



## SPECIAL BULLETIN

August 2009

## FORESTS AND CLIMATE

### REDD: MUST FOCUS ON PROTECTING INTACT FORESTS IF IT IS TO HELP AVERT DANGEROUS CLIMATE CHANGE AND AVOID LULUCF PERVERSITIES

Keeping faith with the UN Framework Convention on Climate Change (UNFCCC) and its 2007 Bali Action Plan means agreeing a REDD mechanism in Copenhagen aimed at protecting intact forests, as large carbon stores, from destruction and degradation — not just destroying or degrading them more slowly as advocates of Sustainable Forest Management (SFM) would have us believe. Unfortunately, the opportunity for a REDD mechanism to protect forests is being drowned out by calls for SFM and 'REDD-plus'. This Technical Bulletin explains why the REDD mechanism should focus on forest protection and places the modest benefits from 'REDD-plus' activities in context, while exposing the dangerously perverse nature of some SFM activities, which risk being further exacerbated by deceptive LULUCF definitions and Kyoto Protocol accounting rules.

'REDD-plus' is that part of the Bali Action Plan covering *'action on mitigation of climate change, including, inter alia, policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries ('REDD'); and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (where everything after the semi-colon is REDD-plus)*. 'REDD' is the new idea for a market mechanism whereby polluters and/or governments in developed countries can help fund emissions reduction through avoided deforestation and forest degradation in developing countries — something HSI is very supportive of, especially if it involves recognition of and support for forest dependent local communities and indigenous peoples and focuses on areas of biodiversity hotspots. 'REDD-plus' activities, meanwhile, could be business as usual with lots of opportunity for corporate scams, rorts and perversities.

Meanwhile, LULUCF refers to the reporting and accounting rules set by the Kyoto Protocol for the 'land use, land use change, and forestry' sector which encourage perverse behaviour by foresters by not regarding conversion of native forests to plantations as 'deforestation' and by making it optional



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for countries to report emissions from logging forests — thus making 'business as usual' in the forest industry look 'mostly harmless' from the climate change perspective — while nothing could be further from the truth.

The centrefold of this Technical Bulletin seeks to graphically illustrate, in a general way, the relative contribution of different forest management activities to maintaining, increasing or degrading forest carbon stores to help make it clear that:

- only those activities that reduce emissions by protecting carbon stores in intact native forest — by avoiding deforestation or forest degradation (and restoring partly degraded forests) — should be included in any REDD Mechanism;
- those activities that increase carbon stores should be eligible for inclusion in the other elements of REDD-plus (the '-plus' bits beyond the semi colon); and
- those activities that perversely cause emissions and thus reduce forest carbon stores should be excluded from any REDD-plus arrangements (notwithstanding the fact that they may be included within the concept of SFM).

### SFM, REDD AND REDD-PLUS IN CONTEXT

Of the nine land use activities identified in the centrefold of this Technical Bulletin, the first eight are included in the scope of SFM but only five should be regarded as consistent with any REDD-plus arrangements (for enhancing carbon stocks through conservation, sustainable management of forests and enhancement of forest carbon stocks) and only two of those five should be covered by any REDD Mechanism (for protecting carbon stocks in intact forests). Other forest management activities included in the concept of SFM but which increase, rather than reduce, emissions should be regarded as ineligible for any REDD-plus mechanisms, incentives or other arrangements. Such perversities should simply not be acceptable.

SFM is not the same as 'sustainable management of forests' (a plus part of REDD-plus). SFM has a diversity of interpretations but the focus is more on maintaining sustainable wood supply than on the ecological sustainability

of forestry practices. In some countries conversion of natural forests to plantations is still considered SFM and, while conversion is a highly emissive activity, using the current UNFCCC definition of a forest, which does not exclude plantations, it would not be considered deforestation.

Insofar as SFM embraces both positive and negative actions in terms of greenhouse gas emissions reduction, it should be regarded as an inappropriate framework within which REDD-plus might be delivered. Indeed, to do otherwise would lead to some dangerously perverse outcomes for developing countries — just as the current LULUCF rules do for developed countries. It is important that each forest management activity is evaluated on its own merits — and there should be no place in REDD-plus for the logging of intact forests or for their conversion to plantations, both highly emissive activities.

# REDD: RECOGNISING THE OPPORTUNITIES AND AVOIDING PERVERSITIES

This bar chart illustrates the greenhouse gas emissions implications of the range of forest management actions being discussed in the context of REDD, REDD-plus and SFM. The green/yellow bar above the line indicates relative gains in terms of emissions avoided or sequestration achieved while the orange/red bar below the line indicates emissions created. The size of the bar includes both the immediate impact of management and the impacts over subsequent decades.

## INTACT PEAT SWAMP FOREST (INDONESIA)



Pieter van Eijk, Wetlands International

There is simply no better way to ecosystem carbon in the ground than by protecting the vast amounts of accumulated below-ground carbon in peat-swamp forests. While only 2% of tropical forests may be swamp forests, a much greater proportion of tropical forest carbon is to be found in these relatively small and scattered areas. The deforestation rate in peat swamp forests is almost double that in non-peat forests; they are a major and growing source of carbon dioxide emissions. Protecting these peat soils from palm oil and pulp wood plantations, providing adequate incentives and support to landholders and communities to prevent the logging, clearing and draining of swamp forests should be the number one urgent priority for the international community in any REDD Mechanism. Moreover, restoration of degraded peatlands, to prevent ongoing degradation, by optimising their water management is a highly cost-effective priority to combat climate change.

REDD



## INTACT RAINFOREST (COSTA RICA)

Intact tropical forests not only have massive stores and reservoirs of carbon (in both above-ground biomass and as soil carbon) but also continue to sequester more carbon for centuries. Protecting them should be the primary purpose of any REDD Mechanism. Intact natural ecosystems also

tend to be most resilient carbon stores in the longer term, being capable of resisting and recovering from stochastic risks such as fire and disease and of adapting to environmental change. Degradation, whether by logging or otherwise, can therefore be expected to undermine such resilience. Effective protection includes recognising, upholding and supporting the rights of indigenous peoples and local communities, including implementing international obligations, especially the UN Declaration on the Rights of Indigenous Peoples, while recognising the reality that any lack of local support will exacerbate doubts about the permanence of protection efforts.

Photograph by Jonathan Muriuki

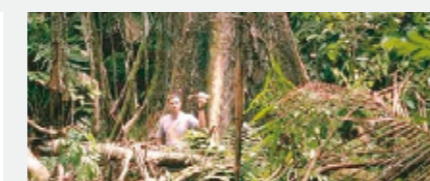


## AGROFORESTRY AND CONSERVATION AGRICULTURE (SELF-HELP TREE NURSERY, MUNGANO, KENYA)

There is a huge range of agricultural and forestry techniques, technologies and farming systems which can significantly increase the carbon content of both soils and cropland vegetation, including forests managed for commercial wood production. These regenerative activities, in already logged forest or on cleared land, should be included in the scope of REDD-plus. The amounts of carbon involved are generally much less than gains or losses associated with retaining or losing intact forests. Nevertheless, substantial gains may accumulate over time (especially from extending harvest intervals/rotation lengths of secondary or regrowth forests or changing management of soils). Because transaction costs are relatively high, MRV remains a pervasive problem for small landholders reporting small gains in carbon stores, in the absence of cheap and credible estimation methodologies.

## RESTORATION OF DEGRADED FOREST TO CARBON CARRYING CAPACITY (RESERVED MAHOGANY, MARABA, BRAZIL)

Restoration can deliver substantial gains in carbon content over long periods of time by allowing recently cleared or degraded forest areas to naturally regenerate to their original carbon carrying capacity. To date, we have been slow to appreciate the extent to which carbon storage in modified forested landscapes has degraded substantially below carbon carrying capacity thus creating the potential for sequestration to continue for centuries. There are often attractive forest restoration opportunities to complement efforts to protect remaining intact forests, to restore traditional lands to indigenous peoples or to improve the sustainability of agricultural and pastoral landscapes for local communities. These activities should be included in the scope of REDD-plus.



Photograph by Anthony Simons

REDD-plus

REDD-plus

## AFFORESTATION/ REFORESTATION (PINE PLANTATION)

Significant gains in carbon content can be achieved by re-establishing trees in the landscape either as natural regeneration, by replanting on recently deforested areas (reforestation) or by planting in old clearings or areas of non-forest vegetation (afforestation). The potential for large gains is substantially constrained, however, by any plans to harvest wood from such planted areas and largely negated if conversion of partially degraded forest is involved. Poorly implemented plantations can also have high social and environmental costs may be high if not intolerable. Industrial scale plantations do not involve emissions reduction so should not be eligible for inclusion in any REDD Mechanism. We should, instead, focus on restructuring the existing CDM mechanism to make A/R projects more feasible.



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CDM/REDD-plus

SFM

SFM

SFM

## CONVERSION OF NATURAL FORESTS TO PLANTATIONS (TASMANIA, AUSTRALIA)

Large amounts of carbon are lost (as both in situ emissions and wood removals) when intact forest is cleared and converted to plantations. If the UN-FCCC's perverse LULUCF rules, which currently include 'plantations' in the definition of 'forests', are not changed, this highly polluting activity would not even be considered 'deforestation' because there would be an intention to re-establish trees. The amount of carbon sequestered as the plantation grows never matches that lost on clearing (typically, 50-70% of original carbon is never replaced). Regular commercial harvesting also prevents any significant return to pre-logging carbon carrying capacity, recovery of ecosystem function or restoration of non-timber benefits to local and indigenous peoples. While such activity is within the scope of 'SFM', it should be excluded from any REDD-plus arrangements.



Photograph by Rob Blakers

## OIL PALM PLANTATION ESTABLISHED ON CLEARED PEAT-SWAMP FOREST (INDONESIA)

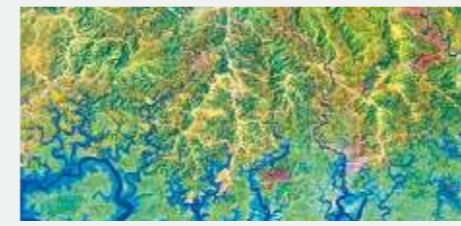
This activity is in a class of its own as disastrous for climate change. Massive levels of immediate carbon loss (especially associated with use of fire as a management tool) combine with high levels of emissions for many years as drained peat oxidises away. That the resultant palm oil could be considered to be a 'renewable' climate-friendly biofuel is perversely ridiculous and dangerously misleading. However, if the UN-FCCC's current perverse LULUCF rules continue to include 'plantations' in the definition of 'forests', this highly polluting activity would not be classed as 'deforestation'. While such activity is within the scope of 'SFM', it should be excluded from any REDD-plus arrangements.



Marcel Sivius, Wetlands International

DEFORESTATION

SHOULD BE INELIGIBLE FOR REDD-PLUS INCENTIVES



## PARTIAL/SELECTION LOGGING OF INTACT FOREST (PNG)

While it is not outright deforestation, large scale selection logging for domestic and international wood markets is the huge but largely ignored forest carbon store protection problem. While initial losses of carbon may not be so great as for intact forests cleared for conversion to plantations, losses are still considerable and exacerbated by soil exposure and use of fire to remove logging debris. Typically, 40-60% of original carbon is never replaced. Regular commercial harvesting also prevents significant recovery to carbon carrying capacity. While MRV of carbon stores and emissions is more challenging than for deforestation or conversion to plantations, adequate remote sensing methodologies do now exist. Based on a 2005 study in the Amazon, Asner et.al. (Science, 310) found that, within four years of selection logging, about a third of the forest is likely to have been subsequently deforested. While such activity is within the scope of 'SFM', it should be excluded from any REDD-plus arrangements.



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## CLEARING OF RAINFOREST FOR CATTLE RANCHING/PASTURE (BRAZILIAN AMAZON)

High levels of carbon loss (as both in situ emissions and wood removals) on initial clearing combine with ongoing carbon losses from pasture soils and ruminant methane emissions to make this land use change a serious climate change problem. These lands are often degraded first by illegal or SFM-consistent logging before being cleared. Given the low value of pastoral land compared with alternative uses, allowing and encouraging such clearing and conversion is a poor policy option. Nevertheless, 60-70% of clearing is to create more cattle pasture and for soyabean cultivation. If the scale of the degradation is great enough, ecological shift to drier forest types and modification of regional climate and hydrology can seriously exacerbate problems.

Reproduced from Shearman et al, 'State of the Forests of Papua New Guinea'



Conversion of forest to palm oil plantation  
Photograph by Steve Jackson

## **WOOD PRODUCTS: LET'S REDUCE THE DRIVERS OF FOREST DEGRADATION, NOT SUBSIDISE THEM**

What is particularly new about 'REDD' is that it covers 'forest degradation' as well as 'deforestation'. Forest degradation by industrial scale logging to supply global wood markets is a huge global problem that has not received the policy attention it deserves — the 'elephant in the room'. Such forest degradation is often a precursor to eventual deforestation — we simply can't stop deforestation without addressing forest degradation as well. If REDD is to be effective in achieving a net reduction in emissions, and in saving the remaining intact forests of the world, industrial scale logging of native forests needs to be phased out — and as quickly as possible.

HSI is calling on all governments negotiating the new 'Copenhagen deal' to support an authentic REDD mechanism not only through payments to developing countries but also through domestic policies and measures to reduce drivers of deforestation and forest degradation such as industrial demand for wood.

REDD is not just a matter for developing country action. Developed countries and their citizens (that's us) have a matching responsibility to ensure that their market demand for wood and wood products is moderated to match the decrease in supply from natural forests induced by implementation of an effective REDD mechanism. Without policies and market measures to suppress demand for 'virgin' wood and fibre from native forests, underlying demand will simply drive 'leakage' from one intact forest to another.

Making any REDD mechanism effective is thus a matter of 'common but differentiated responsibility' for action by all countries, both developed and developing, according to their respective capabilities and opportunities. We should begin to think of wood and wood products flowing through the economies of the world in the same way that we conventionally regard fossil fuels. Global industrial wood production is about 1.5 billion tonnes a year, equivalent to almost 6 billion tonnes/year of CO<sub>2</sub> — and that's not counting the incidental emissions associated with harvesting the logs in the first place. That's a lot of carbon emissions.

## **AVOIDING DANGEROUS CLIMATE CHANGE NEEDS FOREST PROTECTION: HSI RECOMMENDATIONS**

The 4th IPCC Assessment Report estimated that some 17% of global emissions are attributable to deforestation, using some very conservative default values for carbon content of standing forests. If more realistic forest carbon values are used and, if forest degradation is included, that figure would increase from 17% to more than 25%. This is too big to ignore — and must be aggressively and urgently confronted if the 25-40% cuts in emissions by 2020 are to be made with a view to stabilising GHG concentrations at 450ppm, as recommended by the IPCC if dangerous climate change is to be avoided, and nevermind 350ppm as scientists are more recently advising is necessary. The Copenhagen COP should thus include in its decisions:

- Changing the definition of 'forest' to exclude 'plantation' (so that such conversion is classed as deforestation and thence subject to relevant bans, restrictions and reporting obligations);
- Change the LULUCF rules to require Annex 1 countries to account for emissions from forestry activities (it's voluntary at present and very large emissions are improperly ignored);
- Establishing a REDD mechanism solely for the purpose of encouraging protection of carbon stores and reservoirs in intact natural forests and associated ecosystems;
- To complement a REDD mechanism for developing countries, developed countries should accept an obligation to manage demand within their own economies to minimise use of timber and fibre derived from natural forests to reduce 'leakage' pressure within and between developing countries.
- Limit additional REDD-plus incentive schemes only to those activities that increase the carbon content of relevant areas (and explicitly exclude activities that generate emissions — even if they are included in the concept of SFM);
- Effective safeguards and conditionalities to make sure that indigenous peoples rights are recognised, local communities interests recognised and biodiversity conserved;
- Adopt full carbon/landscape accounting just as soon as appropriate methodologies can be agreed (and recognising that many countries will need help and encouragement to upgrade their reporting accordingly); and
- Ask the IPCC to undertake specific studies of AFOLU (agriculture, forestry and other land uses) with a view to including in their 5th Assessment Report a comprehensive analysis of status and trends for terrestrial carbon stores, and associated advice on how best such stores might be maintained and fluxes managed to maximise stores and sequestration rates.



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