Economic Contributions of Forests: Present and Future

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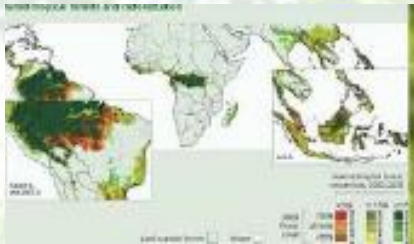
The storyline: Good news

- Formal economic contributions of forests – value added, employment, livelihoods – are massive in value
- Despite limited data, we can infer that informal contributions much higher
- Need better monitoring and data to track and enhance non-cash, non-formal contributions – New info-tech makes tracking feasible

The bad news story

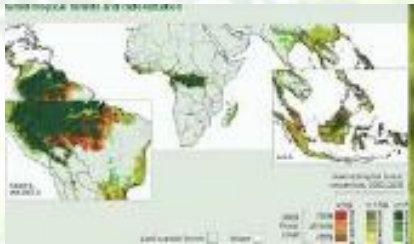
- Contributions as a proportion of global output, workforce, and exports declining steadily
- Major challenges – demographic change, globalization, climate change
- New drivers of deforestation – urbanization, agricultural commodities, trade
- Rise of middle class, purchasing power, global demand, climate constraints on supplies – a double squeeze
- Are governments, international organizations, decision makers up to the forests challenge?





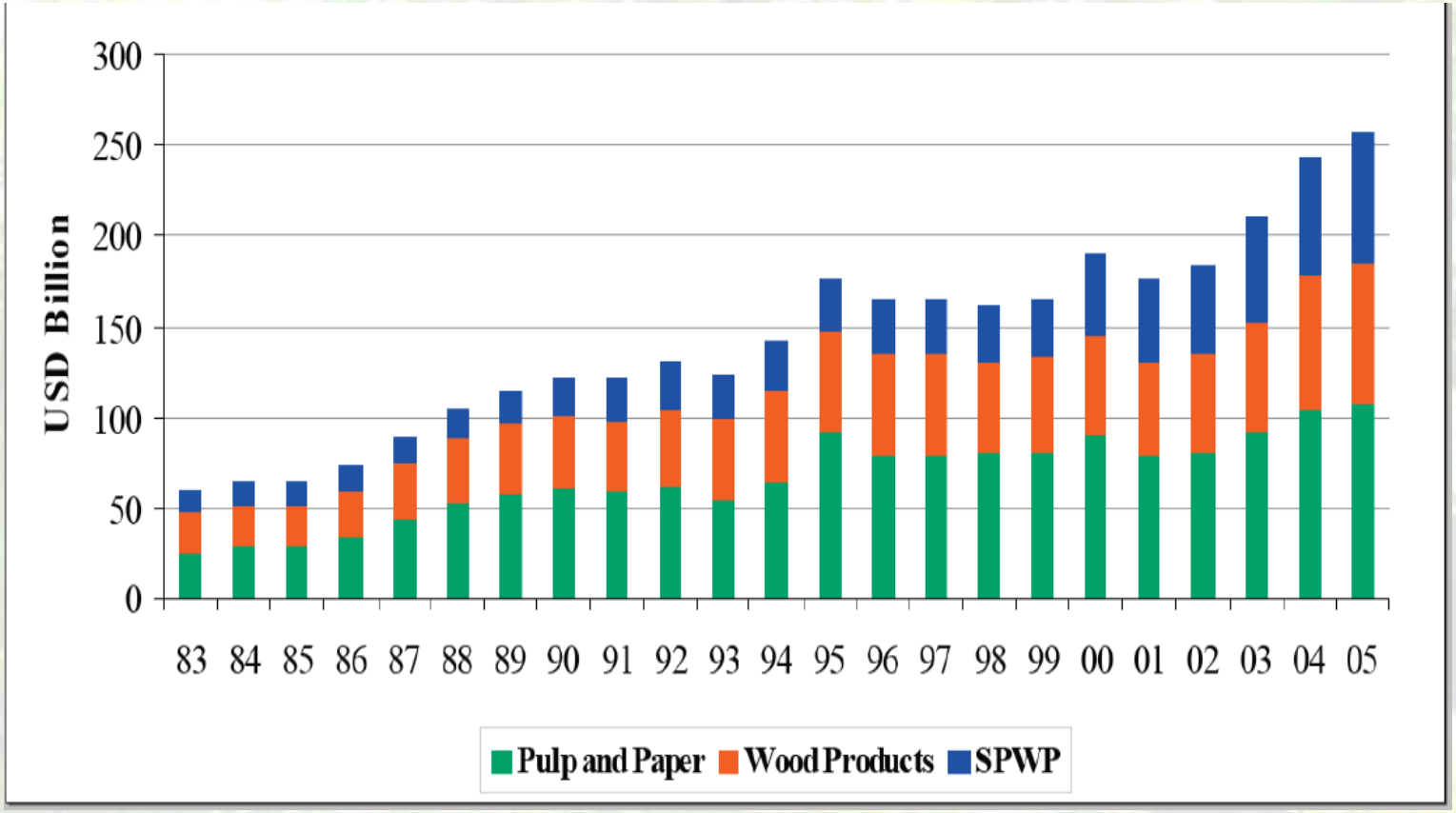
Formal economic contributions?

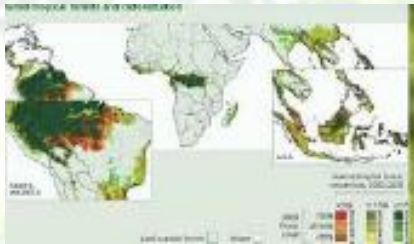
- More than US$ 250 billion (FAO 2010)
  - Double the total ODA
  - More than annual gold and silver combined
- More than 13 million people employed
- Exports more than US$ 280 billion in 2010; doubled since 1990.





Formal trade in forest products



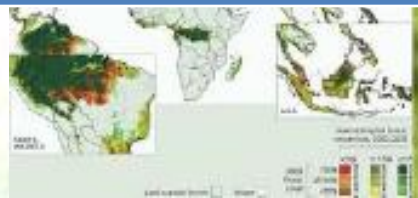


And non-cash, informal contributions?

- Little systematic data – suggests outdated view they are low value, less important!
  - Reality very different (based on individual studies)
- How:
  - Employment in informal sector 2-3 greater than formal employment
  - Non-cash values 2-5 times greater than cash contributions according to most studies
  - Value of carbon (2-20 trillion) and ecosystem services (4.5 trillion) far greater
  - 0.8 to 1.5 billion depend on forests
- Are official priorities on data collection misplaced?

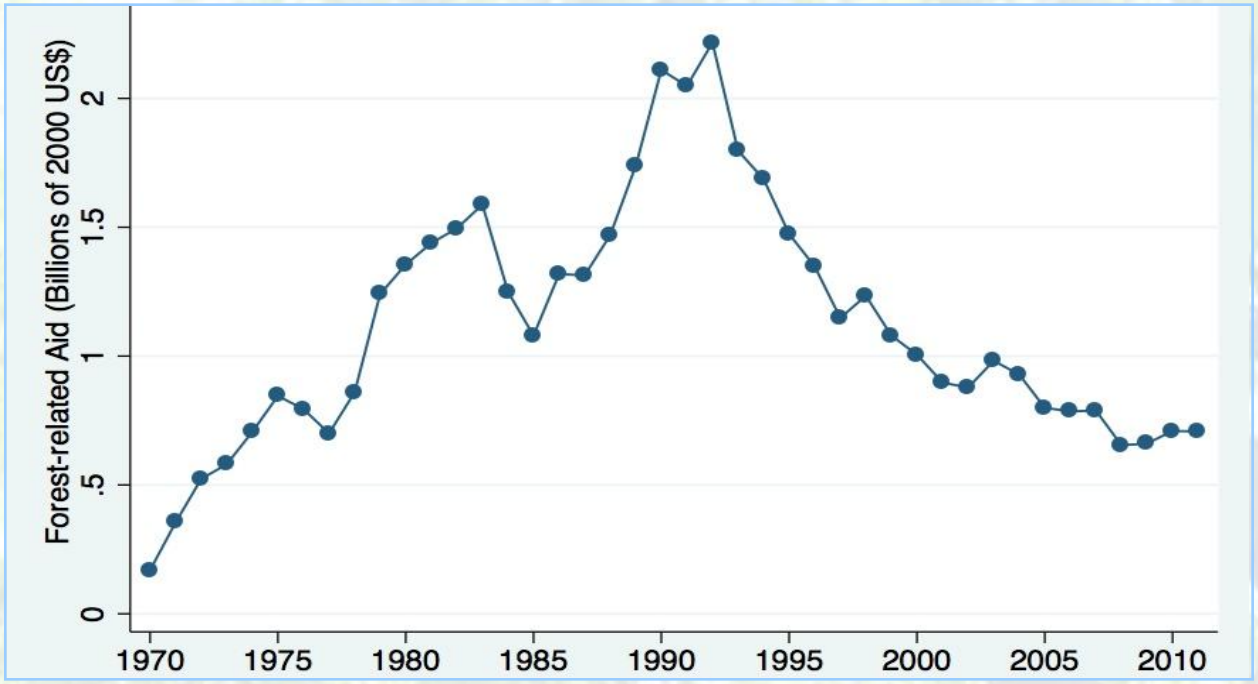
Example: Uganda study, 8 villages

Forest Products grouped by category	Cash per cent	Non-Cash Per cent	TOTAL (100%)	Relative importance for direct (non-cash) use vs. cash
Fuel	10.1	29.5	39.6	3 times
Building materials	8.6	16.3	24.9	2 times
Forest foods	6.0	12.7	18.7	2 times
Fiber (ropes, baskets)	1.7	6.4	8.1	4 times
Herbal medicine	1.1	3.6	4.7	3 times
Timber	0.8	3.2	4	4 times



Levels of international aid for forests during the last 40 years

Forest-Related Aid: 1970-2010 in billions of $US (Source: PLAID Data, 1970-2010)



- Formal economic contributions in developing countries more than 300 times available ODA flows

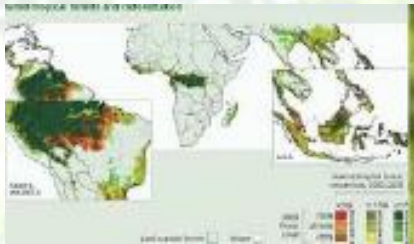




What about other sources of expenditures on forests

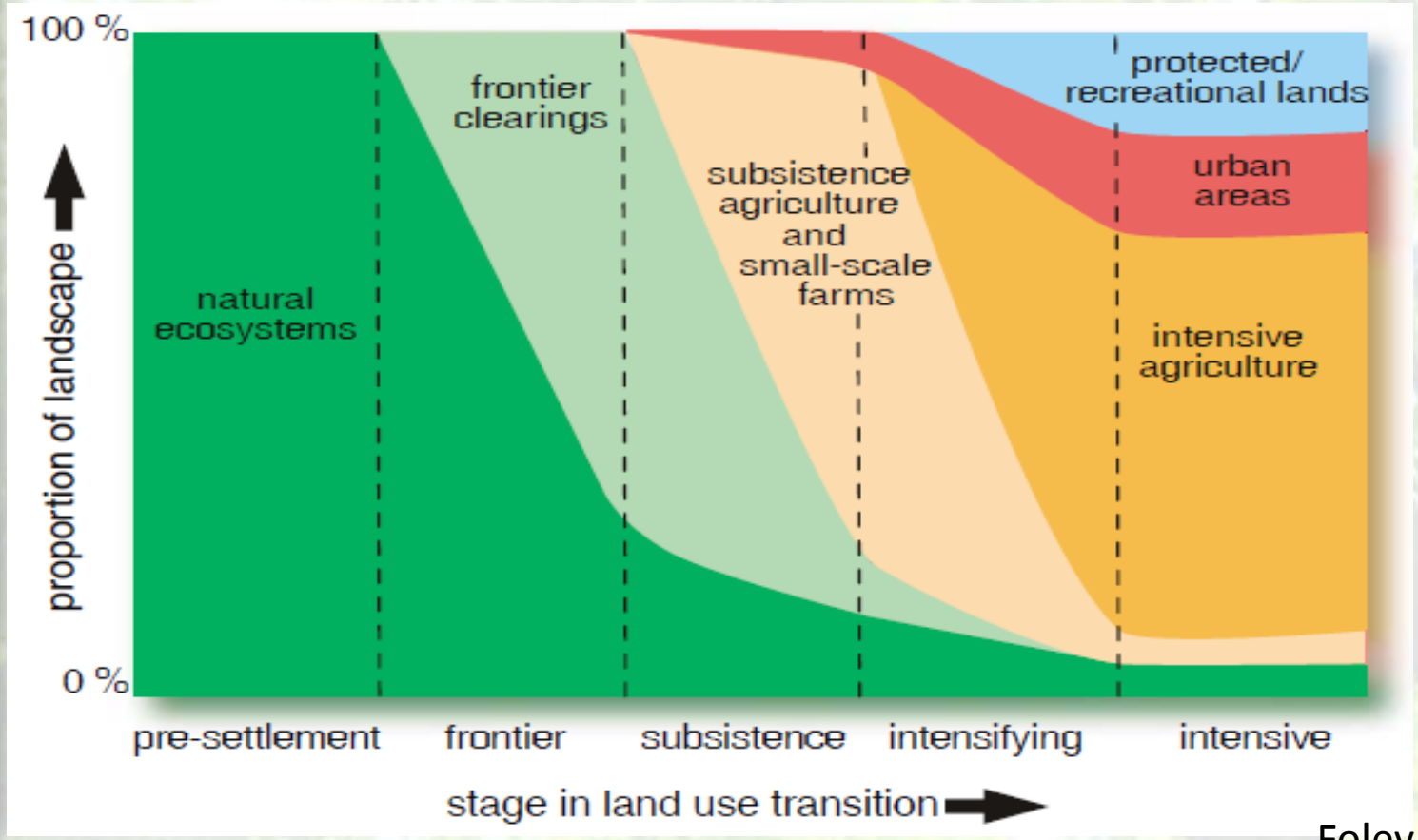
- Internal revenues and expenditures estimated at US$ 20 and 25 billion (FAO 2010) - mostly operational
- Public expenditures > revenues; Both are much lower than economic contributions. Suggests enormous resource subsidies
- Private industry investment in forests ≈ US$ 100 billion – mostly for extraction
- Community and local level ≈ US$ 2 billion-highly diffused
- Official ODA miniscule in comparison
- Extremely limited amounts spent to ensure continued returns on investment
- Very little spent on investments to ensure long term returns. (Is this by chance or design?) What are the likely consequences?

Looking to the future: Land use transitions *vs.* forest transitions

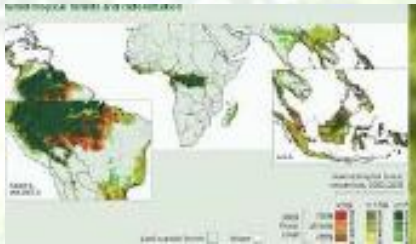




Land use transitions

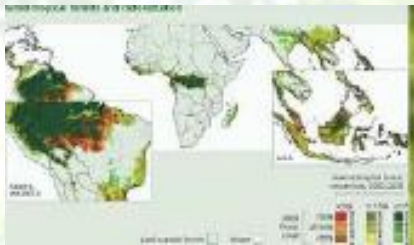


Foley et al, 2005



Forest transitions

Andrasko and Bosquet 2010, Angelsen 2007

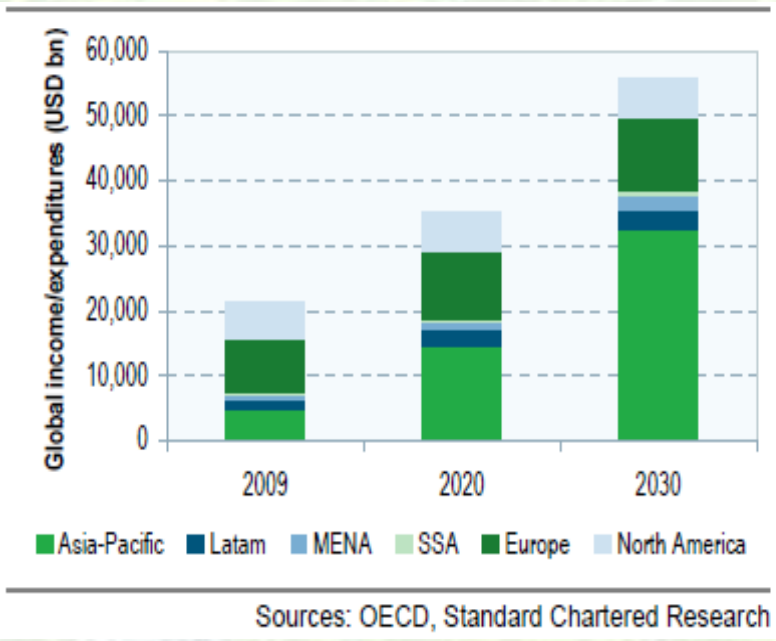


Key drivers of forest outcomes in the next three decades

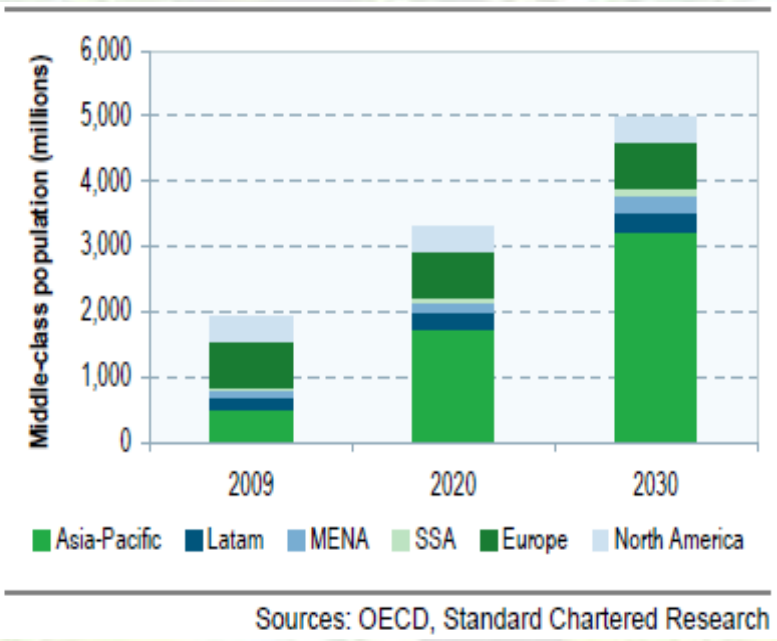
- Three big drivers: demography, economics and globalization, and climate change
- More people (1 billion more), richer people (3 billion more middle class), urban people (more than half in cities in the developing world), older people (by 2050, more than 30% of popn will by older than 80 in 64 countries (compared to 1 country); mobile people
- In general, more demand for food, fiber, fuel – where will the supply come from?

Economic drivers

- More consumption spending – mostly in Asian countries, China and India on the way to their historical economic weight



Sources: OECD, Standard Chartered Research



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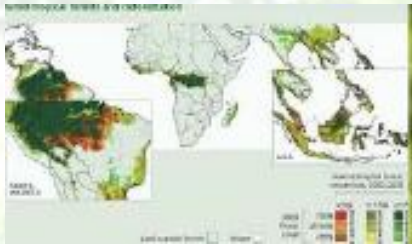
Climate change and forests

- Direct effects on how vegetation communities cope and forests migrate
- Indirect effects through commodity prices
- Changes in temperature, water availability, and extreme events will make agriculture and forests less productive
- Constant or declining productivity
- Demand already increasing, supply constant/dwindling– A Double Squeeze





Climate change, commodities, forests

Commodity prices have increased sharply since 2000, erasing all the declines of the 20th century

MGI Commodity Price Index (years 1999–2001 = 100)[1]

1 See the methodology appendix for details of the MGI Commodity Price Index.
2 2011 prices are based on average of the first eight months of 2011.

SOURCE: Grilli and Yang; Stephan Pfaffenzeller; World Bank; International Monetary Fund (IMF); Organisation for Economic Co-operation and Development (OECD); UN Food and Agriculture Organization (FAO); UN Comtrade; McKinsey analysis

Changes in commodity prices (1900-2010)

Source: MGI 2011:

Crystal ball gazing…

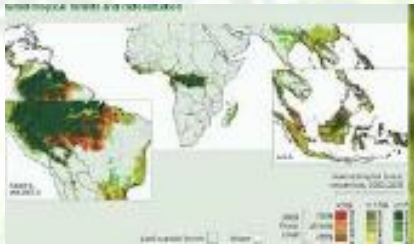
- Business-as-usual has led to declining economic contributions from forests over the last five decades – Global output (1.6% to 1%), work force (0.6% to 0.4%), trade (3.5% to 2.4% of exports)
- Current trends unabated will likely continue the land use transition – limited natural forest areas; high human intervention; management for mainly economic gain

Crystal ball gazing… 2

- The Double Squeeze will raise price of land and agricultural crops, increase incentives for more land under commodities – today's land grabs are huge – but only the tip of the iceberg that sank the Titanic: wait a few years and see what happens!
- Big shift towards more managed land systems, in the medium run a shift towards the temperate world (better productivity, annual crop output more valuable than annual forest output per unit area)
- In the longer run, biodiversity and the poor will get squeezed even more – neither have voice

What will avoiding this trajectory (A Forest Transition) require?

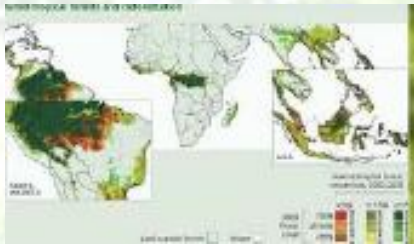
- Restoration and crop expansion in degraded lands and focus on trees outside forests – by some estimates 2 billion ha, roughly half of current global forest estate – to reduce pressure on forests
- Investments in biophysical technologies and tree cultivation/forest product processing technologies
- Extensive deployment of info-tech for improved monitoring and better decision making
- Reformed policy environment for SMFEs as also improved credit, better market access, modified labor laws





And of course:
Governance! Governance!! Governance!!!

- The World Bank notes: “Forests are one of the most mismanaged resources… environmental benefits are not captured by market values. Poor governance has fuelled illegal activities.”
- Multi-scale reforms continue to be needed
- More inclusive decision making
- Landscape approach to management
- Attention to linkages across sectors rather than a focus inward on forests
- None of the above new or news.





Thank you

- To coauthors who are not here
- To UNFF Secretariat for patience and support
- To the many scholars and researchers whose work has made the review possible and
- To YOU for listening