



WORLD GROWTH

Trees before Poverty

The World Bank's approach to
forestry and climate change

A World Growth Report

September 2011

EXECUTIVE SUMMARY

In early 2010, the World Bank secured pledges to fund a USD 4 billion strategy to reduce the 17 per cent of global greenhouse emissions that the Intergovernmental Panel on Climate Change (IPCC) says is caused by deforestation and land-use change. Eighteen months later, the Bank announced that deforestation causes only 12 per cent of global greenhouse emissions. Research shows the Bank has evidence that emissions are likely to be even lower. It has not adjusted its global strategy which, if implemented now, is likely to damage the efforts of developing countries to reduce poverty.

At the United Nations climate change conference in December 2009 in Copenhagen, the World Bank tabled a report recommending a global strategy to reduce the 17 per cent of global greenhouse emissions caused by deforestation and land use. The strategy consisted of curbing the forestry and agricultural sectors, and then substituting them with other industries. In other words, it presented a restructuring of the forestry and agricultural sectors. The Bank sought pledges to fund that strategy throughout and following UN conference based on the 17 per cent number, which it later revised downwards.

Yet the Bank had ample forewarning the 17 per cent number significantly overstated the contribution of deforestation to greenhouse emissions. The figure and its use by the IPCC were strongly influenced by the work of scientist Robert Houghton. However in 2008, Houghton revised his estimates down to 12.2 per cent.¹ One month prior to the Copenhagen conference, other scientists issued peer-reviewed research stating that deforestation emissions were just 12 per cent of global emissions.

One year later in 2010, research published by the US-based consultancy Winrock International stated that the contribution of deforestation to global greenhouse emissions was half that originally claimed by Houghton and the IPCC. This led *New Scientist* to report that this demonstrated deforestation was now not so important to climate change.²

It also stated that deforestation emissions from Indonesia were around one-third of usual estimates.³ Research by World Growth shows that prior to the UN meeting in Copenhagen, the World Bank (and the Government of Norway) had funded or sponsored research projects on emissions in Indonesia which demonstrated similar findings on at least three occasions between 2007 and 2010.

It was also revealed that the World Bank and the Government of Norway had commissioned the Winrock research. Norway had committed one-quarter of the USD 4 billion pledged to the World Bank for its deforestation emissions strategy, and a full USD 1 billion to Indonesia for reducing emissions from deforestation.

In July 2011, the World Bank stated in a media release that emissions from deforestation were 12 per cent.⁴ No justification was provided.

Not only have major aid donors made costly public pledges on the basis of unreliable and discredited estimates, developing countries are being urged to freeze economically important forest and plantation industries because of the unjustified proposition that they are major contributors of greenhouse gas emissions through deforestation.

Indonesia appears to have been a specific target. It has wrongly been labelled as the world's third-largest emitter of greenhouse gases. The research is skewed.

1. WRI (2009), *World Greenhouse Gas Emissions in 2005*, Working paper, accessible at: http://pdf.wri.org/working_papers/world_greenhouse_gas_emissions_2005.pdf

2. F. Pearce (2010) 'Forest Carbon Stores may be massively overestimated', *NewScientist*, accessible at: <http://www.newscientist.com/article/dn19408-forest-carbon-stores-may-be-massively-overestimated.html>

3. N. Harris, S. Petrova, S. Brown, S. Saatchi, S. Hagen, W. Salas, F. Stolle, L. Boisrobert, and M. Hansen (2011), *New Estimate of Greenhouse Gas Emissions from Deforestation and Degradation*, Research from Winrock International. The estimates of forest carbon stocks which were fundamental to lowering the rate of emissions were published in a peer reviewed journal in June 2011. (See footnote 20).

4. World Bank Press Release, August 2011. New Methodology for Measuring Emission Reductions from Reduced Deforestation Stands to Unlock Carbon Revenues for Poor Communities. Accessed at <http://climatechange.worldbank.org/news/new-methodology-measuring-emission-reductions-reduced-deforestation-stands-unlock-carbon-revenue>

The Winrock International research reveals the IPCC-based estimates of emissions from Indonesia were 3.5 times larger than they should have been.

Why would the World Bank and the Norwegian Government be party to this? Two possibilities come to mind.

The first is the formal decision by the World Bank to align its forestry policy with that of the World Wide Fund for Nature (WWF). This began in 1995 when the Bank and WWF established an "Alliance" on forestry. After revisions of estimates for deforestation emissions were published, WWF began to state that emissions ranged from 12 to 20 per cent.⁵

WWF has demonstrated a disregard for solid research and dependable data to underpin strategies to reduce greenhouse gas emissions. This has been documented by Danish environmentalist, Bjorn Lomborg; more recently the Telegraph has revealed that IPCC findings based on WWF research exaggerated claims about the impact of climate change (the 'Glacieregate' and 'Amazongate' episodes).

The second is pursuit of a long-standing desire by environmental activists and leading European Governments to bring a halt to the forestry sector in developing countries, again characterized with disregard for sound research on the state of forests in those countries.

The World Bank, the Norwegian Government and the British Government have argued for curbing the forestry sectors in developing countries for several years.

It is a stated goal of Norwegian Government policy to fund generation of carbon emissions from developing countries to meet its target of becoming carbon neutral.⁶ For its part, the UK Government began campaigning seriously to halt deforestation in 1998.⁷ It funded the Stern Review and the Eliasch Report, which highlighted deforestation as the leading climate change problem in developing countries.

The donor strategy to fund developing countries to cease forest-based activity and substitute them with 'low carbon' industries is based on unreliable data. It is a misconceived strategy that requires suppression of job-creating industries and relies on overseas aid funding. It also is dependent upon income from trading forest-based carbon credits generated by halting deforestation which as yet do not exist. This income is supposed to somehow fund the transition from developing economies to 'low carbon' economies. This is a transition that will undermine strategies to reduce poverty. It will, instead, perpetuate it.

5. There is no coherent justification of this. In an earlier report published by WWF Norway, the expert Van der Werf is reported as once having stated emissions were 20 percent, then several years later (2009) revised the estimate down to 12 percent. See Sperling, F. and de Kock, M. (2010). Protecting forests for the benefit of climate, nature and people: Integrating lessons from community-based natural resource management (CBNRM) into Reducing Emissions from Deforestation and Degradation (REDD+). World Wide Fund for Nature, Norway, Oslo, p.10.

6. 'Agreement on Norway's climate policy by The Labour Party, the Socialist Left Party, the Centre Party, the Conservative Party, the Christian Democratic Party and the Liberal Party to the 2007 white paper Norway's climate policy (Report No. 34 (2006-2007)'. Accessed at http://www.regjeringen.no/upload/MD/Vedlegg/Klima/Agreement_on_Norways_climate_policy_080117.pdf

7. The UK Government put deforestation on the G8 Agenda in 1998, then recharged it at the G8 Summit in Gleneagles Summit in 2005.

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ACRONYMS AND ABBREVIATIONS

Acronyms and Abbreviations

| | |
|----------------|--|
| BSR | Business for Social Responsibility |
| CDP | Carbon Disclosure Project |
| CGF | Consumer Goods Forum |
| CSDW | Children's Safe Drinking Water Program |
| CSR | Corporate Social Responsibility |
| CSV | Creating Shared Value |
| DFID | UK Department for International Development |
| ECSR | Emerging Market Corporate Social Responsibility |
| EMS | Environmental Management System |
| ERM | Environmental Resource Management |
| ETI | Ethical Trading Initiative |
| FAO | Food and Agriculture Organization |
| FIDH | International Federation for Human Rights |
| FLEGT | Forest Law Enforcement on Governance and Trade |
| FMCG | Fast Moving Consumer Goods |
| FSC | Forest Stewardship Council |
| GCI | Global Commerce Initiative |
| GSCP | Global Social Compliance Programme |
| GWSI | Global Water and Sanitation Initiative |
| ICUN | International Union for Conservation of Nature |
| IFRC | International Federation of Red Cross and Red Crescent Societies |
| ILO | International Labour Organization |
| ISO | International Organization for Standardization |
| MDG | Millennium Development Goals |
| MSC | Marine Stewardship Council |
| NGO | Non-Government Organization |
| OECD | Organisation for Economic Co-operation and Development |
| P&G | Proctor and Gamble |
| PEFC | Programme for the Endorsement of Forest Certification |
| RSPCA | Royal Society for the Prevention of Cruelty to Animals |
| RSPO | Roundtable on Sustainable Palm Oil |
| SAI | Sustainable Agriculture Initiative Platform |
| SDC | Swiss Agency for Development and Cooperation |
| SLP | Sustainable Living Plan |
| TSSP | Technical Skills Scholarship Programme |
| UN | United Nations |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNGC | United Nations Global Compact |
| UNI | Union Network International |
| UNICEF | United Nations Children's Fund |
| WBCSD | World Business Council for Sustainable Development |
| WFN | Water Footprint Network |
| WTO | World Trade Organization |
| WWF | World Wildlife Fund |



1. INTRODUCTION: A CURIOUS DEVELOPMENT

Although the Copenhagen climate change conference in December 2009 was an abject failure, a number of leading governments, including the Obama Administration, pledged nearly USD 4 billion to fund a program entitled REDD⁸ to reduce emissions from deforestation.

In 2010, these pledges were confirmed at meetings convened by the Norwegian and French governments. The Obama Administration committed USD 685 million to be spent in 2010 and 2011 on REDD programs. Other leading funders were Norway (USD 1 billion), United Kingdom (USD 500 million), Germany (USD 520 million) and Australia (USD 130 million.⁹ The World Bank was an active backer of the program. At the Copenhagen meeting the Bank released its 2010 World Development Report (WDR) which strongly plumped for REDD programs. It subsequently set up a facility to support the program. The Bank was already managing climate change funds totalling around USD 5.7 billion¹⁰ and set up funds to support global trading of carbon credits.

Even before these commitments were announced, donors had spent millions of dollars showing developing countries how to adopt climate-friendly development strategies to make the transition to 'low carbon economies'. Even McKinsey and Co, a renowned US-based management consultancy, was enlisted to help.

Yet it is now clear that the World Bank (and the Norwegian Government) had data from research that they had commissioned which showed the proposition that 17 per cent of global emissions were caused by deforestation was a significant overestimation.

Research commissioned by the World Bank itself demonstrates that global emissions from deforestation could be as little as half of what was supposed. This has undermined the entire World Bank strategy.

These research results led ecology journalist Fred Pearce to report in *New Scientist*, that these numbers suggested that deforestation is no longer a major climate change issue.

There are several important implications. Were donors misled? It is hard to believe they would stack up several billion dollars if they were aware the global estimates of emissions were on average overstated by 100 per cent? Or didn't they care?

What does this mean for developing countries?

It was often asserted that REDD was an inexpensive way to reduce greenhouse emissions. But the new figures mean the cost of a transition to a low carbon economy has skyrocketed. Indonesia committed to reduce emissions by 26 percent by 2020 (more than any other developing country and most industrialised nations). That now becomes extremely costly.

A low carbon pilot project strategy financed by donors in one Indonesian province¹¹ that applies a model developed by McKinsey and Co, freezes some of Indonesia's most economically important industries –forestry, plantations and mining. With significantly fewer carbon emissions to stockpile and sell as carbon credits, and the consequent loss of that revenue stream, the promised cut in emissions becomes more expensive. It can only be achieved by reducing economic growth. That was never the plan and is obviously untenable.

It is clear now that the World Bank has advanced supposedly low-cost strategies for developing countries that would seriously damage those economies; at the same time, its staff had commissioned or managed projects producing research demonstrating the rates of emissions were significantly overstated.

8. Reduced emissions from deforestation and forest degradation; it is also referred to as REDD+ in deference to developing country requirements that the program include sustainable forestry management and enhancement of forest stocks, not just deforestation.

9. See US State Department "Fast Start Financing- Meeting the U.S. Commitment to the Copenhagen Accord. US Climate Funding in FY 2010; and World Resources Institute "Summary of Developed Country Fast-Start Climate Finance Pledges (<http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges>)

10. See www.climatefund.info

11. Central Kalimantan



2. WRONG NUMBER

The World Bank released the 2010 edition of the World Development Report¹² - an annual signature publication on the leading contemporary development issue - on the eve of the United Nations Framework Convention on Climate Change (UNFCCC) conference in Copenhagen in 2009. More than 100 heads of government attended the conference. The WDR argued it was imperative that developing countries reduce emissions and adopt strategies to move to low carbon economies.

For developing countries with tropical forests, the Bank urged adoption of the REDD (reduced emissions from deforestation and forest degradation) strategy. The idea is a “win/win” strategy, where tropical developing countries stop clearing forest and restore degraded land, which would reduce greenhouse emissions, and earn carbon credits from the standing forest which could be internationally traded and generate income to replace that from lost from industries such as agriculture, forestry and mining.

This case had been pushed initially by the World Bank and a small group of tropical forested developing countries lead by Papua New Guinea.¹³ Donors, particularly the UK and Norway, then backed it. The British Government pushed along, first in the Stern Review¹⁴ (2007) then in the Eliasch Review¹⁵ (2008), which both painted a fanciful picture account of how such a strategy could be funded. However, major developing countries refused to allow the concept to be endorsed in the UN Climate Change negotiations.

All of these reports relied on the assessment by the Intergovernmental Panel on Climate Change (IPCC) released in 2007¹⁶ which stated that deforestation and land-use in developing countries generated 17.4 per cent of the world’s greenhouse gas emissions - with Indonesia and Brazil between them accounting for half of that.

The same estimate was used in the World Bank’s World Development Report (WDR), which was presented to the UN Climate Change Conference in Copenhagen in 2009.

Yet, in preparation for the WDR, the World Bank had jointly commissioned research with the Government of Norway from US-based consultancy Winrock International on emissions from deforestation. That research ultimately confirmed what earlier projects sponsored by the Bank had previously pointed out: emissions from global deforestation have been seriously overstated. The Winrock International research found that deforestation emissions were around half that cited in the WDR, and reduced deforestation emissions in Indonesia by around 70 per cent. It found the annual estimate for Indonesia was 390 MtCO₂e (mega tons of carbon dioxide equivalent), not the 1459 MtCO₂e cited in the WDR.¹⁷

The WDR references the Bank-commissioned research on deforestation from Winrock International, but there is no mention of its results within the report itself. They results were made publicly available by Winrock International a year later at the UNFCCC meeting in Cancun, Mexico.

TABLE 1: DIFFERENT ESTIMATES OF ANNUAL EMISSIONS FROM DEFORESTATION - GLOBAL AND INDONESIA (MT CO₂E)

| SOURCE | TIME PERIOD | GLOBAL | INDONESIA |
|---|-------------|--------|--|
| IPCC (AR4 2007) | 1990-1999 | 5,867 | No estimate (attributes 60 % of emissions to Indonesia and Brazil) |
| Houghton 2009, central estimated quoted in WDR 2010 | 1990-2005 | 5,493 | 1,459 |
| Harris et al 2009 (Winrock) | 2000-05 | 3,775 | 390 |
| DNPI (Indonesian National Council on Climate Change) 2010 | 2005 | | 2,055 |

12. World Bank 2009, “World Development Report 2010, Development and Climate Change”

13. See the Coalition of Rainforest Nations - www.rainforestcoalition.org

14. Stern, N. (2007). “Stern Review on The Economics of Climate Change (pre-publication edition). Executive Summary”. HM Treasury, London.

15. Eliasch, Johan. 2008 Climate change : financing global forests : the Eliasch review Earthscan, London ; Sterling, VA

16. IPCC (2007). “IPCC Fourth Assessment Report: Climate Change 2007 (AR4)”. Cambridge, United Kingdom and New York, NY, USA.: Cambridge University Press.

17. N. Harris, S. Petrova, S. Brown, S. Saatchi, S. Hagen, W. Salas, F. Stolle, L. Boisrobert, and M. Hansen (2010), *New Estimate of Greenhouse Gas Emissions from Deforestation and Degradation*, Research from Winrock International

The economic Implications

The economic implications are serious. Strategies were crafted by aid donors to demonstrate that developing countries with large forested areas could restructure their economies as ‘low carbon’ economies with small economic losses. The strategies all assumed deforestation emissions were high; the reduced emissions would mean developing countries could easily meet emission reduction targets. This would then enable them to generate income from sales of carbon credits on international markets or to developed countries. It was on the basis of this theorizing and crude estimates (not to mention high-risk assumption a UN-endorsed carbon trading system would be agreed) that donor countries pledged billions, and developing countries got enmeshed in complex programs to restructure their economies.

With emissions halved – and, in Indonesia’s case, cut by nearly 75 percent – the plans are invalid or need significant revision. The costs of moving to a ‘low-carbon economy’ will be high. Reduced economic growth, in most cases estimated as zero or small, will be onerous.



3. A SERIOUS OVERSTATEMENT

The Winrock International research was not made public until December 2010 at a side event on forestry at the UNFCCC meeting in Cancun, Mexico. At the time of publication of this report, the World Bank had not acknowledged the Winrock findings.¹⁸ However, in a press release from the World Bank in July 2011, the World Bank revised its estimate of the contribution of deforestation to global emissions.

It stated that deforestation and forest degradation account for approximately 12 per cent of global greenhouse gas emissions. The figure is still significantly higher than the Winrock Research which estimates that deforestation comprises 5 to 12 per cent of greenhouse emissions, less 2 to 7 per cent if including carbon sequestration from forest regrowth.

World Growth research indicates that the Winrock data is the third dataset promoted or funded over a two-year period by the Bank that has indicated deforestation emissions from developing countries – and from Indonesia in particular – have been significantly overstated.

To appreciate the weight of the evidence, a brief account of the origin of the standing assessment of deforestation emissions used by the Bank in the WDR is warranted.

The WDR figure was drawn from the Fourth Assessment Report (AR4) of the IPCC. It estimated emissions were 17.4 per cent and weighted that assessment towards the work of Robert Houghton, a US-based scientist. He produced a note in 2003¹⁹ which assessed annual global emissions from deforestation and land use through the 1990s at 8.2 GtCO₂e.²⁰ (In 2009 Houghton made a fresh assessment, finding annual greenhouse emissions from deforestation were between 1990 and 2005 were around 5 GtCO₂e.)

Houghton stated the range of error was +/-150 per cent with large fluxes (i.e. high levels of emission and sequestration) and +/- 50 per cent for small fluxes. Any prudent researcher would have heeded Houghton's warnings about the dependability of the numbers. Yet after they were used in the Stern and Eliasch reviews (both commissioned by the UK Government and promoted to demonstrate developing countries

had more to lose than gain by delaying action to reduce emissions) they were considered reliable and consistently expressed without reference to the huge margin of error.

The AR4 Synthesis Report, which gave the 17.4 per cent prominence, was published in the lead-up to the UNFCCC conference in 2007, held in Bali, Indonesia. But this was not the only effort to “hype” the gravity of emissions from deforestation prior to the UNFCCC conference.

There was a particularly egregious abuse of emissions estimates in a report produced by PT. Pelangi Energi Abadi Citra Enviro (PEACE), entitled “Indonesia and Climate change: Current Status and Policies”.²¹ It reported that Indonesia was the third-largest emitter of greenhouse gases in the world. The methodology took the Houghton figures, then added to them rough, high estimates of emissions generated in the early 1990s from the El Nino period, when unusual weather events generated widespread fires, and an upsurge of illegal forestry in the wake of the Indonesian transition to democracy. The report then projected the numbers from those one-off events as the baseline for emissions each year into the future, without scientific justification.

World Growth notes in passing that the World Bank co-funded that report with the UK Department for International Development. This material was used by NGOs to pillory the Indonesian Government, hosts of the UNFCCC conference in Bali.

In 2008, the World Bank funded two reports which clearly forewarned the estimates of emissions from deforestation were seriously in error before it published the WDR report.

18. World Growth was informed by Bank staff that the work was being peer reviewed for publication. This has now occurred with estimates of forest carbon stocks appearing in the Proceedings of the National Academy of Sciences of the United States of America (PNAS) in June 2011. See Box 1.

19. See <http://cait.wri.org/downloads/DN-LUCF.pdf>

20. Houghton estimates 2.2 PgC/yr in the 1990s.

21. World Bank, PEACE and DFID (2007), Indonesia and Climate Change: Current Status and Policies.

One report was prepared for the Indonesian Finance Ministry on strategies for funding REDD programs. It observed “Remote sensing data show that Indonesia’s deforestation rate is now much lower (perhaps two-thirds lower) than estimates from the period of economic crisis and decentralization.”²² It also observed that some reports on emissions from fires appeared to assume those same rates would continue each year into the future. Other funding partners were AusAID, Australia’s aid agency, and the Government of the Netherlands.

A second report in 2008 coordinated by the World Bank and co-funded with DFID, AusAID and PROFOR was produced by the Indonesia Forest Climate Alliance (IFCA).²³ When citing the IPCC 2007 report for headline numbers on emissions, it warned of the uncertainty in the Houghton numbers and explained the weaknesses in the data used to support them. It set out its own, more thorough, methodology which led it to conclude annual deforestation emissions in Indonesia between 2000 and 2005 were 502 MtCO₂e.

These reports should have rung alarm bells. The Houghton and IPCC conventional assessment was that Indonesia and Brazil between them accounted for about half of global emissions from deforestation. Not only did the World Bank reports show the estimates for Indonesia were wrong, reports of remote sensing of forest cover by Instituto Nacional de Pesquisas Espaciais (INPE, the Brazilian space agency) for two years had been reporting significant reductions in deforestation emissions from Brazil.

Research commissioned by the World Bank for the World Development Report by a group including Winrock International took that work further forward and refined (and for Indonesia, further reduced) the estimates of emissions from deforestation. This research was either well underway or completed when the Bank prepared the World Development Report, yet it stuck to the orthodoxy, ignored the data warning the numbers were out, recommended funding development of low carbon growth strategies.

Although the Copenhagen meeting failed to formalize any position on reducing emissions, including the REDD strategy, donors went ahead and committed to the Fund proposed by the World Bank and continued to press developing countries to commit to REDD emission reduction strategies. (*see Box 1*)

In August 2010, the Dewan Nasional Perubahan Iklim (DNPI, Indonesian Climate Change Council) produced a report setting out a strategy for Indonesia to reduce emissions. This report was funded by the Norwegian Government, the US-based ClimateWorks Foundation, Agence Française de Développement (AFD, the French aid agency) and the Packard Foundation. It was based on the McKinsey and Co global greenhouse gas abatement cost curve. This report stated Indonesia’s emissions in 2005 were 2055 MtCO₂e.²⁴ This was even higher the Houghton estimate. The Norwegian Government had already supported other research that strongly suggested these sorts of numbers for Indonesia were significant overestimates. It is also reasonable to assume they would have had forewarning of the likely results of the Winrock International research it co-funded with the World Bank.

At a forestry side event at the Cancun meeting of Climate Change negotiators in December 2010, one year after the failed Copenhagen meeting, Winrock International released a research poster which set out the results of the research commissioned for the World Development Report. It reported that its global assessments of emissions from deforestation and land use was half that of Houghton’s assessments. It reduced Indonesia’s annual greenhouse emissions from deforestation to 390 MtCO₂e.

22. Republic of Indonesia Ministry of Finance, November 2008, “Low Carbon Development Options: Phase 1, Status Report and Findings”, p 57.

23. Ministry of Forestry (2007), Consolidation Report Reducing Emission from Deforestation and Forest Degradation in Indonesia, Republic of Indonesia

24. Dewan Nasional Perubahan Iklim, Indonesia (National Council on Climate Change) August 2010, “Indonesia’s Greenhouse Gas Abatement Cost Curve” page 11. The source of this number is not clear.

Box 1. Peer review confirms Winrock analysis

Forests store carbon. Carbon emissions from deforestation are calculated as the change in forest carbon stocks when land is cleared. Emissions, therefore, depend on two factors: the extent of deforestation in hectares and the estimate of carbon stores per hectare.

Saatchi et al (2011) – the Winrock International research team - mapped total tropical forest carbon stock using inventory plots and satellite technology.²⁵ Their data confirms that carbon stocks per hectare in tropical forests are significantly less than those previously estimated.

Specifically, they estimate tropical carbon stocks at 100 tonnes C per hectare, less than half of the figures by Pan et al (2011) and Watson et al (2000), referenced by the IPCC, who estimate carbon stocks at around 242 tonnes C per hectare. The estimate is also significantly less than the Houghton (1999) estimate of carbon stock in tropical equatorial forests in Asia at 250 tonnes of C per hectare and the IPCC (2006) which uses a default value of 180-225 tonnes C per hectare.²⁶

All things constant, significantly lower estimates of carbon stocks in tropical forests per hectare result in significantly lower emissions estimates when these forests are felled - not even withstanding the fact that deforestation statistics may be overestimated. When coupled with reduced deforestation statistics, emissions estimates will be even lower.

Saatchi et al (2011) state that estimates of carbon emissions from deforestation require information on both the area of forest loss and the corresponding carbon stock of the land that is cleared. While both estimates are equally important to ensure correct estimation, much of the emphasis to date has been on improving estimates of forest area loss. In reality, overestimated carbon stocks are resulting in overestimated emissions from deforestation.

It is not the first time that Houghton's estimates of carbon stocks have been significantly greater than other estimates in the literature. Gibbs et al (2007) demonstrated that existing Indonesian carbon stock estimates ranged from 10,252 Mt C to 25,547 Mt C, with the higher estimate of 25,547 Mt C based on the Houghton (1999) and DeFries et al (2002) estimates. This included figures from a 1997 paper by Sandra Brown, one of the authors of the Saatchi et al (2011) paper.

25. The Saatchi et al (2011) paper was published in the peer-reviewed journal Proceedings of the National Academy of Sciences of the United States of America (PNAS), Vol. 108, No. 24, pp 9899-9904, June 14 2011

26. See Gibbs et al (2007), 'Monitoring and estimating tropical forest carbon stocks: making REDD a reality', Environmental Research Letters,



4. THE POLITICS OF DEFORESTATION

In light of what the World Bank knew, why did it formally advance statistics so egregiously wrong and a climate change strategy for developing countries based on them which was flawed and likely to waste billions of dollars and cause significant economic damage? Was it lack of diligence? Or a failure of World Bank staff to demonstrate professional competence?

The explanation has to be political. The authority and credibility of the World Bank rests on expert and sound research. It endlessly peer reviews itself. There had to be political factor to explain disregard of routine checks and balances.

The World Bank Alliance with WWF

Did the World Bank simply decide to go along with WWF policies? The World Bank struck a formal alliance with the Worldwide Fund for Nature (WWF) in 1998 and extended that for another five years in 2005. There is no indication Robert Zoellick, the current President of the World Bank, has formally extended the alliance.²⁷ He may not have to. The World Bank is acting as if the Alliance is permanent.

The conditions for lending on forestry projects set by the World Bank Group are WWF's preferred policies.²⁸ The Bank's formal policy is that it will not finance forestry projects unless the proponent accepts the

environmental standards of the Forest Stewardship Council, a body established by WWF more than 20 years before. The Council's standards are inimical to commercial forestry in natural forests and to conversion of forest land to other productive uses, such as agriculture.²⁹ This has been part of a global strategy by WWF since the Rio Earth Summit to stop conversion of forests to other uses. (See Annex I)

WWF's own record of using unreliable, unverified and even misleading data on forestry is a matter of public record. During the exceptional forest fires in Indonesia in the late nineties, Danish environmentalist Bjorn Lomborg revealed the President of WWF made claims about the extent and impact of the fires which seriously exaggerated.³⁰

In the wash-up of the Climategate scandal which revealed reports of climate change impacts had been improperly represented, it was revealed that a significant number of technical reports demonstrating adverse impacts of climate change published or promoted by WWF also contained improperly represented data. Following that, British journalist James Delingpole of the *Telegraph* demonstrated claims in WWF research that forest clearing in the Amazon diminishes rainfall could not be supported.³¹ World Growth's own review of WWF reports of deforestation rates in Indonesia also show claims about deforestation which lack substantiation.

Box 2. Playing the percentages

In late 2008, the World Bank and the Norwegian Government put out a request for proposals to assess global carbon stocks and emissions from tropical forests. The World Bank commissioned Winrock International to undertake the research later that year. In the 2010 World Development Report (WDR), released in December 2009, the World Bank cited the IPCC assessment of deforestation and land use emissions at 17 per cent.

In 2010, WWF Norway issued a report stating that emissions from deforestation were between 12 and 20 per cent, citing only research by van der Werf.³²

At the end of 2010, Winrock released its research showing emissions were likely to be below 12 per cent. It submitted its research for peer review and publication to PNAS (the Proceedings of the National Academy of Sciences) in December 2010.³³

27. Zoellick may feel comfortable associating with WWF. For a number of years he was a member of the Advisory Board to WWF US.

28. The International Finance Corporation will only lend to forestry projects if they apply the environmental standards stipulated in the Equator Principles. They stipulate that forestry projects have to follow environmental standards which are laid by the Forest Stewardship Council, an organization established and dominated by WWF.

29. This is not the formal policy. FSC specifically endorses sustainable forestry management. But its criteria, particularly the requirement not harvest in "high conservation value" areas, and other measures which constrain forestry in native forest, are used effectively to restrict new land clearance.

30. These are set out in Bjorn Lomborg, *The Skeptical Environmentalist*, Cambridge University Press, 2001 and not refuted by WWF.

31. This was dubbed "Amazongate" in the popular media.

32. van der Werf, G., Morton, D., DeFries, R., Olivier, J., Kasibhatla, P., Jackson, R., Collatz, G., and Randerson, J., (2009) 'CO₂ emissions from forest loss', *Nature Geoscience*, Vol. 2, p. 737-738

33. Sassan S. Saatchi, Nancy L. Harris, Sandra Brown, Michael Lefsky, Edward T. A. Mitchard, William Salas, Brian R. Zutta, Wolfgang Buermann, Simon L. Lewis, Stephen Hagen, Silvia Petrova, Lee White, Miles Silman, and Alexandra Morel (2011), 'Benchmark map of forest carbon stocks in tropical regions across three continents', *Proceedings of the National Academy of Sciences of the United States of America*, June 14, Vol. 108, No. 24, pp 9899- 99045

WWF Norway published an assertion in 2010 that emissions are between 12 and 20 per cent. This is a claim that is now regularly repeated by WWF.

PNAS published the article based on the Winrock research at the end of May 2011 after peer review. It states in its introduction that estimated of deforestation emissions range from 12 to 20 per cent.

In July the World Bank issued a media release stating emissions are 12 per cent, citing no source.

The PNAS article did not review the Winrock emissions assessment. Instead it reported the lowest yet assessment of forest carbon stocks, arrived at by Winrock.

That assessment so significantly reduces the size of forest carbon stocks globally, that only estimates of emissions from deforestation below 12 per cent can be credible.

Donor strategies to restrict forestry?

A second explanation might be that the World Bank management took a decision to promote the forestry climate change strategies of its major donors. The leaders in this respect seem to be the Governments of the UK and Norway. Both have strong relationships with WWF.

In the last decade Britain made the goal of stopping deforestation (or forest conversion) in the tropical region and particularly Southeast Asia an international diplomatic strategy. Indonesia appeared to be a primary target. It had been pilloried by NGOs and donors for rapid deforestation in the late 1990s.

The backdrop for this is the protracted struggle in international fora since the Rio Earth Summit in 1992 over global regulation of forestry. It is a running conflict between wealthy Western economies, (convinced reduction of forests in the developing world should cease for environmental reasons) and developing economies with substantial forest resources (resolved to utilize some of them to generate wealth and reduce poverty). A summary account is set out in Annex I.

This explains the regular funding of research reports by the UK which purport to demonstrate among other things why developing countries should reduce emissions and why those in the tropical zone (in Asia) in Southeast Asia and Indonesia in particular should cease forest conversion.

Invariably these reports showed emissions from deforestation in Indonesia were very large; they also argued for policies that would prevent the conversion of forest land to other uses. The reports never provided a technically-based environmental justification for complete prevention.

Norway was also actively engaged in global “deforestation diplomacy”. It offered Brazil USD 1 billion dollars if it ceased deforestation and made a similar offer to Indonesia. When the World Bank established funds to support deforestation programs, the Norwegian Government was a willing contributor. It is cross-party position in Norway that any global agreement on climate change should include an end to deforestation and that Norwegian funding for that in other countries be counted as part of Norway’s national commitment to reduce emissions.³⁴

A centrepiece in this push for deforestation diplomacy by the World Bank and donors was promotion of REDD programmes, of which the World Bank was a leading advocate, as a vehicle to engage developing countries in a broader climate change agreement. (See Annex II)

In the approach to the Copenhagen climate change conference, the World Bank clearly elected to align its public position with these major donors. This was arguably an inappropriate role for the Bank. It is not an executive agency of a government; it is a development institution formally governed by a Board. It is supposed to represent both developed and developing countries. Its key mandate is to raise living standards in poor countries, not threaten them.

34. See http://www.regjeringen.no/upload/MD/Vedlegg/Klima/Agreement_on_Norways_climate_policy_080117.pdf



ANNEX I: THE BATTLE FOR GLOBAL FOREST REGULATION

The divide between developing economies and donors (and environmental NGOs) over forestry has existed since the Rio Earth Summit in 1992. At the Summit, the latter parties proposed a global convention on forestry. Developing countries blocked it; they saw forestry as a development tool: improving the environmental impact of forestry should go hand in hand with securing the economic benefits not reduce them.

The result on forestry at Rio was a set of principles to achieve sustainable forestry, defined as producing both environmental and development benefits.³⁵ The principles were non-binding but described as the first global consensus on forestry. European Governments persisted in efforts to secure a United Nations convention on forestry, beginning in the UN Economic and Social Council in 1995. The result in 2000 was not an agreement but a new forum - the United Nations Forum on Forests (UNFF) - with a mandate to develop yet another international strategy on forestry.

At around the same time, the UK Government made illegal logging a global cause celebre, launching a global campaign at the G8 Summit hosted by Britain in 1998 and relaunching it at the Gleneagles Summit in 2005. This resulted in a rising clamour by industrialized countries about illegal logging - and a global campaign by the European Commission to establish trade controls on illegal timber imports.

The campaign served another purpose - the elevation of deforestation as a climate change problem. Consequently, greater attention was given to forestry in global discussions on climate change in the lead up to the Bali conference in 2007, which launched a new climate change negotiating process to follow the Kyoto Protocol. Most attention was focussed on Indonesia and Brazil, which were conventionally rated by the IPCC as responsible between them for half of the 17 per cent of global greenhouse emissions it claimed were generated from deforestation.

The case that illegal logging is a major global forestry problem is weak. The most authoritative and most cited reference was a study by US consultants who estimated that perhaps nine per cent of timber globally traded might have been illegally logged.³⁶ The consultant warned there was little empirical research on the subject and that most claims were made by NGOs (most of which are politically opposed to forestry). It is also generally

conceded that the incidence of illegal logging in both Brazil and Indonesia over the decade has declined. A recent report by Chatham House³⁷ which runs an illegal logging program funded by the DFID also reported the incidence had fallen.

The illegal logging furore has little impact on the negotiations in the UN Forum on Forests. Although industrialized countries again tried to get developing countries to agree to a global forestry convention, the end result in the Forum in 2007 was a "Non-Legally Binding Instrument on All Types of Forests"³⁸ and a decision in the Forum that the question of a binding instrument would not be considered again before 2015.

A second line of pressure on developing countries emerged from members of the EU. In 2003, the European Commission launched a major program to counter illegal logging which it clumsily dubbed FLEGT (Forest Law Enforcement, Government and Trade). It threatened developing countries with trade sanctions unless they entered a bilateral agreement with the European Union through which they had to commit to regulate to halt illegal logging and give the European Union the right to block trade unless they implement such measures.

In addition, the UK and then the European Parliament adopted 'Due Diligence' legislation which makes it an offence for someone to place a timber product on to the European market unless they have satisfied themselves it is legally procured. A similar provision has been attached to the Lacey Act in the United States and the Australian Government has announced it will also make the purchase of illegally logged timber products an offence.³⁹

It is important to note that in regularly calling for an end to deforestation (clearance of forest land) NGOs and donors ignore the fact that most forested developing countries have set aside between 25 and 50 percent of national land for forestry. The parties to the UN Convention on Biodiversity specified several years ago that worldwide 10 percent of forest should be set aside to ensure biodiversity was protected. This is not a campaign to protect biodiversity; it is a campaign to leave trees in the ground, regardless of the opportunity cost by not using available resources to raise living standards, and without any systematic or measurable assessment of the impact on forest biodiversity.

35. See Report of the United Nations Conference on Environment and Development, Annex III, Non-binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests. UNGA Document A/CONF.151/26 (Vol. III)

36. The study was prepared by Seneca Creek consultants for the American Forest and Paper Association. The report cautioned that most of the sources for claims of illegal logging were NGOs and that little verifiable data was available.

37. Lawson, Sam and MacFaul, Larry, Royal Institute of International Affairs Chatham House. Illegal logging and related trade : indicators of the global response [Electronic resource] / Sam Lawson and Larry MacFaul. - London : Chatham House, 2010. - xix, 132p

38. <http://www.un.org/esa/forests/about.html>

39. These clumsy legal approaches have been adopted in an effort to shield these measures from challenge under WTO rules which are considered hostile to measures which restrict imports according to how they are produced.



ANNEX II: FORESTRY, DEVELOPMENT AND THE CLIMATE NEGOTIATIONS

Forestry has not received the proper attention it deserves in the climate change negotiations. In the negotiation of the Kyoto Protocol, the rules on land use and forestry severely limit use of forests as carbon sinks to meet mitigation obligations under the Agreement. The Kyoto Protocol rules, for example, state that any removal of forest reduced the carbon sink, measured in part by loss of the tree, without assessing the carbon retained in products from the tree – timber and paper, whether in use or landfill.

The reason for limiting use of forests as forest carbon sinks is political. There are two reasons. The leading climate change environmental NGOs (WWF, Greenpeace) have always contended that the principal means of reducing emissions must be from reduction of emissions from combustion of fossil fuels. This attitude has been influential on environmental officials in the EU. The head of WWF in the US recently confirmed WWF considered itself instrumental in ensuring the Kyoto Protocol did not allow the building of forest carbon sinks as a major tool to reduce emissions.⁴⁰ A formal reading of WWF positions clearly demonstrate this is the case, but in typical manner, WWF had never overtly declared this, until the recent statement by the US CEO.

The second reason is to limit even the practice of sustainable forestry. The chapter on forestry in the Fourth Assessment of the IPCC states baldly that the cheapest and most effective way of reducing emissions is to expand sustainable management of forests (and it produces the benefit of an economic return from the forestry).⁴¹ If it is cheaper to expand sustainable forestry (which generally means selective harvesting, allowing regrowth, then selective harvesting again in ways that take advantage of the fact rapidly growing forests generally absorb more carbon dioxide than older and aging forests) than meeting the costs of reducing emissions by raising power costs by replacing carbon combustion fuels with other more expensive technologies, why would not that have been pursued in the Kyoto Protocol or the UNFCCC negotiations on a replacement for Kyoto?

Because of Greenpeace, WWF and European environmental agencies, strategies to reduce emissions had to focus on reducing the carbon fuel resources. To them it was more important to create low carbon economies than to consider strategies which reduced the cost of lowering emissions. The result is that compared to the vast amounts of money expended on climate change research, little effective research has been done on the carbon cycle of forests.⁴²

We can expect the NGOs to push positions without a sound technical basis. That is standard procedure. It is not standard procedure for the World Bank or for development agencies except, apparently, when it comes to forestry. Before the Bank started bowing before NGO agitation against forestry in the lead up to the Rio Earth Summit, it funded empirical and technical research on forestry.

The public debate over forestry in the lead and after the Bali conference which launched the negotiations has instead been about “REDD”. This strategy had been promoted for several years by a group of small forested developing countries⁴³ which has been encouraged by papers published by the World Bank⁴⁴ and donors, particularly the UK and Norway. Both sets of parties lobbied in the UN negotiating process to have REDD adopted as part of the new global convention on climate change.

But at the meeting in Bali in 2007 which launched the negotiations, their REDD concept was not endorsed. The proposition from the donors that there be a cessation of deforestation was not acceptable. Developing countries insisted instead on the right to expand sustainable forestry.

So the Bali negotiating process began without REDD being formally endorsed. It remained unagreed in the run up to the Copenhagen meeting where the goal was to get agreement on a new treaty to replace the Kyoto Protocol. That meeting failed. The Cancun set of climate change negotiations (held a year later in December 2010) finally settled on an approach to forestry to be

40. See WWF ends contentious debate, will now support effort to fight climate change by saving rainforests, Rhett A. Butler, mongabay.com, September 24, 2008

“In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit” IPCC, 2007a, Climate Change 2007: Mitigation of Climate Change, Contribution of Working Group III to the Fourth Assessment Report of the IPCC, Metz, B,

41. Davidson, OR, Bosch, PR, Dave, R, and Meyer, LA, (eds), Cambridge University Press, Cambridge, UK and New York, NY, p 543, accessed at: <http://www.ipcc.ch/ipcc-reports/ar4-wg3.htm>

42. See World Growth, 2011 “Grappling with Inordinate Uncertainty”

43. Coalition of Rainforest Nations

44. Chomitz, Kenneth M. & World Bank. 2007 At loggerheads? : agricultural expansion, poverty reduction, and environment in the tropical forests / Kenneth M. Chomitz et al World Bank, Washington, DC : <http://www.loc.gov/catdir/toc/ecip072/2006032118.html>

included when a global agreement on how to deal with climate change at large is finalized. There is no ban on deforestation. It affirms that developing countries can continue to manage forests sustainably for both economic and environmental purposes.

In the same way the larger European donors ignored the outcome on sustainable forestry at the Rio Earth Summit, they are ignoring the provisional consensus already agreed in the climate change negotiations that measures to manage the impact of climate change do not automatically mean further forest clearance must cease.

Instead, they are offering billions of dollars to entice governments of developing countries to fulfil developed country ambitions.



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About World Growth

World Growth is a non-profit, non-governmental organization established with an educational and charitable mission to expand the education, information and other resources available to disadvantaged populations to improve their health and economic welfare. At World Growth, we embrace and celebrate the new age of globalization and the power of free trade to eradicate poverty and improve living conditions for people in the developing world.

Our Philosophy

World Growth believes that helping the developing world realize its full potential is one of the great moral aims for those of us fortunate to live in the wealthy developed world. We also believe that a misdiagnosis of what ails the underdeveloped world has yielded policy prescriptions that have been useless or even harmful to the world's 'bottom billion.'

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