

Climate change, Restoration and Resilience

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June 2010

18th Commonwealth Forestry Conference, Edinburgh. 28 June - 2 July 2010

Session- Global Challenges: The Case for Action (14.05-14.25)

The conference is aiming to

- *Strengthen support for forest restoration and help move forestry up the political agenda by demonstrating that it has a vital role in combating climate change*
- *Show that forest restoration can also provide real, tangible, deliverable solutions today for local communities and the world's population alike.*
- *Recognise and promote the role of the Commonwealth's next generation of people who will be driving forward and delivering change in the future.*

The Conference will seek to clarify the connections between forestry and finance, agriculture and energy generation in relation to climate change and whilst it is non-political, will look to influence government policies.

Introduction

Climate change has focused our attention on the need for urgent and decisive action if we are 'to avoid the Earth passing a point of no return beyond which the future will be out of our hands'.ⁱ Gradual increase in global temperature could lead to abrupt changes, so-called tipping points, such as the melting of ice sheets and glaciers and the loss of tropical forests.

Climate change is not the only process that can result in tipping points. Rokström et al (2009)ⁱⁱ propose a set of nine 'non-negotiable planetary conditions that humanity needs to respect in order to avoid the risk of deleterious or even catastrophic environmental change at continental to global scales.' The nine planetary boundaries are: climate change; ocean acidification; stratospheric ozone depletion; atmospheric aerosol loading; bio-geo-chemical flows, interference with Phosphorous and Nitrogen cycles; Global freshwater use; land-use system change; rate of biodiversity loss; and chemical pollution (See figure 1).

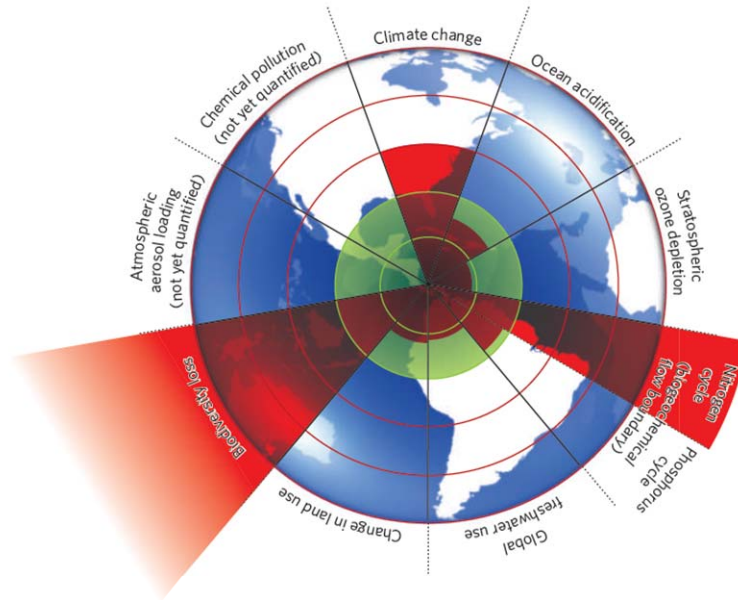


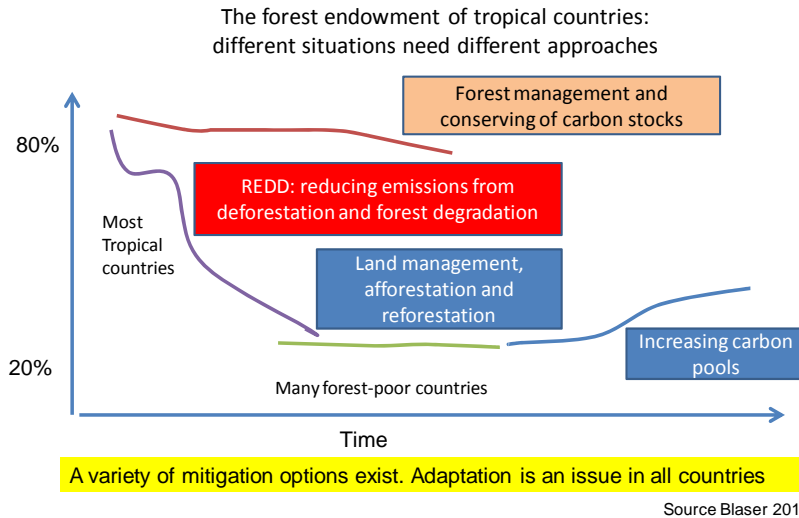
Figure 1 Planetary Boundaries (Rokström et al (2009))

Although this conference is particularly focused on climate change and forests, it is important to acknowledge that several other planetary boundaries are directly relevant to forests, particularly land use change and biodiversity loss and that these two issues are inextricably linked to and interact with climate change.

Forests and climate change mitigation

Forests provide a substantial carbon reservoir and they are also a source of an estimated 17 % of current global greenhouse gas emissions, the latter being a result of deforestation and forest degradation. FAO has recently estimated that the annual global net loss of forests is 5.2 million hectares, and that approximately 13 million hectares of forests were converted to other uses or lost through natural causes each year between 2000 and 2010. Addressing deforestation and forest degradation is, therefore, a fundamental element of a global strategy to stabilize green house gases.

Reducing Emissions from Deforestation and forest Degradation (the so called REDD plus mechanism within the United Nations Framework Convention on Climate Change UNFCCC), as currently envisaged includes a broad range of measures aimed at reducing emissions of green house gases from forests, including from deforestation and forest degradation **and** the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries (see Figure 2 by Blaser 2010).



A great deal of progress has been made with REDD plus at national and international levels since the UNFCCC climate change meeting in Bali in December 2007. Current REDD plus discussions in different fora (e.g. UNFCCC and the France-Norway led REDD+ Partnership) include consideration of, for example, substantial amounts of proposed funding (current pledges amount to US \$ 4 billion), a full range of REDD plus possibilities that could extend to most tropical countries, a set of environmental and social safeguards, and over 40 countries are developing REDD readiness frameworks at national level.

It is assumed that by strengthening the capacity of forests to conserve and enhance carbon stocks, REDD-plus will offer cost-effective and immediate CO₂ emissions reductions while also providing an opportunity to generate other benefits for forest-dependent communities and biodiversity conservation. However, to realize this, REDD needs to treat forests not only as carbon stores, and build on existing experience in forest conservation and sustainable forest management. This entails recognizing the multiple economic, social and ecological benefits of forests.

REDD plus needs to be seen in the overall imperative of stabilizing global green house gases.

Unfortunately, the current proposals to mitigate climate change are insufficient to keep global warming within 2°C. Whilst REDD plus may only be a part of the solution to climate change, it is nevertheless an important **complement** to other emissions reduction methods, particularly technological and engineering solutions that may take some time to develop and bring to scale. In other words, REDD plus may provide a tool for reducing emissions that can be deployed rapidly. In the longer term, however, it is essential that all reasonable approaches to stabilize green house gases are used if we are to avoid potentially catastrophic climate change.

Current proposals, however, are 6-9 Gt short of the 450 ppm pathway

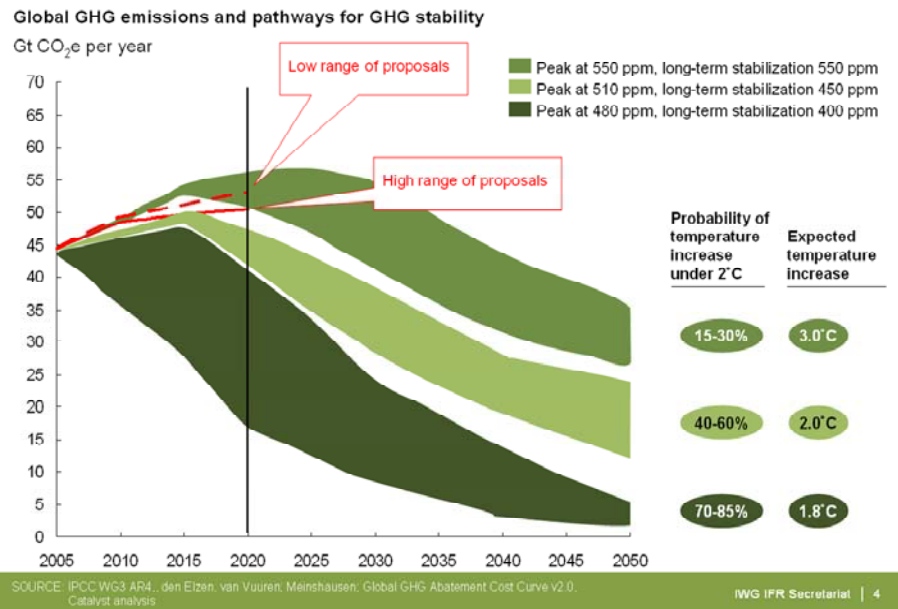


Figure 2 Global greenhouse gas emissions and pathways to stability

Adapting to climate—the role of forests

Forests are not only important for the role they can play in stabilizing green house gas emissions, but also for their role in helping people adapt to the inevitable consequences of climate change. Sustainably managing, conserving and restoring forests so that they continue to provide the ecosystem services that allow people to adapt to climate change is a message that this conference needs to stress.

Forests play a vital role in the regulation of ecosystem processes including the regulation of climate, pests and diseases and floods and in supporting production of other ecosystem services such as food and water (see the Millennium Ecosystem Assessment 2005). Forests can also help buffer against extreme weather events that are likely under a changing climate. These natural buffers are often less expensive to maintain and in certain cases, can be as effective as built structures such as dykes or concrete walls (IUCN 2010).

Adaptation using forests offers a cost-effective solution when combined with other adaptation approaches including infrastructure and engineering. Moreover, forests can help build long-term resilience and help avoid inappropriate adaptation because forest-based solutions can build on local needs and capacities, with proper consideration to groups such as women and indigenous peoples.

Seizing the opportunity for forest restoration

We need to seize the opportunity that forest restoration can play in climate change. In late 2009 the Global Partnership for Forest Landscape Restoration estimated there is 1 billion hectares of degraded forest lands and secondary forests worldwide that are potentially suitable for restoration.

Of course not all of this land is available for restoration, but there is no doubt a substantial land area available. This may offer potential for large scale REDD plus investments and thereby provide a relatively rapid way to store carbon, while, if done correctly, benefiting large numbers of rural people and enhancing efforts to conserve biodiversity by restoring forest functionality and productivity.

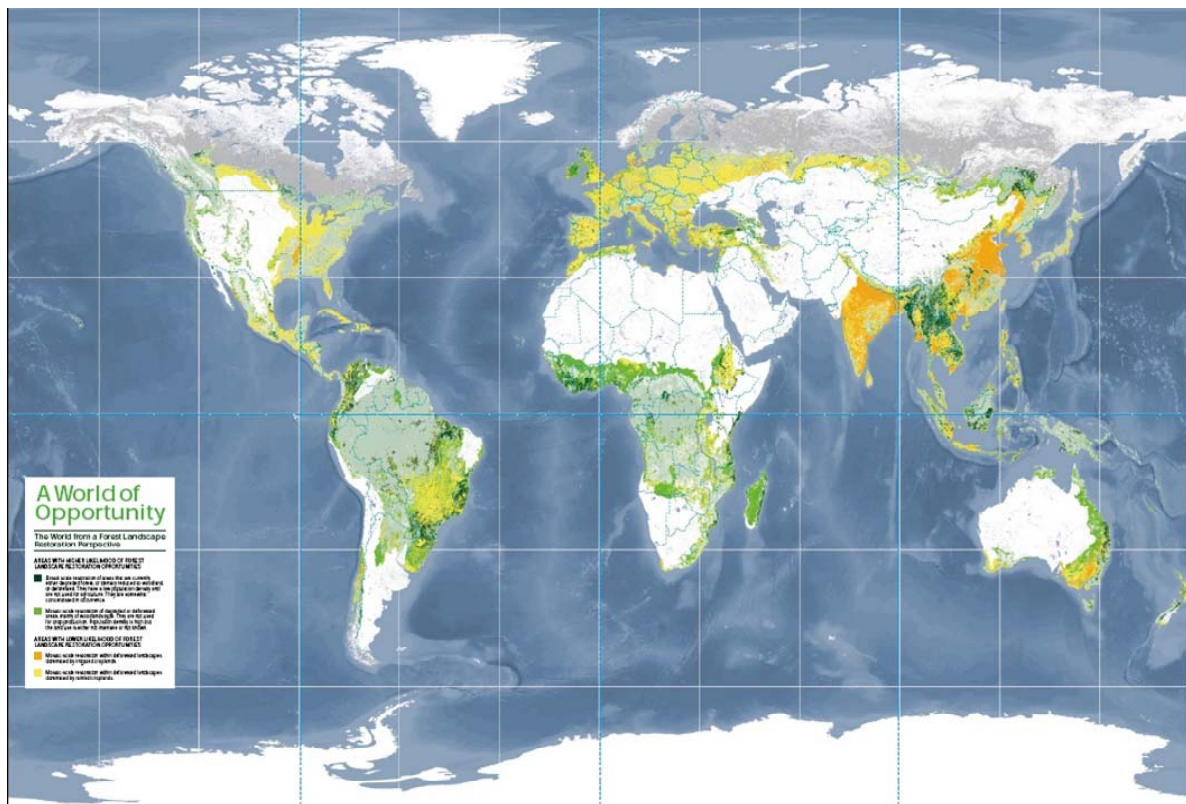


Figure 3 The potential for forest landscape restoration (The green areas on the map reflect the potential for forest restoration activities; the red and orange areas reflect the potential of either smaller scale efforts or the enhancement of the woody component on crop and pasture lands)

Allow me to propose today some elements for framing forest restoration as a response to climate change adaptation and mitigation.

Governance and self organization

REDD plus strategies can best be achieved through multistakeholder platforms that include the views of all relevant actors and stakeholders in decisions. Perhaps the greatest challenge that this entails is the recognition that those with most to gain or lose through managing forests, the rural poor, are often those least well equipped to take part in negotiations. The creation of multistakeholder processes will, therefore, require considerable investment in human and institutional development (Jackson 2009).

REDD plus and climate adaptation present opportunities to build on the extensive experience in the forest sector with multistakeholder forest governance reform processes. But this will require us to build on the hard-won gains made to date in the forest sector in promoting a more people-centred, multifunctional, and pluralistic understanding of forests and sustainable forest management.

Multistakeholder forest governance processes have taught us some salient lessons for climate change including:

- The likely impact of climate mitigation adaptation strategies on rural communities and forest dependent groups, particularly the rural poor, women and indigenous peoples needs to be understood within both national and sub national contexts. REDD plus strategies need to consider land use, carbon rights and adequate legal frameworks including securing forest rights for those people who are most dependent upon forests for their livelihoods. Whether intentionally or unintentionally, REDD must not be used to wrest control of forests from local people.
- Participatory national forest governance reform is often a prerequisite to identifying and improving prospects for implementation of necessary and agreed measures to combat climate change.
- Forest governance practices, such as multi-stakeholder engagement, need to be better linked with REDD-plus national strategies and activities. The best practice emerging from national and regional forest governance reform processes – including those related to the Ministerial Conferences on Forest Law Enforcement and Governance (FLEG) and the development of related national schemes provide an excellent governance underpinning for the future REDD regime and other climate change initiatives. It should be emphasized that forest governance reform is a matter of societal choice and that reform processes need to be nationally-owned and enjoy the support of key stakeholders.
- REDD plus should ensure transparency and inclusiveness from the outset. National strategies and action plans and REDD plus action plans should incorporate social and environmental

safeguards as discussed under the UNFCCC and these safeguards should also be applied in REDD monitoring protocols.

SCALE

The functioning and management of forests is inextricably linked to the surrounding landscape, which often, but not always, is dominated by agriculture. For this reason forests need to be considered as parts of broader social-ecological systems in which actors that are relevant to REDD plus and climate adaptation can be identified and brought together and in which those most dependent on forests can have a large part in deciding the particular mix of goods and services forest provide, including the role of forests in combating climate change

Landscape level approaches provide an interesting option for forest-based mitigation and adaptation because they provide a scale that enables opportunities for specialisation of use and management, for trade-offs between land uses, for markets to be developed and for community based organization.

Adapting to the change requires us to connect processes across scales. Policies, institutions, markets and environmental flows have effects at multiples scales. Decisions on REDD plus and forest management should not be simply taken on short term economic grounds, but based on the implications for human well being and the ecological resilience of forests. Economic analysis must take its rightful place as a powerful tool that aids, rather than determines, societal decision making.

Learning

Effective decision making at national and local level is best when it is based on evidence and, given that climate change and other factors are rapidly altering the socio-ecological context within which we operate, on processes that enable continuous learning and adaptation.

Developing approaches that enable learning and adaptation will be important for enabling forest restoration to contribute to combating climate change. Such learning needs to be systematic and deliberative, and more than exchanges at occasional governmental meetings. Learning needs to be country-owned, inclusive and participatory as well as policy oriented so that it informs deliberations on national policy frameworks.

A reliance on traditional knowledge will not on its own be enough- in our increasingly integrated world building resilience will require knowledge of new technologies, changing signals from distant markets,

and imminent policy change. In this context, learning will always struggle to keep up with change and we will never 'know enough' so the recommendation of Jacobs et al, to favour short-term, easily adjusted decisions, may be wise.

We need to develop a better understanding of the relationships between people and forests and in particular their vulnerability to changes in policies, practices and institutional arrangements that may accompany schemes such as REDD plus. We also need to better understand the opportunities and constraints for forest dependent communities to engage in and benefit equitably from REDD plus. If we do not fully understand the network of actors and flows that make up a landscape then the resilience of local people and forests may be undermined. Thus the challenge for restoring the Commonwealth's forests is to achieve the optimal balance between making locally resilient livelihoods whilst contributing to mitigating carbon emissions globally.

The degree to which poor and marginalised communities are dependent on forest resources has not always been fully understood. A study undertaken in Ghana illustrates how the poorest (**dark red on the map**) communities are found close to forest reserves (**dark green**). In spite of the fact that this region is a productive cocoa area, rural people depend on forests for an average of 35% of their livelihoods. In such a situation, local people, whether poor or relatively wealthy, are highly vulnerable to REDD plus strategies that may be adopted at national level. But equally, well conceived REDD plus strategies could help local communities manage forests to enhance socio-ecological resilience in the face of change. No doubt forest restoration can have a role in addressing the deleterious effects of climate change, land use change and biodiversity loss, but must do so whilst recognising the other forest values, especially those most important to forest dependent people, must be maintained and enhanced.

This is especially important for building socio-ecological resilience as self organisation can empower forest users to take control of their own livelihoods in the face of uncertainty. This requires structures that enable the devolution of governance to the lowest appropriate level and security of tenure – without security of rights to access and use the resources long term solutions would seem unlikely.

Another aspect of learning that will be important for REDD plus relates to deforestation. We know a lot about the drivers of deforestation, but not that much about how to bring about transformational change that will be necessary to halt and reverse deforestation. This will require a great deal of interdisciplinary research, learning and adaptive management.

Conclusion

I want to underline a hopeful message – in the face of global change, restoring forest landscapes has the potential to benefit society in many ways. REDD plus and adaptation, if properly applied, can reduce green house gas emissions, improve the resilience of people and nature, enable sustainable forest management and enhance the delivery of ecosystem goods and services.

However, to achieve this vision, we need to continuously, strongly and publicly argue that carbon sequestration is only one of many ecosystem services that forests can provide. The extent to which forests are used to sequester carbon versus their role in providing other goods and services must be a matter of societal choice rather than a decision taken on simple economic or carbon storage grounds (Jackson 2009). REDD plus and climate adaptation mechanisms must provide tangible benefits for forest-dependent communities if they are to work and this requires governance that allows decisions to be made with full participation and openness is essential.

At the beginning of my presentation I noted that there were several planetary boundaries that are of direct relevance to forests including climate change, land use change and biodiversity loss. It is imperative that meet one of the aims of this conference that is to strengthen support for forest restoration and help move forestry up the political agenda by demonstrating that it has a vital role in combating climate change. But to maintain political support for forests it is equally imperative that we demonstrate the value of forests in relation to land use change and biodiversity loss as well as in the wellbeing of people and in leading us to a more sustainable 'green economy'.

Thank you

ⁱ Hamilton, Clive (2010) *Requiem for a Species. Why we resist the truth about climate change*. ISBN: 978-1-84971-081-7. Earthscan. 286pp.

ⁱⁱ Rockström, J., W. Steffen, K. Noone, Å. Persson, F. S. Chapin, III, E. Lambin, T. M. Lenton, M. Scheffer, C. Folke, H. Schellnhuber, B. Nykvist, C. A. De Wit, T. Hughes, S. van der Leeuw, H. Rodhe, S. Sörlin, P. K. Snyder, R. Costanza, U. Svedin, M. Falkenmark, L. Karlberg, R. W. Corell, V. J. Fabry, J. Hansen, B. Walker, D. Liverman, K. Richardson, P. Crutzen, and J. Foley. (2009). Planetary boundaries:exploring the safe operating space for humanity. *Ecology and Society* 14(2): 32. [online] URL: <http://www.ecologyandsociety.org/vol14/iss2/art32/Rokstrom> (2008)