

Tuesday, 4 September, 2012
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Doomed Planet

"Today's debate about global warming is essentially a debate about freedom. The environmentalists would like to mastermind each and every possible (and impossible) aspect of our lives."

Vaclav Klaus
Blue Planet in Green Shackles

Ringbarking Third World Forestry

by Tim Curtin

September 4, 2012

Many academics around the world are campaigning for sweeping reductions in forestry in Indonesia, Malaysia, and Papua New Guinea, not so much now because it is "illegal" - there was and is no justiciable evidence of large-scale illegality (see the Appendix below) - but on the grounds that timber production in those countries releases carbon dioxide into the atmosphere. Various Australian researchers have secured funding from the Australian Centre for International Agricultural Research (ACIAR) for studies by ANU and other institutions for "Improving governance, policy and institutional arrangements to reduce emissions from deforestation and degradation (REDD)".

This ACIAR project claims that "if Indonesia could halve its deforestation rate, a conservative estimate shows that it could receive some \$1 billion per year in carbon credits, with local governments (provincial and district) and their communities potentially receiving a significant share of those benefits", and that the project "will contribute toward global efforts to reduce global greenhouse gas emissions, thus mitigating the potential economic and environmental impacts of future climate change on Australia". The accuracy of this claim is questionable when in 2010 half the total value of Indonesia's timber and palm oil exports was around \$4 billion, and there is no evidence that any country or agency will commit itself to paying the necessary compensatory minimum of \$4 billion a year in carbon credits for ever.

The expanded "REDD+" programme is presented as if it had the formal endorsement of the United Nations. In its latest format it was adopted by some countries at the Bali and Copenhagen Conferences (2007, 2009) attended by Australia's then prime minister Kevin Rudd and his advisers, officials, and academics. However REDD has never been formally enacted by any UN body. It was informally adopted only by some of the parties – mainly European – to the UN Framework Convention on Climate Change who created the voluntary "Copenhagen Accord" in 2009. It was these countries that ostensibly committed to providing the donor funding needed to induce countries like Indonesia to reduce their alleged deforestation and forest degradation. So far, apart from Norway, the EU, UK and Australia, few have delivered much if any funding, and then only for promotional activities and trials in the target countries of SE Asia. Some parts of the UN are helping to administer REDD, but strictly speaking they are only administering a voluntary donor fund.

The core concept behind REDD+ is its implicit contention that only countries with non-white populations and governments are guilty of producing emissions of CO₂ when they undertake forestry. As one of Australia's REDD experts succinctly puts it in his grant application (to ARC and AusAid), "Deforestation occurs mostly in tropical countries and contributes a large share of global greenhouse gas emissions. Reducing tropical deforestation therefore has an important role in global responses to climate change. This research investigates whether, and how, deforestation can be slowed through better governance and by providing economic incentives to forest-rich tropical countries, including Indonesia and Papua New Guinea".^[1]

However, as shown in Table 1 here, it is "white" countries that do far more logging annually than non-white countries (60% of total timber forest production in all countries in 2004 came from countries like Canada, Norway, Sweden, Finland, Germany, FAO 2005). Moreover, it is the white countries – mostly in the northern hemisphere – whose timber harvesting (i.e. logging) is showing a strong rising trend. At the same time it is the countries most fiercely targeted by the German and Australian governments and their academics promoting application of REDD+ to SE Asia, especially in Malaysia and Indonesia, whose

timber harvesting has actually dropped since 1995 for reasons wholly independent of REDD. Both these countries have diverted timber acreage to oil palm trees, in Indonesia's case oil palm trees in 2010 occupied 5 million hectares, up from only 1.2 million ha. in 1995. However Australia's REDDists claim the increase was mostly due to deforestation: "With annual deforestation at about 1.5 million hectares (amounting to about 14% of global deforestation), Indonesia can play a central role in REDD" [2]

Note that at the claimed deforestation rate, Indonesia would have no forest left by 2065. That is nonsense, arising from the apparent reluctance of most climate scientists to accept that a transfer from timber to oil palm does not involve deforestation because after all, oil palm trees are trees – and are trees that absorb and store more CO₂ than tropical forests per hectare p.a. whilst respiring less CO₂ than the forests (see Table 2). Moreover data in the FAO's *Global Forest Resources Assessment* (2005:83) show that Indonesia's area of productive timber plantations *increased* from 2.2 million ha. in 1990 to 3.4 m.ha. in 2005, i.e. by over 50%. Yet those involved in promoting REDD never admit that rising atmospheric CO₂ is associated with increased sequestration of carbon in both standing timber and therefore also in the timber products derived from it. In reality there is "little direct evidence that tropical forests should not be able to respond to increases in [CO₂] ... the magnitude and pattern of increases in forest dynamics across Amazonia observed over the last few decades are consistent with a [CO₂]-induced stimulation of tree growth" [3]

Moreover harvested trees do not release CO₂ only when logged in the tropics despite the explicit and repeated claims to that effect of all promoters of REDD. There seem to be few climate scientists who accept that all trees derive the carbon they embody (usually accounting for 50% of their mass) from the "pollution" of the atmosphere by CO₂, which is the main agent in the photosynthesis that produces their carbon. No climate scientists at all, and least of all those in the Australian Government's Department of Climate Change, understand that when harvesting trees, foresters prize their carbon content above all else, which is why most timber products consist of close to 100% carbon. Thus although CSIRO's Canadell and Raupach admit that trees absorb atmospheric CO₂, they ignore the post-harvest storage of carbon in most timber products. [4]

Are there any Australian MPs, DCC and CSIRO scientists, or REDD economists that would harbour any timber furniture, door, window, and roof timbers, and decks in their homes, apart from a few books? [5] The ANU's Crawford School, home to Australia's main academic proponents of REDD, does not contain even one cubic metre of timber in its structure. Instead it consists only of materials like aluminium, concrete, and steel, all of which release large amounts of CO₂ in the manufacturing thereof (e.g. manufacturing aluminium emits 25.5 kg of CO₂ per kg of aluminium). These materials store no CO₂ at all, whereas manufacturing of timber products releases virtually no CO₂, while the carbon embodied in such products (building materials, furniture, and books) is potentially stored forever. [6] Similarly a typical modern Sydney house with concrete slab flooring will have generated emissions of 12 tonnes of CO₂ equivalent, which with its aluminium window frames, store no carbon at all. But when buildings comprise timber flooring and structural frames the carbon in those timber frames and decks will be stored for their lives.

Then there is the fundamental disconnect between REDD targets for emission reductions and the reality of the job, tax and GDP reductions involved in killing off the timber and oil palm industries in the tropics. For countries like Australia that seek to reduce their own CO₂ emissions by switching from hydrocarbon fuels to more costly renewable energy, that is their own choice. But their efforts to induce tropical countries like Indonesia to adopt REDD by closing down production of the raw material for their timber and palm oil industries, *for which Indonesia has no alternative sources of comparable incomes from exports worth \$8 billion in 2010*, is something quite different. Yet a recent seminar paper at the ANU's Crawford School claimed that the only applicable opportunity cost from applying REDD+ to Indonesia was the royalty payments to forest owners by timber companies of up to Rs10,000 (about \$5) per cu.m. when plywood earns Indonesia \$579 per cu. metre.

But not only are the authors and promoters of REDD unfair in exempting their own timber and food oil industries from REDD, their apparent determination to close down most food production and other rural income generating activities in their target countries is even more unjust. Consider this from the Suford study [7], which finds that to provide sufficient incentive for farmers to stop clearing forest for other land uses, the price of carbon credits in Laos would need to be at least the following (all prices in US dollars):

seasonal rice: \$33 t CO_{2e}
coffee: \$35 t CO_{2e}
rubber: \$39 t CO_{2e}.

This might well bring an end to Laotians' production of rice, coffee, and rubber – even though the attention span of budget planners in countries like Australia and Britain tends to be short, so their compensation payments are unlikely to last very long. For example, in the case of rubber, the Suford proposal is that REDD will offer the value of carbon credits ranging from USD \$12 to USD \$326 per hectare p.a., but with the farmers currently earning up to \$5,531 per hectare p.a. from that crop, the Suford study implies legislation will be needed to ban growing of commercial rubber in Salavan province of Lao PDR.

Similarly REDD promoters claim that "between 2005 and 2010, Indonesia and Malaysia, together responsible for 80% of global palm oil production, lost approximately 685,000 ha/ year and 87,000 ha/year of forest cover respectively (due to a range of factors, not exclusively palm oil conversion). Global concern over palm oil production and resulting deforestation in tropical countries is high. The World Bank estimates that market demand will require an additional 6.3 million hectares of palm oil plantations by 2020".

Evidently promoters of REDD do not accept that conversion of any specific stand of forest to oil palm trees is a one-off event, because oil palms are a perennial tree crop. [8] That failure of understanding means SE Asians can look forward to more REDD programmes designed to persuade them to switch from using palm oil in their kitchens to the canola oil, olive oil, and soya oil produced by Britain and Australia, Greece and Spain, and the USA.

Australia's climate scientists and economists have uncritically leant themselves to an ideology encapsulated in the notions that only standing timber sequesters (stores) carbon, and that when harvested such carbon is immediately oxidised. Like Stern (2007) and Garnaut (2008) they never accept that carbon makes up on average 50% of the mass of most forest products or that most gets to be stored in the timber wall, roof, and window frames, not to mention the decks, that still characterise most new houses built in Australia. Their disregard of carbon storage in forest products is the basis for their claim "deforestation"

accounts for more CO₂ emissions than the whole of the world's transport systems: "Deforestation contributes about 17% of all human induced global greenhouse gases emissions" (Tacconi et al., ACIAR) – yet that falls to around 8% if carbon stored in timber products is brought to account.^[9] The reality that replacement of tropical forest by oil palm trees results in substantial *net additional sequestration* of CO₂ is evident in the data in Table 2 here.

The Australian forestry, wood and paper products industry employs more than 75,000 people in plantation management, sawmills, panel board, and paper manufacturing plants, mainly in rural and regional areas. Each year the industry sells more than \$7 billion of products, and produces more than 12 million cubic metres of logs, 4.7 million cubic metres of sawn timber, 1.7 million cubic metres of wood-based panels, and more than 3.2 million tonnes of paper and paperboard products (Australian Forest Products Association 2011). These data may give a hint not only for why Australia is about to adopt an Illegal Logging Bill but also for its enthusiasm for REDD+, which naturally implies reducing competition with its own timber manufacturing and food oil production from neighbouring tropical countries.

Be that as it may, these data also partly explain why the sequestration of carbon in forest products is totally ignored by the Australian Government's Department of Climate Change's *Quarterly Update of Australia's National Greenhouse Gas Inventory, December Quarter 2011*. Moreover, Australia's timber industry does not rate a single mention in the DCC's *National Inventory Report 2010 Volume 1, The Australian Government Submission to the United Nations Framework Convention on Climate Change*, April 2012, although it produces over 20 million cu.metres (equivalent) of timber products largely consisting of carbon.

Failure to bring to account the carbon stored in Australia's timber products is analogous in the financial world to excluding interest payments from profit and loss accounts, or treating sales as equivalent to profits. The REDD anti-deforestation policies need to be brought into an improved framework where both emissions and uptakes of atmospheric CO₂ are correctly estimated, and implementation does not have hopefully unintended adverse impacts in tropical SE Asia.

Table 1. Timber product prices, Australia and Indonesia, 1995, 2010.

	Australia 1995	Australia 2010	Indonesia 1995	Indonesia 2010
USD/cu.metre				
Export prices				
Roundwood	102	98	204	138
Sawnwood	693	306	567	366
Plywood	983	249	433	579
Import prices				
Roundwood	585	458	374	250
Sawnwood	508	482	863	368
Plywood	642	553	281	445

Table 2 Ecological data on oil palm and comparison with tropical forest

Parameters	Unit	Tropical Forest	Oil Palm
Biomass production	t DM/ha/pa	22.9	36.5
CO ₂ fixation	t CO ₂ /ha/pa	9.62	25.7
Photosynthesis	µm ² s ⁻¹	13-19	21-24
Absorbed radiation	MJ m ² yr ⁻¹	51.4	82.9
Respiration	tCO ₂ ha ⁻¹ yr ⁻¹	121.1	96.5
Oxygen production	tO ₂ ha ⁻¹ yr ⁻¹	7	18.7

Fig.1 Timber production in Indonesia and Germany, 1995, 2010

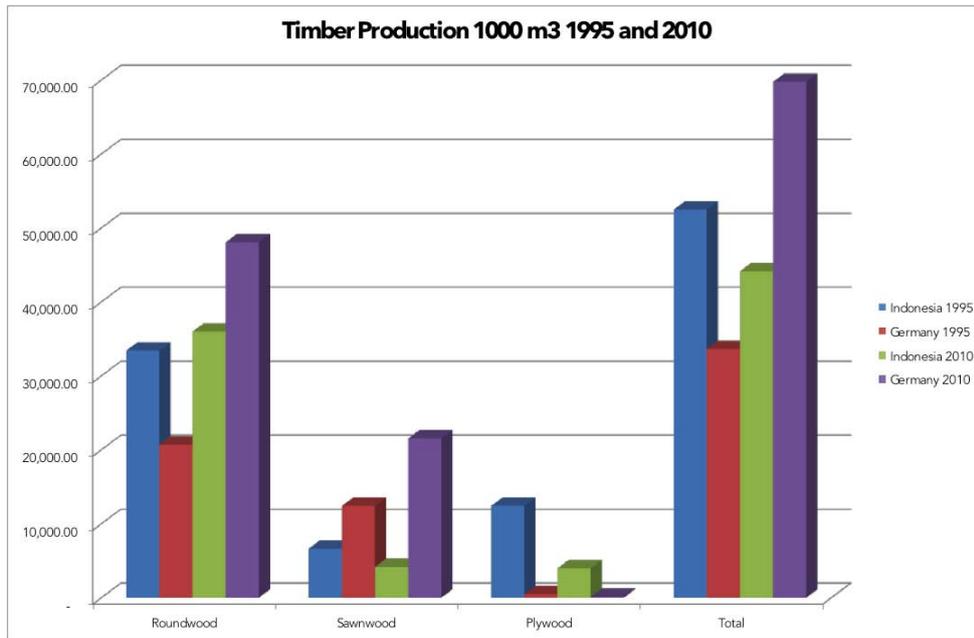


Table 3 Total production of round wood and sawnwood, selected countries by ethnicity, 1995 and 2005, 1000 m³.

			% CHANGE +/-
CO2 EMITTERS	1995	2010	
INDIA	26,750	37,981	41.99
MYANMAR	2,958	5,855	97.94
PNG	2,063	3,631	76.01
THAILAND	3,222	7,950	146.74
MALAYSIA	41,300	19,501	-52.78
COTE D'IVOIRE	2,993	1,940	-35.18
CAMEROON	3,520	3,039	-13.66
INDONESIA	40,060	40,161	0.25
CHINA	126,846	125,912	-0.74
SUB-TOTAL	249,712	245,970	-1.50
"NON-CO2 EMITTERS"			
GERMANY	33,130	67,428	103.53
ITALY	2,543	2,600	2.26
UK	3,768	7,509	99.28
AUSTRALIA	13,950	29,810	113.69
CANADA	193,378	174,875	-9.57
NORWAY	6,985	10,416	49.12
SWEDEN	46,259	76,300	64.94
FINLAND	32,321	45,773	41.62
BRAZIL	102,618	130,118	26.80
USA	349,173.00	366,807	5.05
SUB-TOTAL	784,125	911,636	16.26
GRAND TOTAL	1,033,836	1,157,606	11.97

[1] Tacconi, L.: Governance and Economic Incentives for Reducing the Contribution of Tropical Deforestation to Climate Change. *Funded by the Australian Research Council (LP 0989909) and the Australian Agency for International Development (EFCC 082)*

[2] *Improving governance, policy and institutional arrangements to reduce emissions from deforestation and degradation (REDD)*. The Australian National University et al., funded by the Australian Centre for International Agricultural Research (ACIAR), Project FST/2007/052, 2008-2012. Funding: \$1.45 million.

[3] Lloyd and Farquhar 2007, Phil. Trans. R. Soc. B doi:10.1098/rstb.2007.0032.

[4] "Saturation of the Terrestrial Carbon Sink", Canadell, JG., Gifford, R., Raupach, M., Steffen W., et al., 2007, in Canadell JG, Pataki D, Pitelka L (eds) (2007) *Terrestrial Ecosystems in a Changing World*. Springer-Verlag, Berlin, Heidelberg. The same is true of Josep G. Canadell and Michael R. Raupach, Managing Forests for Climate Change Mitigation, *Science*, 13 June 2008 Vol 320, which shows no hint of understanding that most timber harvesting is undertaken for the purposes of utilising the stored carbon in products that may well endure for hundreds of years.

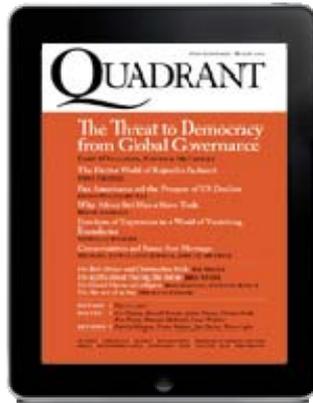
[5] Climate economists (e.g. Stern 2007: 603-610) are also incapable of understanding that the purpose of timber harvesting is to capture the carbon in the tree and use it for long-lived timber products. Stern in an aside admits that carbon can be stored in product, but like the IPCC (2007) his numerical estimates all assume zero such storage. Thus like Canadell and Raupach at CSIRO, all climate economists from Stern to Garnaut (2008: 235-237; 2011: 136-141) assume that only standing timber sequesters carbon.

[6] *Forests, timber and climate change*, Prime Fact 688, 2008, Figures 2 and 3. www.dpi.nsw.gov.au.

[7] Cited by *REDD-Net Bulletin Asia-Pacific*, Issue 05 - November 2011 (mainly funded by the British government).

[8] *Ibid*. This writer has seen oil palm plantations that have been in production in Nigeriasince1860, albeit with cyclical replanting of stands every 20 years or so to maintain yields.

[9] Project FST/2007/052, 2008-2012. Funding: \$1.45 million.



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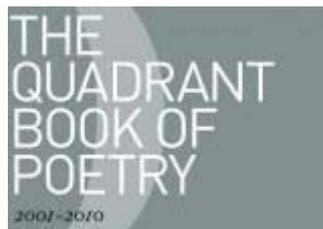
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