

The Root of the Problem

What's driving tropical
deforestation today?



Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions

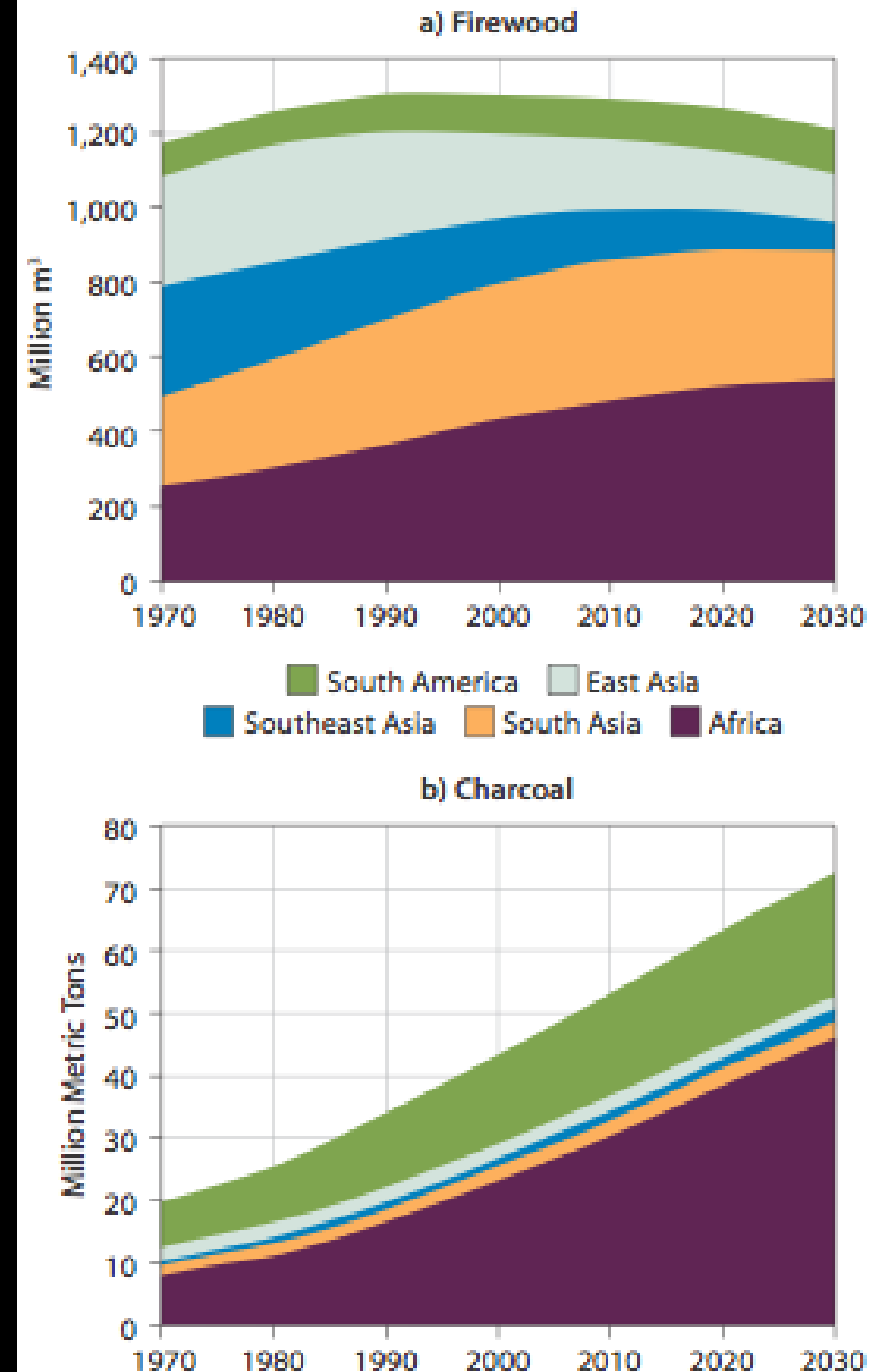
Why evaluate the drivers of deforestation

- The Cancun Agreements requested SBSTA to evaluate the mitigation potential of land use, specifically those related to the drivers of deforestation
- It is often said:
 - There is a trade-off between development and forest conservation
 - Developed countries are responsible for deforestation
 - Small-scale farmers and fuel gathering are important drivers of deforestation

Wood for fuel

- Assumptions:
Developing countries will need wood to fuel their economic development
- The literature shows:
Firewood is not a major driver of deforestation, but there is still concern about charcoal

Figure 8.1. Projections of Future Firewood and Charcoal Use in Developing Regions



a) Firewood consumption is expected to remain constant or decline over the next 20 years. b) Charcoal use is expected to increase over the next 20 years.

Source: Hofstad, Kohlin, and Namasawa 2009.

Small-scale farmers

- Assumption: Rural populations are driving deforestation for subsistence farming
- The literature shows: Small-scale farmers are no longer a main driver of deforestation, although much of the NGO literature focuses on this issue



So, if these aren't the drivers of deforestation, what are?



Soybeans

- Assumption: Soybean expansion is driving deforestation, especially in the Amazon
- The literature shows: Policies and incentives have successfully reduced the impact of soybeans on deforestation in the Amazon.

Figure 4.1 Map of Soybean Production by Country, 2006



The United States, Brazil, and Argentina dominate global production, with over 80 percent of the world's total.

Source: United Nations Environment Programme 2009, GPH-Elipse Relaciowicz, Paris.

Beef cattle

- Assumption: Reducing beef consumption will decrease deforestation in the Amazon
- The literature shows: Beef is driving deforestation, but alternatives can help address this driver

Figure 5.1 Map of Beef Production by Country, 2006



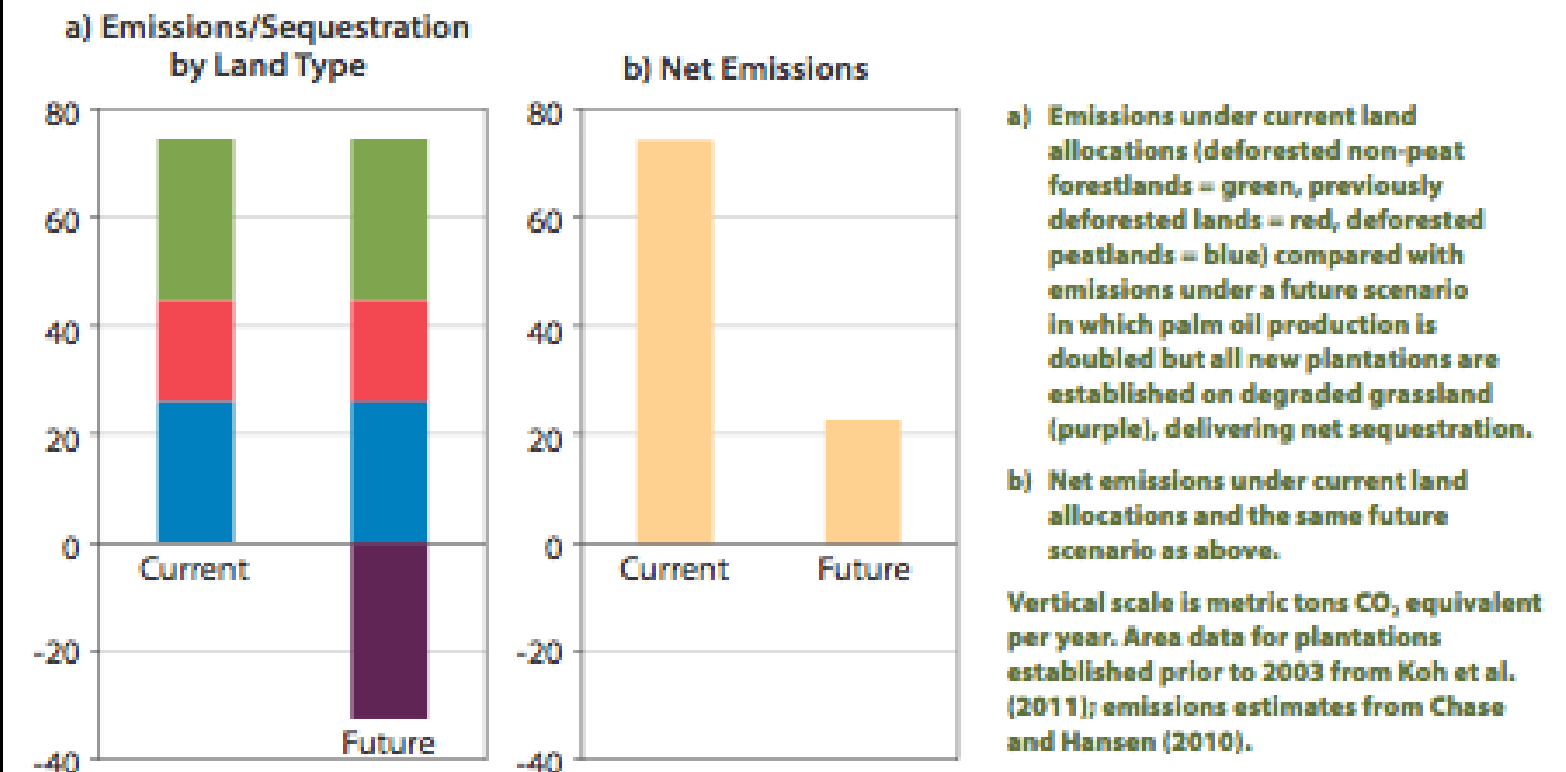
Among tropical forest countries, only Brazil has a substantial share of global production.

Source: United Nations Environment Programme 2009, ©Philippe Rekacewicz, Paris.

Palm Oil

- Assumption: Palm oil is one of the most important drivers of deforestation

Figure 6.4 Global Warming Emissions from Palm Oil Plantations in Indonesia and Malaysia under Current Conditions and a Future Scenario



- The literature shows: Palm oil contributes to significant carbon dioxide emissions when it is planted on peat lands

Timber and pulp

- Assumption: The timber industry, and illegal logging, are critical drivers of deforestation
- The literature shows: Tropical timber does not meet much of the world's demand, but it can grow quickly without policies and incentives to address it.

Table 7.1 Annual Production of the Most Common Wood Products, 2009

Product	Global Production	Tropical Production ¹
Newsprint	32.6 Mmt	2.6 Mmt
Printing and writing paper	105 Mmt	15.3 Mmt
Plywood	80.3 Mm ³	13.3 Mm ³
Sawnwood (wood cut into boards, lumber, planks, etc.)	362,000 Mm ³	72.8 Mm ³

Wood is measured in cubic meters. A cubic meter (m³) is about 35 cubic feet—a volume that would make a very comfortable doghouse for a large dog like a Saint Bernard. Paper products, on the other hand, are measured by weight (FAO 2010).

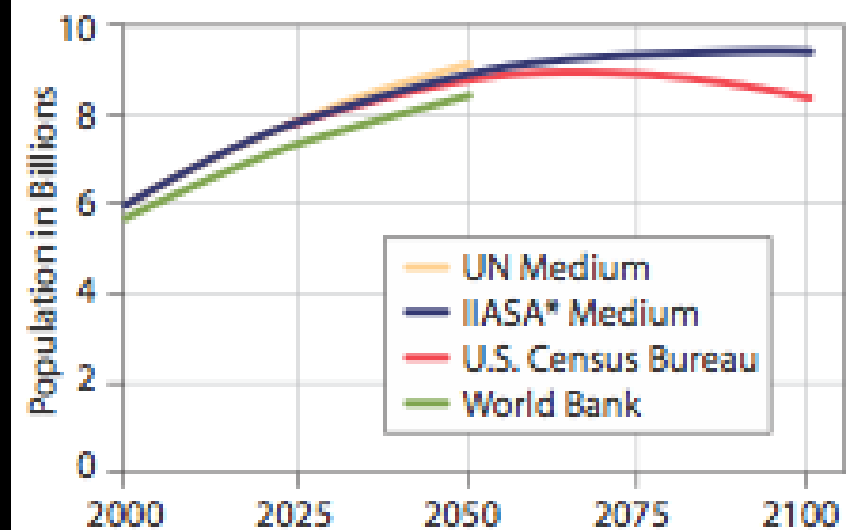
Note that the FAO data is self-reported by countries, and therefore, subject to error and non-comparability.

Mmt: million metric tons
Mm³: million cubic meters

Population and Diet

- Assumption: Increasing rural populations will increase pressure on forests
- Our findings: Urban populations and export markets are the main sources of demand that drive deforestation

Figure 2.1 Projections of Future Population



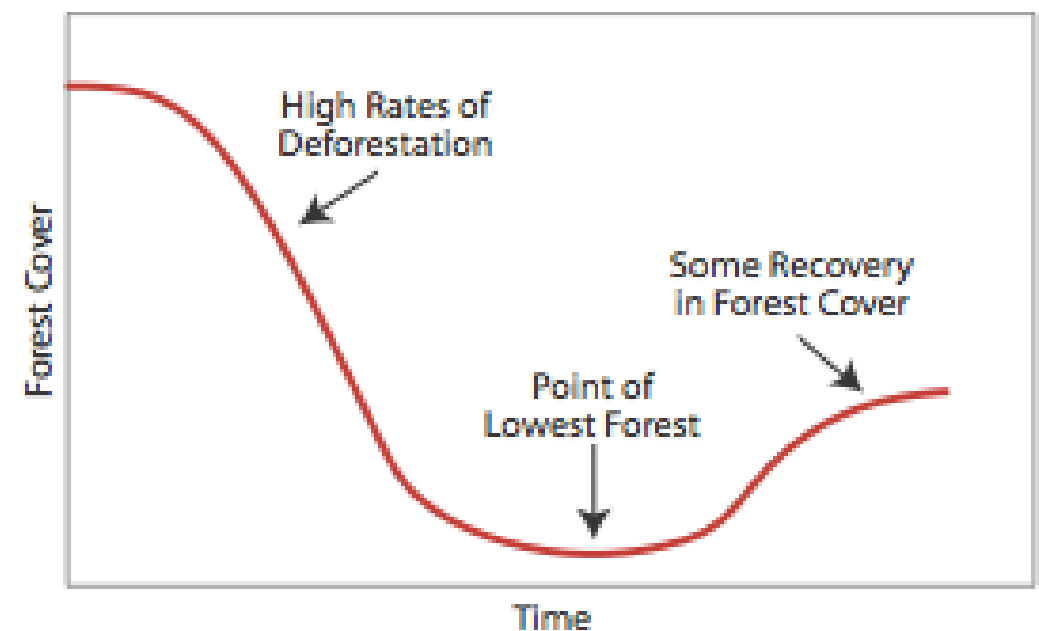
Projections of global population agree that it will grow to about 9 billion in the latter half of the twenty-first century, with some predicting that it will decline thereafter. Estimates are by demographers from the United Nations, the International Institute for Applied Systems Analysis, the United States Census Bureau, and the World Bank.

Source: Population Reference Bureau 2001.

Forest Transition: Displacement of Deforestation

- Some tropical countries are increasing their forest cover
- Leakage does occur (but not 100%)
- Global policies may be useful to avoid leakage

Figure 11.1 The Forest Transition Curve



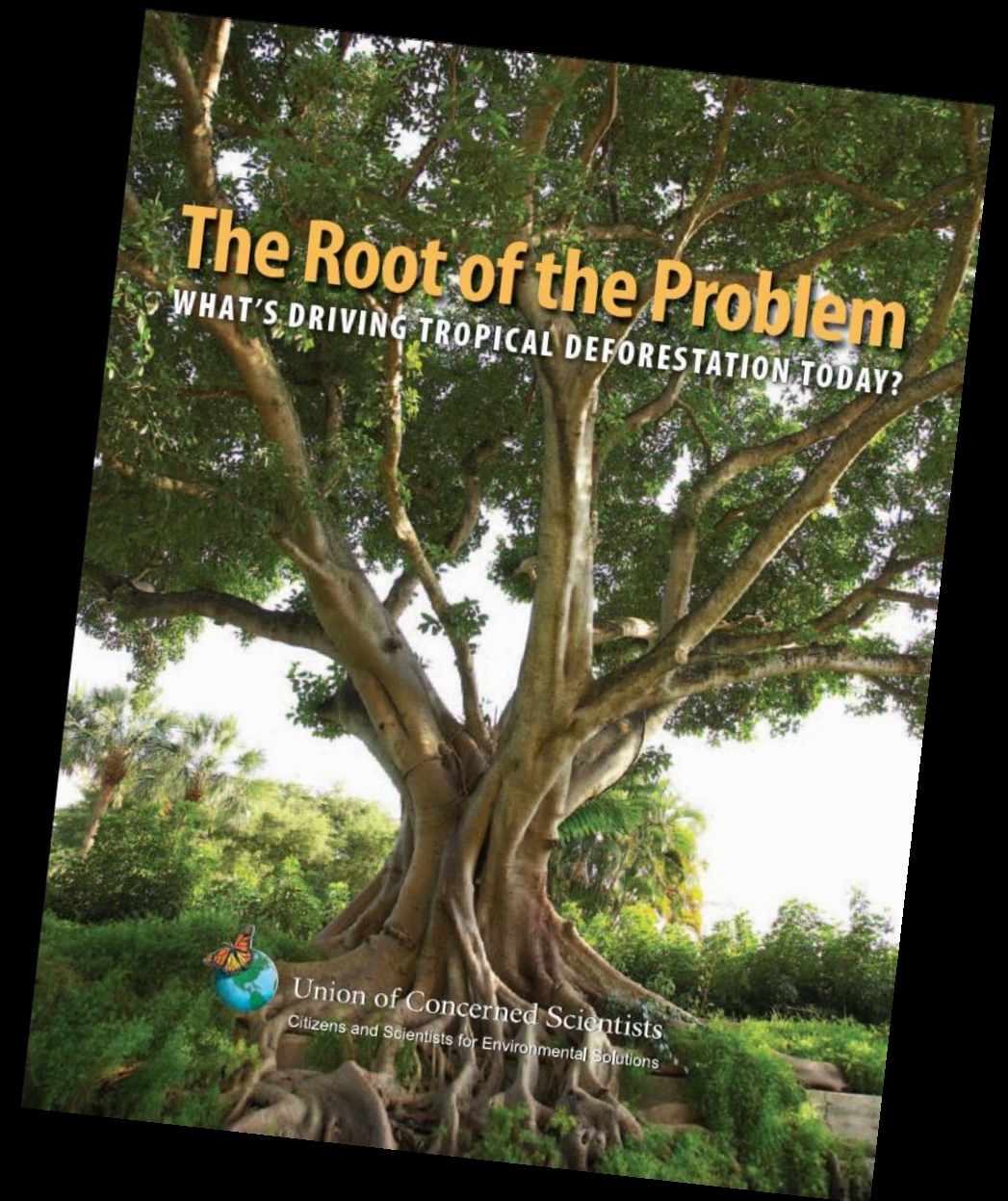
The forest transition curve along which forest cover decreases with development until it reaches a low point, after which it recovers somewhat.

Source: Meyfroidt, Rudel, and Lambin 2010.

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- Report will be released on Monday 13 June 2011



- www.ucsusa.org/whatsdrivingdeforestation