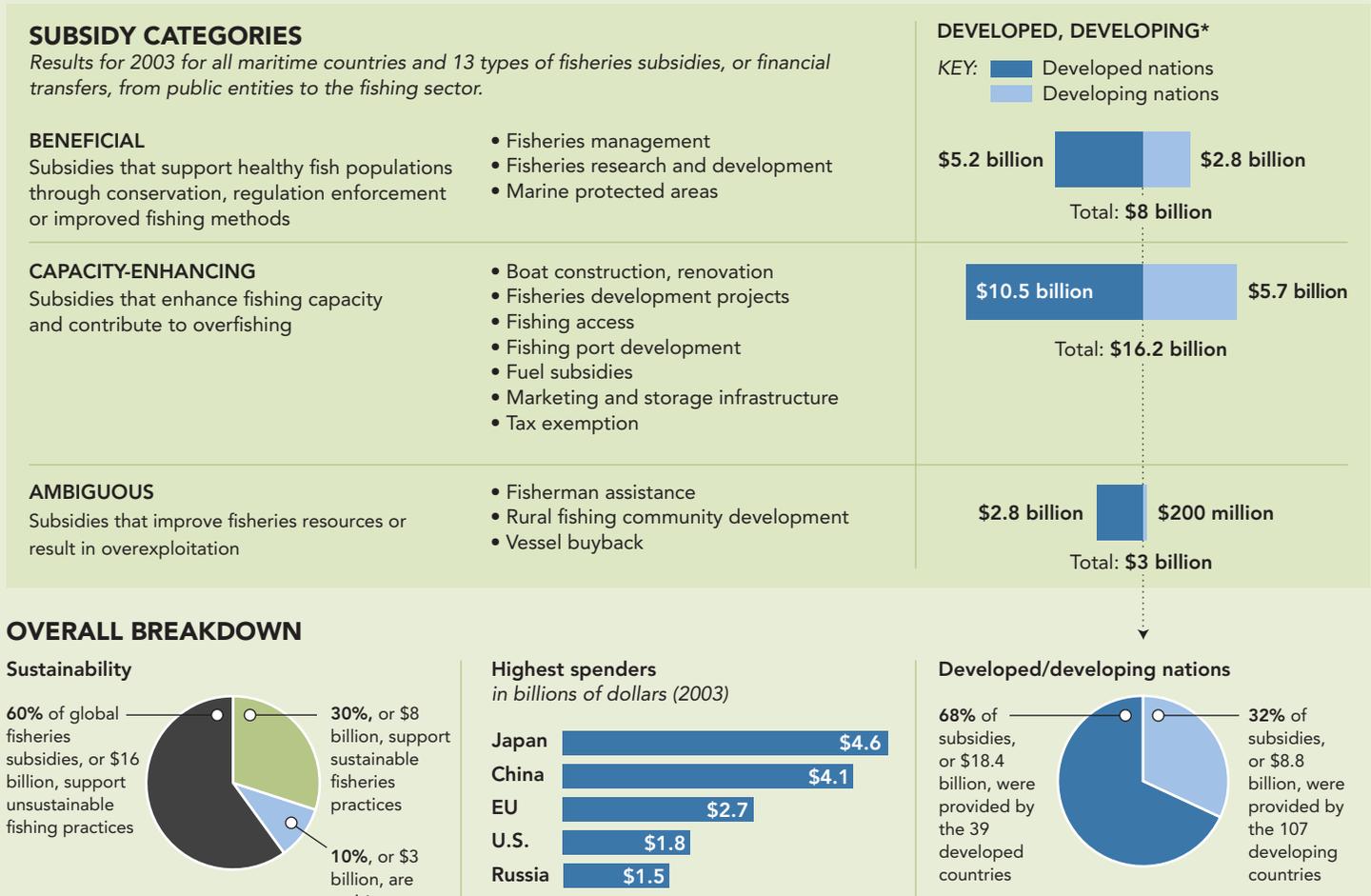
Global fisheries subsidies for 2003 were estimated at nearly \$27 billion.



FIGURE 1. BENEFICIAL, CAPACITY-ENHANCING AND AMBIGUOUS SUBSIDIES
for developed and developing countries

Most global subsidies lead to overfishing

Governments around the world heavily subsidize their fishing industries, and the authors found that rather than promote conservation, most of these subsidies led to unsustainable fishing practices. Of an estimated \$25 billion to \$29 billion fisheries subsidies in 2003, 60 percent increased fishing capacity, thereby encouraging the further overexploitation of marine resources. These capacity-increasing subsidies—such as those for fuel and boat construction—are mostly provided by developed nations, with Japan and China as the highest spenders.



*A country's development status is based on the U.N. Development Programme's Human Development Index; adjustments are made for countries with highly developed industrial fishing fleets such as Russia and China, which are categorized as developed.

Findings

The authors found that global fisheries subsidies were roughly \$27 billion, based on 2003 data. Nearly 60 percent—or \$16 billion—were capacity-enhancing subsidies and contributed to unsustainable fishing practices. Capacity-increasing subsidies were predominately provided by developed countries.

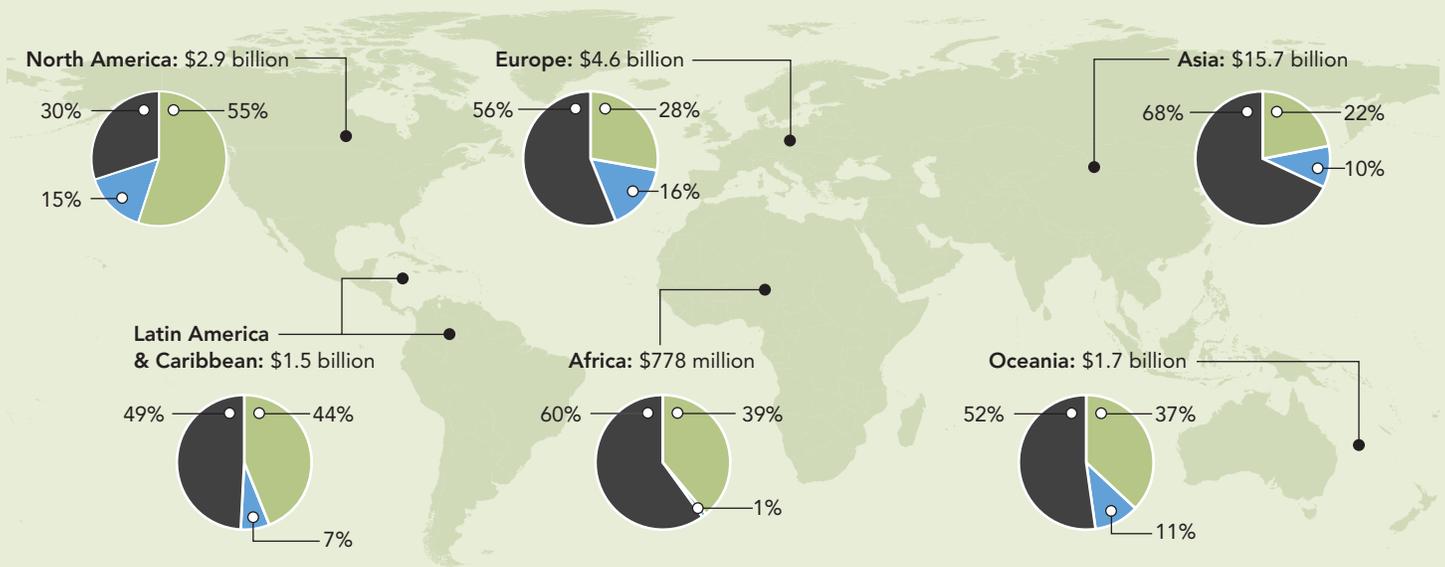
- Beneficial subsidies were estimated at \$8 billion, capacity-enhancing subsidies at \$16 billion and ambiguous subsidies at \$3 billion (Figure 1).
- The 39 developed countries provided 68 percent of all subsidies (\$18.4 billion), while

the 107 developing countries provided 32 percent (\$8.8 billion) (Figure 1).

- Regionally, Asia provided the largest fisheries subsidies (about \$15.7 billion) followed by Europe and North America (Figure 2).
- Japan spent the most on subsidies (\$4.6 billion) followed by China (\$4.1 billion), the European Union (\$2.7 billion), the United States (\$1.8 billion) and Russia (\$1.5 billion) (Figure 1).
- Of the 13 subsidy types, fuel subsidies were the largest, with almost a quarter of the global total (\$6.4 billion) provided by 53 coastal countries.

FIGURE 2. SUBSIDIES BY REGION (2003 estimates)

KEY: Beneficial Capacity-enhancing Ambiguous



Implications

The vast majority of capacity-enhancing subsidies are funded by public monies in developed nations. Because these programs often lead to unsustainable fishing practices, they ultimately make it difficult to maintain healthy fish populations over the long-term. The authors suggest that instead of spending public funds on subsidies that compound resource-exploitation problems, funding could be redirected toward the beneficial subsidies that lead to the investment in these natural capital assets and promote fishery resource conservation and improved management. Subsidies could also be redirected to increase economic opportunities in other industries for residents of fishing communities.

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