EarthTrends: Featured Topic

Title: **How Much Do We Consume?**
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Humans consume goods and services for many reasons: to nourish, clothe, and house ourselves, certainly. But we also consume as part of a social compact, since each community or social group has standards of dress, food, shelter, education, and entertainment that influence its patterns of consumption beyond physical survival (UNDP 1998:38-45).

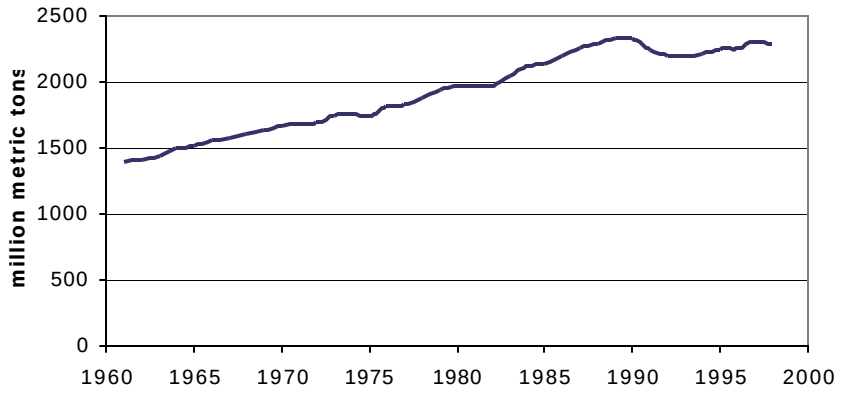
At its best, consumption is a tool for human development—one that opens opportunities for a healthy and satisfying life, with adequate nutrition, employment, mobility, and education. Poverty is marked by a lack of consumption, and thus a lack of these opportunities. At the other extreme, wealth can—and often does—lead to excessive levels of material and nonmaterial consumption.

In spite of its human benefits, consumption can lead to serious pressure on ecosystems. Consumption harms ecosystems directly through overharvesting of animals or plants, mining of soil nutrients, or other forms of biological depletion. Ecosystems suffer indirectly through pollution and wastes from agriculture, industry, and energy use, and also through fragmentation by roads and other infrastructure that are part of the production and transportation networks that feed consumers.

Consumption of the major commodities that ecosystems produce directly—grains, meat, fish, and wood—have increased substantially in the last four decades and will continue to increase as the global economy expands and world population grows. Plausible projections of consumer demand in the next few decades suggest a marked escalation of impacts on ecosystems (Matthews and Hammond 1999:5).

Demand for Wood Increasing

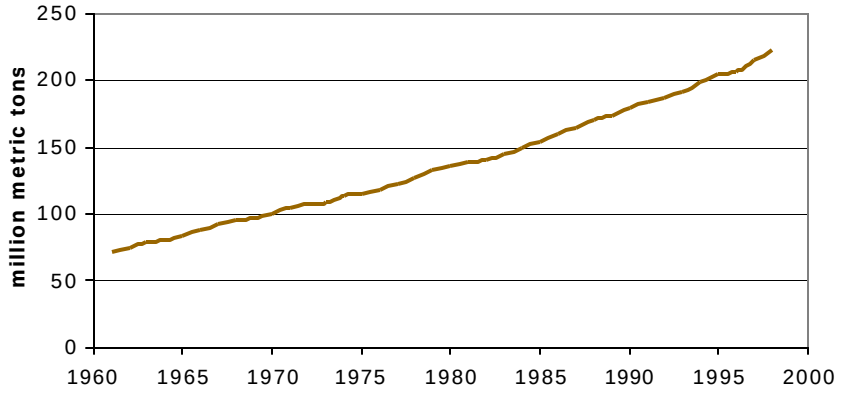
Figure 1: Global Roundwood Production, 1961-1998



Note: Roundwood production refers to all wood in the rough, whether destined for industrial uses, fuelwood, or charcoal production. Average wood density is estimated to be 700 kg/m^3 in volume-mass conversions.
Source: FAO 1999; FAO 2000

Meat Consumption Triples

Figure 2: World Meat Consumption, 1961-1998



Source: FAO 1999; FAO 2000

- Global wood consumption has increased 64 percent since 1961. (See Figure 1.) More than half of the 3.4 billion cubic meters of wood consumed annually is burned for fuel; the rest is used in construction and for paper and a variety of other wood products. *Demand for lumber and*

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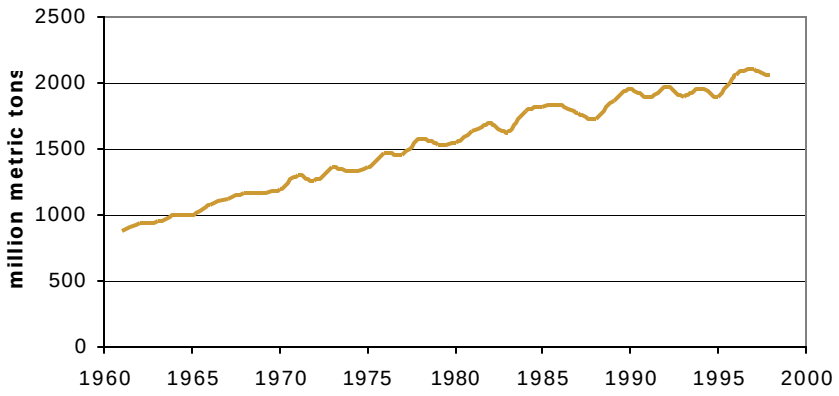
Cereal Consumption Doubles

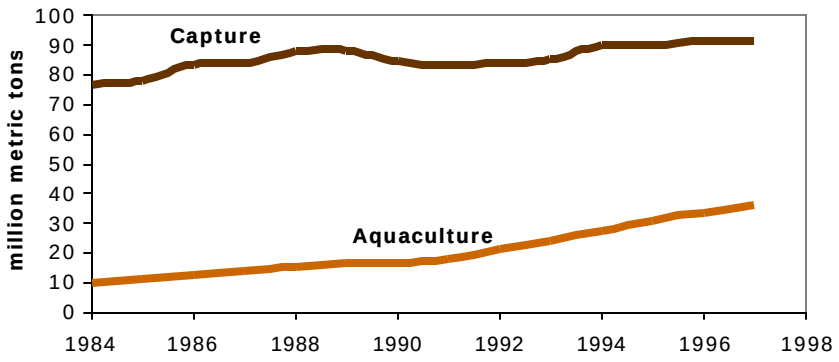
Figure 3: World Grain Production, 1961-1998



Note: Data exclude crops cut for hay or harvested green
Source: FAO 1999; FAO 2000

Global Fish Catch Increase Six-fold

Figure 4: World Capture Fisheries and Aquaculture Production, 1984-1997



Source: FAO 1999; FAO 2000

pulp is expected to rise between 20 and 40 percent by 2010. Forest plantations produce 22 percent of all lumber, pulp, and other industrial wood; old-growth and secondary-growth forests provide the rest (Matthews and Hammond 1999:8, 31; Brown 1999:41).

- World cereal consumption has more than doubled in the last 30 years, and meat consumption has tripled since 1961 (Matthews and Hammond 1999:7). (See Figures 2, 3.) Some 34 percent of the world's grain crop is used to feed livestock raised for meat (USDA 2000). A crucial factor in the rise in grain production has been the more than fourfold increase in fertilizer use since 1961 (Matthews and Hammond 1999:14). *By 2020, demand for cereals is expected to increase nearly 40 percent, and meat demand will surge nearly 60 percent* (Pinstrup-Andersen et al. 1999:11).
- The global fish catch has grown more than sixfold since 1950 to 122 million metric tons in 1997. (See figure 4).Three-fourths of the global catch is consumed directly by humans as fresh, frozen, dried, or canned fish and shellfish. The remaining 25 percent are reduced to fish meal and oil, which is used for both livestock feed and fish feed in aquaculture. *Demand for fish for direct consumption is expected to grow some 20 percent by 2010* (FAO 1999:7, 82; Matthews and Hammond 1999:61).

The Unequal Geography of Consumption

While consumption has risen steadily worldwide, there remains a profound disparity between consumption levels in wealthy nations and those in middle-income and low-income nations.

- On average, someone living in a developed nation consumes twice as much grain, twice as much fish, three times as much meat, nine times as much paper, and eleven times as much gasoline as someone living in a developing nation (Laureti 1999:50, 55). (See Figure 5.)
- Consumers in high-income countries—about 16 percent of the world's population—accounted for 80 percent of the money spent on private consumption in 1997—$14.5 trillion of the $18 trillion total. By contrast, purchases by consumers in low-income nations—the poorest 35 percent of the world's population—represented less than 2 percent of all private consumption. The money spent on private consumption worldwide (all goods and services consumed by individuals except real estate) nearly tripled between 1980 and 1997 (World Bank 1999:44, 226). (See Figure 6.)

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High-Income, High Consumption

Figure 5: Disparities in Consumption: Annual Per Capita Consumption in High-, Medium-, and Low-Income Nations

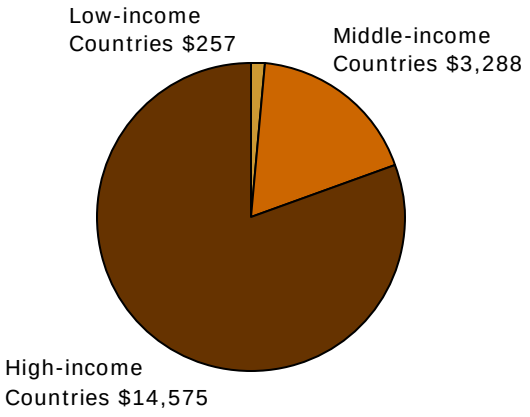
Country	Total Value of Private Consumption* (1997)	Fish (kg) (1997)	Meat (kg) (1998)	Cereals (kg) (1997)	Paper (kg) (1997)	Fuels (kg of oil equivalent) (1997)	Passenger Cars (per 1,000 people) (1996)
United States	$21,680	21	122	975	293	6902	489
Singapore	$16,340	34	77	159	168	7825	120
Japan	$15,554	66	42	334	239	3277	373
Germany	$15,229	13	87	496	205	3625	500
Poland	$5,087	12	73	696	54	2585	209
Trinidad/Tobago	$4,864	12	28	237	41	6394	94
Turkey	$4,377	7.2	19	502	32	952	55
Indonesia	$1,808	18	9	311	17	450	12.2
China	$1,410	26	47	360	30	700	3.2
India	$1,166	4.7	4.3	234	3.7	268	4.4
Bangladesh	$780	11	3.4	250	1.3	67	0.5
Nigeria	$692	5.8	12	228	1.9	186	6.7
Zambia	$625	8.2	12	144	1.6	77	17

* Adjusted to reflect actual purchasing power, accounting for currency and cost of living differences (the Purchasing Power Parity approach).

Sources: Total Private Consumption (except China and India): World Bank 1999: Table 4.11; (fish) Laureti 1999:48-45; (meat) WRI et al. 2000a: Agriculture and Food Electronic Database; (paper) WRI et al. 2000b: Data Table ERC.5; (fossil fuels) WRI et al. 2000b: Data Table ERC.2; (passenger cars) WRI et al. 2000b: Data Table ERC.5.

Uneven Slices of the Pie

Figure 6: Global Share of Private Consumption, 1997 (in billions)



Source: World Bank 1999: Table 4.10

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