FERN BRIEFING NOTE IN CO-OPERATION WITH BOTH ENDS

Sinking the Kyoto Protocol

The Links between Forests, Plantations and Carbon Sinks

October 2000

Contents

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1. Introduction

For over 150 years, industrial societies have been releasing carbon from underground coal and oil reserves, adding about 175 billion tonnes of carbon dioxide to the atmosphere since the beginning of the industrial revolution. Another six billion tonnes are being added each year. This transfer cannot go on indefinitely. Signs of climate change can already be seen in many places around the world: The mounting list of impacts ranges from rising average temperatures, melting of polar ice caps, more extreme weather events and uncontrollable forest fires[1]. At long last, the international community has been forced to recognize that global warming and climate change pose a real threat to humanity.

The UN Framework Convention on Climate Change (UNFCCC) was adopted in 1992 as a consequence of worldwide concern over climate change. In 1997, it was amended by an additional legally binding commitment, the Kyoto Protocol. The Protocol sets goals for reducing greenhouse gas emissions in industrialised countries but includes few details on how to achieve them. For some, the reduction targets governments agreed upon do not go remotely far enough to stave off the dangers of global warming. It has been calculated that even if the Protocol were ratified and fully implemented, it will not moderate an expected warming trend of 1.4° C by 2050 by more than 0.05° C. In contrast, an immediate reduction of 60-80% below the level of carbon dioxide emissions in 1990 is needed just to stabilize atmospheric greenhouse gas concentrations at a safe level[2].

Given these considerations, the Kyoto Protocol is only a small step towards halting climate change. However, even this small step is under threat as "details" of the rules to implement the Kyoto Protocol emerge: In the run-up to the 6th Conference of the Parties (CoP6) in November 2000 in The Hague, many governments are working hard to exploit the vague formulation of the Kyoto Protocol to minimize emission reduction obligations in industrialised countries. One of the most controversial issues emerging is the role of forests.

There are two important links between forests and climate change: First, global warming could negatively affect a substantial fraction[3] of existing forests, thereby increasing deforestation and all its associated problems. Second, forests play an important role in the regulation of the earth's temperature and weather patterns by storing large quantities of carbon dioxide and water.

The current debate in the lead-up to the climate summit in The Hague does not focus on these vital links but focuses on forests as 'carbon sinks', a concept based on the natural capacity of forests to absorb carbon dioxide and *temporarily* store the carbon in trees, organic matter and soils. This debate has given trees a new selling point, a new market value. It has raised hopes for much needed funding for forest conservation projects and it has raised concerns about the political implications and the scientific uncertainties related to the concept of 'carbon sinks'.

This paper will highlight some of the most commonly used arguments in the 'carbon sinks' debate. It also aims to substantiate why reducing a political issue (how forests should be used and who decides how they are used) to a technical one (how carbon stocks can be measured and traded) won't work, not for forests, not for Forest Peoples and not for the atmosphere either.

2. What's at stake in The Hague?

The Hague is an important milestone on the path to ratification of the Kyoto Protocol: To enter into force, the Protocol must be ratified by 55 countries accounting for 55% of the total carbon dioxide emissions in industrialised countries. So far, 83 governments and the European Community have signed it, but only 23 countries – *none* of which are industrialised countries subject to emission reduction targets – have ratified it.

The agenda for the climate summit in The Hague in November 2000 includes many contentious issues. 'Carbon sinks' are one of them and decisions are expected on:

– Guidelines for the implementation of the Kyoto Protocol.

– The scale of credits that can be obtained from 'carbon sink' projects.

– Definitions of forests, deforestation, afforestation and reforestation.

– The role of 'carbon sinks' in the Kyoto Protocol's Clean Development Mechanisms.
These decisions will determine both the environmental and social integrity of the Kyoto Protocol.

The EU is the only major Northern party opposed to the broad inclusion of 'carbon sinks' in the Kyoto Protocol. In contrast to the EU, the US, Canada, Australia, New Zealand and Japan continue to argue for a broad and largely unrestricted use of 'carbon sinks'.

3. The Kyoto Protocol

In 1997, the Kyoto Protocol was adopted by the 3rd Conference of the Parties (CoP3) as an additional legally binding agreement to the Climate Convention. Under the Protocol, industrialised countries[4] agreed to limit or reduce their greenhouse gas emissions by 5,2% below 1990 levels by 2012. The European Union accepted a reduction target of 8%, the US 7% and Japan 6%. Nations like Australia and Norway allowed themselves emission increases. Russia decided its annual emission allowance from 2008 to 2012 – the 'first commitment period' for which emission targets have been agreed upon – should be the same as it was in 1990[5].

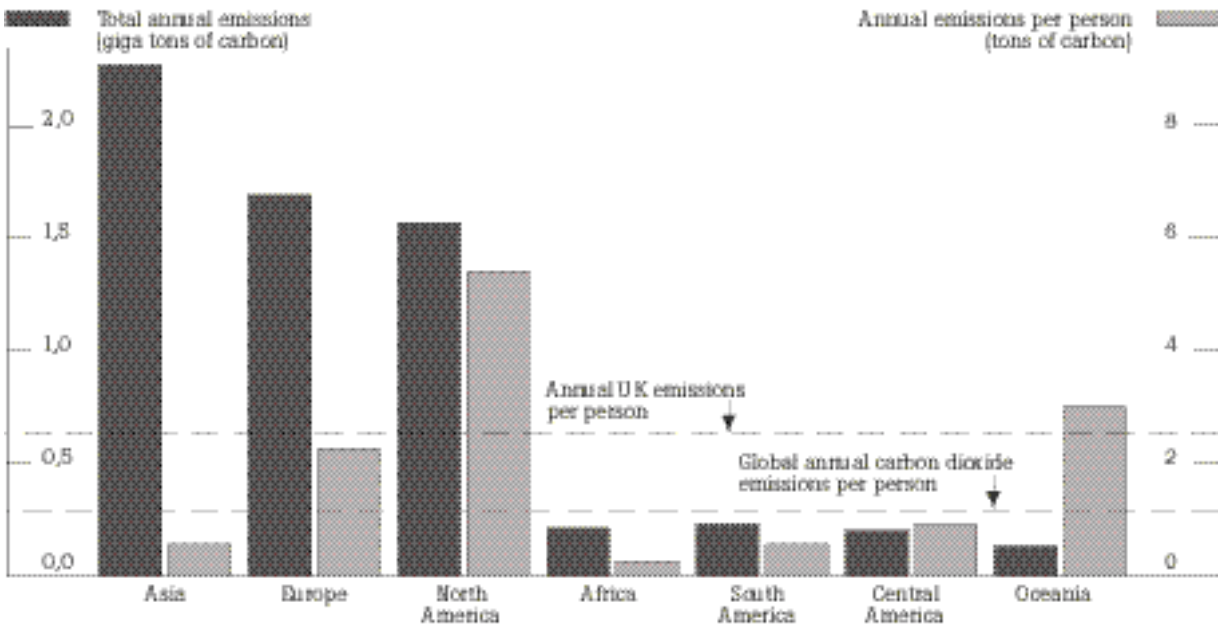
By-and-large, the Kyoto Protocol adopted the principle of burden-sharing (differentiated commitments for North and South) whereby the industrialised countries, as the main polluters of past decades, are the first to start cutting their greenhouse gas emissions. It is likely however, that countries in the South will have to accept a limitation of their emissions in subsequent commitment periods, e.g. after 2012.

Emissions are increasing rather than decreasing

Current emission trends paint a worrying picture: Emissions in those OECD countries listed in the Protocol's Annex B are projected to be 16% *above* 1990 levels in 2010[6]. The Kyoto Protocol requires that this group of countries be 6.6% *below* 1990 levels by 2010. Based on these forecasts, the United States for example would have to reduce its projected greenhouse gas emissions by 25-30% by the end of 2012 – the 'first commitment period' – in order not to exceed its agreed emission target[7].

Carbon dioxide emissions from fossil fuels by continent 1995

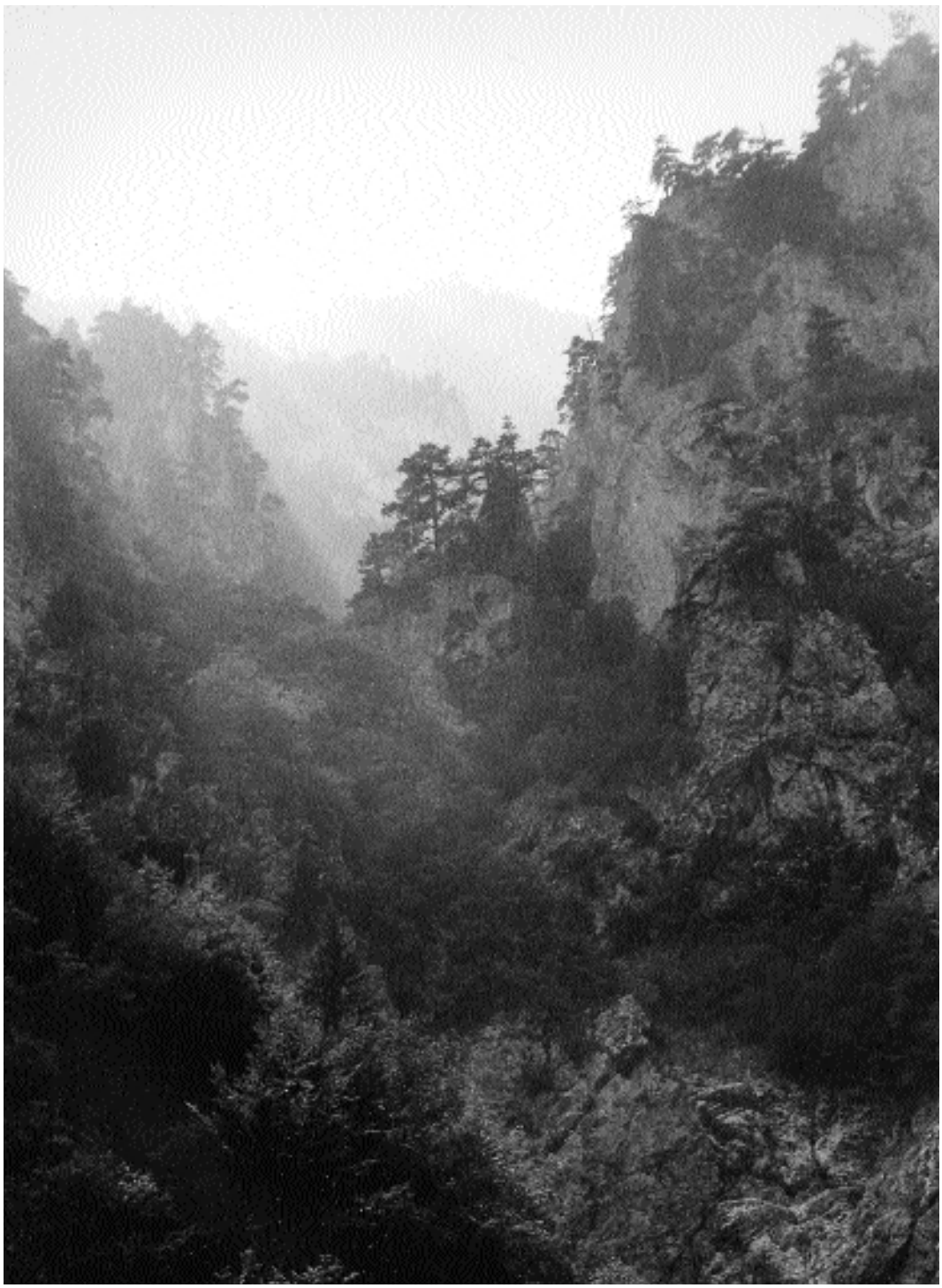
Source: Royal Commission on Environmental Pollution, from: Vanessa Houlder: The Kyoto Protocol: Vital talks loom at The Hague. Energy and Utility Review 5. Financial Times, September 29, 2000.



The Flexible Mechanisms

Rather than relying on domestic action to meet the modest targets contained in the Kyoto Protocol, governments of the industrialised countries decided that they needed 'flexibility' in achieving national emission reduction obligations. They therefore agreed to include three *"flexible mechanisms"* in the Kyoto Protocol to "help" them achieve their obligations through carbon trading and emission reduction activities abroad rather than domestically.

Emissions Trading: The emissions trading system will allow industrialised countries to buy and sell emission credits. Countries that keep emissions below their agreed target will be able to sell the excess emission credits to



countries that find it more difficult or more expensive to meet their own targets. One of the main concerns is that the Kyoto targets of some countries are so low that they can be met with minimal effort. These countries could then sell large quantities of emission credits (known as 'Hot Air'). The rules of this trading system have not yet been decided.

Joint Implementation (JI): This mechanism will allow industrialised countries to gain credits for financing emission reduction projects in other industrialised countries. Reporting rules, monitoring guidelines and the extent to which credits can be gained from 'carbon sinks' have not yet been decided.

Clean Development Mechanism (CDM): This mechanism will allow industrialised countries to gain credits for financing emissions reduction projects in countries without emission targets. Project screening procedures, reporting rules, monitoring guidelines and the list of activities and technologies that would yield credits have not yet been decided. One of the controversial issues is whether or not credits can be gained from 'carbon sink' projects as the text of the Protocol is ambiguous on this issue: whereas this possibility is explicitly mentioned for Joint Implementation projects, it is neither explicitly mentioned nor excluded from the CDM text.

The most important distinction between emission trading and Joint Implementation on the one hand and the Clean Development Mechanism on the other hand, is that the CDM allows projects in countries that are not subject to emission targets. Any project in the CDM therefore increases the overall level of emissions in industrialised countries. This is of particular concern for 'carbon sink' projects as these projects will only temporarily offset those additional emissions[8]. Eventually, most of the carbon stored in trees and the soil will be released again into the atmosphere when forests and plantations burn, trees decay, are harvested or when the area is converted to other uses.

The Clean Development Mechanism

The Clean Development Mechanism was added at a late stage of the negotiations that culminated in the Kyoto Protocol. The CDM goes back to a Brazilian proposal to create a "Clean Development *Fund*" as part of the Kyoto Protocol. This proposal, supported by G-77/China, was based upon penalizing those industrialised countries not complying with the emission targets set in the Kyoto Protocol. The resources of the fund were to be made available to non-industrialised countries for use in climate change mitigation projects (90%) and projects to help countries fight the consequences of climate change, such as floods, droughts – the so-called adaptation projects (up to 10%).

Industrialised countries opposed this idea. The Clean Development *Mechanism* was created as a compromise. Unlike the fund, the mechanism is not linked to compliance of industrialised countries with their emission targets; rather, it aims to achieve climate change mitigation through a market-based approach: Industrialised countries receive emission rights in exchange for financing emission abatement projects in the South.

The role of forests in the Kyoto Protocol

Both the Climate Convention and the Kyoto Protocol acknowledge the role and importance of forests as 'sinks and reservoirs' of carbon. Article 4 of the Convention calls on parties to safeguard sinks such as forests[9] and Article 2 of the Protocol adds the call for sustainable forest management.

However, during the negotiations of the Kyoto Protocol some governments, notably the US, insisted that they be allowed to substitute some of their emission cuts by planting or protecting trees, linking forests to the flexible mechanisms. This paved the way for industrialised countries to gain emission credits in return for forest-related activities.

How much of their reduction obligations industrialised countries will allow themselves to gain through 'carbon sinks' will depend on decisions taken on three different articles of the Kyoto Protocol:

Article 3 *defines for which domestic emissions industrialised countries have to produce inventories during the 'first commitment period' (2008-2012).* The Protocol currently requires tracking greenhouse gas removals and emissions from afforestation, reforestation and deforestation activities since 1990. **Article 3.3** allows industrialised countries to receive credits or debits (deforestation) for these activities in their own country. The article further states that changes in carbon stock have to be *measured verifiably.* **Article 3.4** allows industrialised countries in the second and subsequent

commitment periods to include additional activities into the inventories and make them available for crediting if the carbon stock changes can be measured verifiably. Exactly which activities this will involve remains to be decided; forest management, planting windbreaks and shelterbelts, cropland management and urban land management are some of the options suggested by parties. Government positions differ on whether methodologies exist to adequately address issues of uncertainty and verifiability and whether additional activities should be creditable already in the 'first commitment period' as demanded by the 'Umbrella Group'.

Article 6 *defines Joint Implementation (JI)* as a mechanism for industrialised countries to meet their emission reduction obligations. 'Carbon sinks' are explicitly included in this article as an eligible project category, provided that the resulting reductions are "additional to any that would otherwise occur" and that the changes in carbon stock are *verifiable*.

Article 12 *defines the Clean Development Mechanism (CDM).* The purpose of the CDM is both to achieve sustainable development and to contribute to stabilizing greenhouse gas concentrations in the atmosphere at a safe level. In order for projects to be eligible under the CDM, they must meet *inter alia* the following criteria: They must be measurable, they must have long-term beneficial impact on climate change and be additional to any activity that would occur in the absence of the project. A decision has to be taken whether 'carbon sink' projects will be eligible as the text neither explicitly includes nor excludes 'carbon sinks'. Two main issues of discussion have been those of "leakage" (describing the possibility of shifting deforestation to another area) and of "permanence" (describing the fact that carbon stored in vegetation and soils can be released at any time and carbon dioxide emissions are therefore only temporarily avoided).

Under the Protocol, for every tonne of carbon captured through 'carbon sink' activities, an additional tonne of carbon from fossil fuel can be released to the atmosphere. To determine whether or not forest-related activities are eligible for carbon credits, the terms forest, deforestation, afforestation and reforestation have to be defined.

The definition of forests is the most contentious one, as the other three definitions are based upon this one. The draft negotiating text for CoP6 suggests parties are likely to choose a forest definition based on the FAO definitions of forests, deforestation, afforestation and reforestation[10], thereby ignoring the advice of the Intergovernmental Panel on Climate Change (IPCC) on this issue, which in its special report[11] clearly describes the short-comings of the FAO definition for the purpose of carbon accounting under the Kyoto Protocol.

NGO criticism of FAO definition for forests and deforestation

Many NGOs have long criticized the FAO definition for forests that describes a forest based on one single characteristic – crown cover. This makes the definition unsuitable to measure forest degradation and deforestation because any area with a canopy cover above 10% is considered a forest. Furthermore, in the FAO definition tree monocultures with exotic species are considered "planted forests", a notion which NGOs have been challenging on the basis that the only similarity between a forest and a tree plantation is that trees can be found in both. Structurally and in terms of their social impacts and environmental complexity farms and plantations are considered to be fundamentally different.

The forest definition in the draft negotiating text for CoP6 is even more problematic than the FAO definition because it not only includes *"all plantations...."* but also covers *"...areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention or natural causes but which are expected to revert to forest."* This implies that clearcutting is no longer considered a form of deforestation.

4. Why Fern does not support 'carbon sinks'

Some believe that the Kyoto Protocol's flexible mechanisms can provide the funding that is urgently needed for forest conservation and the promotion of good forest management.
Most NGOs and Indigenous Peoples' organisations, however, feel the problems and dangers associated with the concept of 'carbon sinks' outweigh the potential benefits of linking forests with a mechanism for trading carbon emission rights.

Those who favour the inclusion of 'carbon sinks' in the flexible mechanisms argue that at long last, 'environmental services' that forests provide will be paid for. They also believe that including 'carbon sinks' in the flexible mechanisms will provide funding for forest conservation projects and they point out the potential benefits of forest-related projects for local people. The potential negative effects on forests, biodiversity or local people of such 'carbon sinks' projects should be addressed by the development of clear guidelines and standards.

Those who oppose the inclusion of 'carbon sinks' argue that tying up lands in the South for decades to come so the North can continue emitting greenhouse gases amounts to a new form of colonialism – CO2lonialism. They believe that including 'carbon sinks' will stifle the switch to already existing renewable energy technologies. They point out that intergovernmental discussions have not resulted either in the Convention on Biological Diversity or in any other intergovernmental forum in producing guidelines that would both safeguard forest biodiversity and Forest Peoples' rights. The chances of agreeing on them in an international agreement that focuses on climate change thus seem slim. Furthermore, projects that safeguard forest biodiversity and respect Forest Peoples' rights will in most cases not be the same projects that deliver cheap and easy carbon credits. It is therefore very unlikely that governments will reach consensus on sound criteria and at the same time maintain investor's interest in 'carbon sink' projects promising to deliver sizeable quantities of carbon credits.

At the heart of these different positions lies the question of whether or not deforestation can be stopped without addressing the political issue of who has the right to decide how forests are being used.

Fern believes the concept of 'carbon sinks' should not be introduced in the Clean Development Mechanism and should be limited in Joint Implementation for the reasons elaborated on in the rest of this chapter.

4.1 'Carbon sink' projects will subsidise industrial tree plantations

In the context of the Kyoto Protocol, millions of hectares of land would have to be taken over in any attempt to counteract even a small fraction of carbon dioxide emissions in the North. Negotiations to date and the proposed negotiating text for CoP6 on this issue suggest that a substantial part of these activities would be afforestation and reforestation activities resulting in the establishment of tree plantations, many of which are likely to be large-scale.

There are comparatively few cases where large-scale tree plantations have been established on 'degraded land'. Often, large-scale tree plantations replace forests and are thus a direct cause of deforestation. This means that before large-scale tree plantations become a temporary 'carbon sink' they in fact release carbon previously stored in the forests and forest soils they replace. This is of particular concern in cases where primary forests are destroyed to make way for large-scale tree plantations, as is the case in Indonesia, Malaysia and Chile among others. The carbon balance is thus negative because most forests and forest soils store significantly more carbon per hectare than any plantation. Recent reports by Friends of the Earth, Norwatch and the World Rainforest Movement[12] suggest that the 'carbon sink' debate is already promoting the establishment of large-scale tree plantations in the name of climate change mitigation.

Large-scale tree plantations are a threat to communities the world over. Such plantations typically are eucalyptus or pine monocultures of trees bred for rapid growth, uniformity and high yield of fiber. Planted in even-aged stands, this type of plantation requires intensive preparation of the soil, fertilization, regular spacing of trees, mechanical or chemical weeding, use of pesticides and mechanized harvesting in short rotations. Due to the rapid growth of the species planted, they draw heavily from local water resources, which often result in drastic changes of the local water regime. Generally, large scale tree plantations lead to loss of biodiversity on the lands they occupy because of their uniform structure and the use of non-native species in monoculture. In many cases in the South opposition against large-scale tree plantations has also been met with violence and oppression[13].

4.2 'Carbon sink' projects will undermine Forest Peoples' rights and marginalize communities[14]

'Carbon sink' projects in the Kyoto Protocol will have profound consequences for Forest Peoples: Many of the 'carbon sinks' projects will be located on lands where Forest Peoples' land rights and customary land use have not been recognised to date. Yet, Forest Peoples are not even mentioned in the Climate Convention. Neither the Convention nor the Protocol or the current negotiating text on 'carbon sinks' include any direct reference to Indigenous Peoples, forest dwellers or local communities. It seems likely under these circumstances that 'carbon sink' projects will not guarantee or strengthen Forest Peoples' or local communities' rights to their lands and natural resources.

Furthermore, land that policy makers perceive as degraded or unproductive is often an important resource to the poorest members of rural society. Experience in many countries in the South has shown that large-scale tree plantations, often backed by foreign capital, result in the displacement of local people. Because large-scale tree plantations generally create fewer jobs than the agricultural activities they replace, local people who used to live off the land are left with the choice between becoming plantation workers or migrating to the cities' shanty towns.

"This ['carbon sinks'] may develop into a new form of colonialism. Tree planting in Uganda and other poor countries must primarily seek to meet the needs of the country and its people, not the needs of the 'international community'. If this can be combined, it's ok, but experience from similar initiatives shows that local interests, local needs, and traditional land rights are easily pushed aside, and that land conflicts emerge as commercial interests from the outside enter." *Visiting Advisor to the Uganda Forest Authorities, Trygve Refsdal. In: Harald Eraker (2000): CO2lonialism: Norwegian Tree Plantations, Carbon Credits and Land Conflicts in Uganda. Norwatch, Oslo. Page 30.*

4.3 'Carbon sink' projects will lead to further forest loss and the loss of biodiversity

One of the basic concerns about reducing forests to 'carbon sinks' is that the types of forest that allegedly yield maximum absorption of carbon are not optimal for biodiversity and vice versa. For maximum sequestration the imperative is to plant fast-growing trees, densely packed and typically monocultures of eucalyptus, acacia or pine. This is not what is needed to maintain and safeguard biodiversity.

With regards to afforestation and reforestation activities, choosing the wrong species and establishing even-aged stands of trees can – and often does – gravely affect the livelihoods of local communities and biodiversity. With regards to forest conservation, the inclusion of forests into the carbon market has so far failed to address the underlying causes of forest loss. Inequality of land ownership, the lack of recognition of Forest Peoples' rights, unsustainable consumption levels of forest products in the North, the inequality in the world trading

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Declaration of the First International Forum of Indigenous Peoples on Climate Change

…"Our intrinsic relation with Mother Earth obliges us to oppose the inclusion of sinks in the Clean Development Mechanism (CDM) because it reduces our sacred land and territories to mere carbon sequestration which is contrary to our cosmovision and philosophy of life. Sinks in the CDM would constitute a worldwide strategy for expropriating our lands and territories and violating our fundamental rights that would culminate in a new form of colonialism. Sinks in the CDM would not help to reduce GHG emissions, rather it would provide industrialised countries with a ploy to avoid reducing their emissions at source."[15]…

system, and the dominance of timber values in forest use have been identified as the main underlying causes of deforestation and forest degradation[16]. Despite several initiatives to halt deforestation during the past two decades, forests are disappearing at an ever-increasing rate and the failure to address the underlying causes and macro-economic conditions of forest loss is seen as one of the main reasons why so many initiatives that set out to curb deforestation, failed.

Governments at the 5th meeting of the Conference of the Parties to the Convention on Biological Diversity (CoP5 of the CBD) expressed their concern about the potential negative impact of decisions taken regarding forests and 'carbon sinks' in the context of the Kyoto Protocol. The parties to CoP5 of the CBD *"urge the United Nations Framework Convention on Climate Change, including its Kyoto Protocol, to ensure that future activities of the United Nations Framework Convention on Climate Change, including forest and carbon sequestration, are consistent with and supportive of the conservation and sustainable use of biological diversity"*. It is imperative that governments who have signed both the Climate Convention and the Convention on Biological Diversity[17] ensure coherence between those agreements.
To date, governments have neither adequately considered the impact of potential forest-related activities undertaken in the context of the Kyoto Protocol on forest biodiversity and Forest Peoples nor have they conducted an independent evaluation of 'Activities Implemented Jointly' to ensure lessons from forest-related projects during this pilot phase are taken into consideration during the decision-making process culminating at CoP6 in The Hague.

4.4 'Carbon sink' projects will lead to a new wave of colonialism – CO2lonialism

Every 'carbon sink' credit is a disincentive to end fossil fuel exploration to meet Northern energy demands. This is likely to slow down the inevitable shift towards renewable energies in North and South. Decisions about 'carbon sinks' in the Clean Development Mechanism will have far-reaching consequences for the South for the following reasons.
First, the 'carbon sinks' debate has already stifled progress in discussing the potential of the Clean Development Mechanism to provide for a transfer of renewable energy technologies through the CDM.

Second, 'carbon sinks' in the CDM will increase the historical carbon debt the North owes the South. Opening up the CDM to 'carbon sink' projects will allow industrialised countries to continue using more than their fair share of 'natural resources' and superimpose this historic inequality onto the land: The more greenhouse gases a country emits the more land it will be entitled to occupy to make up for its emissions – a concept regarded by many as a new form of colonialism.

Third, lands dedicated to 'carbon sink' projects today will not be available to countries in the South should they want to change the way they use the land in coming decades. These lands will be locked up in a contractual agreement securing the area to providing emission rights to the North rather than contribute to meeting the (subsistence) needs of people in the South. This is only exacerbated when 'carbon sink' projects result in large-scale tree plantations or when a project is carried out in areas where land use and land tenure rights are under conflict.

Last, dedicating lands to 'carbon sink' projects today to provide emission rights to industrialised countries could ultimately put Southern countries at a disadvantage should they be subject to emission targets in the future.

4.5 Carbon sequestered or stored above-ground is not equivalent to carbon stored in fossil fuel

There are several reasons why using forests or plantations for carbon sequestration is associated with risks. In addition to the issues discussed above, the four main concerns with regards to carbon accounting are:

- *Carbon is only stored temporarily and can be released at any time through the natural and social processes mentioned above. This results in the lack of "permanence" of carbon storage in 'carbon sinks'.*

The basic idea of 'carbon sinks' is that a given amount of carbon dioxide is removed from the atmosphere and stored in or on the surface of the Earth, under the assumption that this given amount of carbon dioxide will remain stored in the same stable way as the carbon locked up in reserves of oil, natural gas or coal beneath the ground – for centuries to come. But forests and tree plantations might burn, the biomass may decay, the trees might be logged or the land could be converted to other uses. All of these activities result in the release of the carbon stored both above and below ground. They are also in many cases beyond government control: More than 50% of the timber exported from for example Brazil, Indonesia and Cameroon has been logged illegally and recent events

Excerpts from "CO2lonialism: Norwegian Tree Plantations, Carbon Credits and Land Conflicts in Uganda", and "Carbon Upsets: Norwegian Carbon Plantations in Tanzania," *two reports published by Norwatch in April and July 2000*[18].

As it happened, two days after the Kyoto Protocol had been adopted, a Norwegian company, Tree Farms, arranged a private placement that increased the company's capital stock from NOK 990,000 to NOK 13 million (USD 1.4 million). Five months later, the company invited outside investors to buy shares. One third of the new shares were bought by TRG, a company controlled by the Norwegian billionnaire Kjell Inge Røkke. The potential trade in carbon credits has already become part of political brokering in industrialised countries, in Norway for example in the debate over a new conventional gas-fired power plant: Parties in favour of the proposed power plant argue that the project will be environmentally friendly because the company will offset their emissions through the future purchase of carbon credits – most likely using their first-buy option for carbon credits from Tree Farms plantations in Africa. Two of the Tree Farms projects were inspected by Norwatch earlier this year. The excerpts below are meant to give an impression of the realities of 'carbon sink' plantation establishment in the South:

Uganda

"Everyone living and farming inside our area are illegal intruders. But we don't want to do the dirty job chasing them out. We have told the forest authorities quite clearly that this is their responsibility." *Managing Director of Tree Farms, Odd Ivar Lovhaugen. Op.cit, pg 14. 8000 people are faced with eviction from the land occupied by the tree plantation.*

"Please ask the Norwegian owners to allow us to continue to live here by making our subsistence from fishing and farming. We have nowhere else to go. Tell them that we are human beings." *Ratif Nakumunsana, fisherman and farmer. Op. cit., pg 16.*

"We just have to admit that we know nothing about the trade in CO2 credits, neither how it will function not how much the foreign investor will profit from it." *Acting Deputy Commissioner for Forestry, Ignatius Oluka-Akileng. Op. cit. pg. 11.*

Tanzania

"Some would claim, I guess, that the annual rent of USD 1.9 per hectar is quite low, but of course, we wish to run profitable business. Preferably, we would like the land rent to be reduced even more, thereby minimalising the risk of the project." *Managing Director of Tree Farms, Odd Ivar Lovhaugen. Op.cit, pg. 11.*

"When the company arrived, many inhabitants were sceptical about giving away our land areas. But after being told about all the benefits of the project, the village council agreed to cede the lands we were not cultivating." *Mapanda Village Council. Op. cit., pg. 14. Evidence from similar experiences of local communities the world over suggests that it is very unlikely that the village council was provided with impartial information or was informed about the impacts associated with large-scale tree plantations.*

"When we asked about the salaries, the company told us that the money came from a place far away and that it was nothing that could be done about it." *Op. cit., pg 15; Villagers of Uchindile working as casual workers for Tree Farms at less than the governments minimum wage. They earn one US dollar per day at the time of the visit in May 2000 and had been waiting for several months for these unpaid salaries.*

in the US showed that even technically advanced countries can often do little to prevent or stop forest fires.

The temporary nature of forests as 'carbon sinks' also poses the question of liability: Who will have to make up for credits that have resulted already in additional emissions but are subsequently lost due to forest fires or other natural phenomena? What happens if the project is over and land is converted to other uses? In those cases, the carbon will be returned to the atmosphere as though it had never been captured, increasing the overall emission level in the atmosphere.

• *'Carbon sink' projects may increase deforestation outside the project area. The carbon allegedly captured through the 'carbon sink' project will be released when deforestation activities are merely relocated to areas outside the project boundaries. This process is described as "leakage" in the climate context.*

In may cases, lands taken over for 'carbon sink' projects will have been used in one form or other before the start of the 'carbon sink' project. A logging company may have had cutting rights for a forest that is to be dedicated to a 'carbon sink' project. The logging company is compensated for giving up the logging concession and signs an agreement not to buy a new logging concession elsewhere with the money received in compensation.

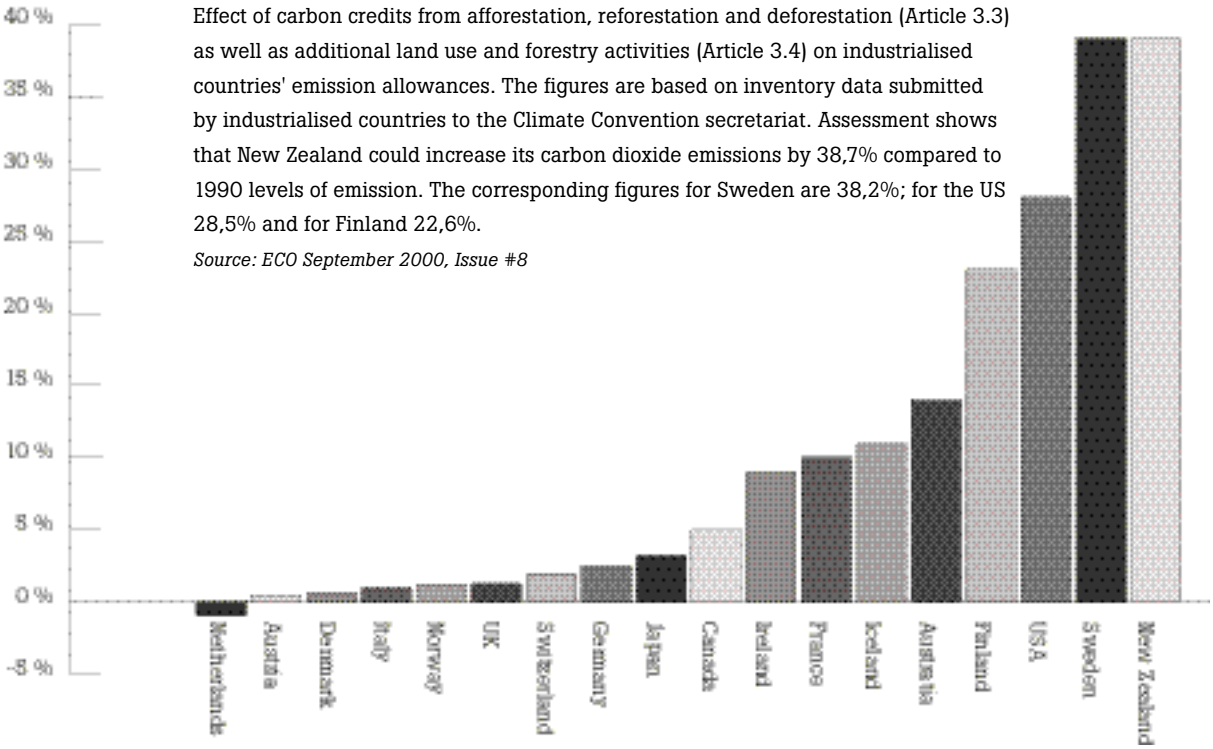
Considering the structure of the logging industry, monitoring that the cut is not increased outside the 'carbon sink' project boundaries could only happen if the logging company would agree to disclose the entire company cut.

• *Measuring biological activities, in particular carbon sequestration rates, involves methodologies with high uncertainties.*

Biological activities are difficult to measure and assess accurately. For many activities, including carbon sequestration, estimating and measuring uncertainties of 50% or more are common. Uncertainties related to the methodology used could thus be bigger than the carbon stock changes measured. This poses the question of how to verifiably assess and determine how many carbon credits can be obtained from a 'carbon sink' project.

• *The fact that climate change will affect forests and their capacity to capture and store carbon.*

In its First Assessment report, the Intergovernmental Panel on Climate Change estimated that on average, one-third of the world's forests will be adversely affected by global warming. These changes will also influence many biological processes linked with carbon sequestration and the capacity of forest to store carbon.



Effect of carbon credits from afforestation, reforestation and deforestation (Article 3.3) as well as additional land use and forestry activities (Article 3.4) on industrialised countries' emission allowances. The figures are based on inventory data submitted by industrialised countries to the Climate Convention secretariat. Assessment shows that New Zealand could increase its carbon dioxide emissions by 38,7% compared to 1990 levels of emission. The corresponding figures for Sweden are 38,2%; for the US 28,5% and for Finland 22,6%.

Source: ECO September 2000, Issue #8

4.6 Special report on 'carbon sinks' gives inadequate advice to policy makers

In 1998, governments requested the Intergovernmental Panel on Climate Change to examine the scientific and technical state of understanding of issues relevant to 'carbon sinks'. Earlier this year, the IPCC presented a voluminous special report on "Land Use, Land Use Change and Forestry[19]. However, a number of issues central to 'carbon sinks' were not considered by the panel, remained unanswered or were dealt with in a highly controversial manner.

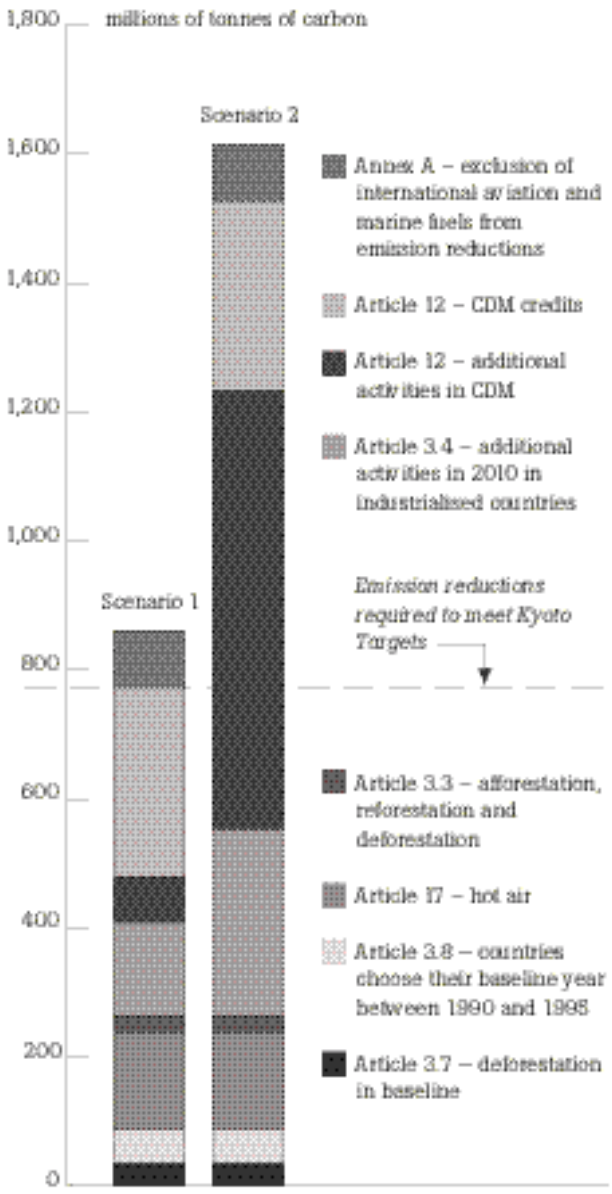
The most important short-coming of the report is that it did not consider the social impacts of land use and forestry activities. The 377page report contains merely three short paragraphs stating the importance of assessing the social implications of 'carbon sink' projects but then fails to assess these impacts. Governments have consequently been provided with only part of the information and analysis needed to ensure environmentally and socially sound decisions will be taken in relation to 'carbon sinks'.

4.7 Industrialised countries' position on 'carbon sinks' will sink the Kyoto Protocol

Recent analysis by Greenpeace[20] on the various options related to 'carbon sinks' that are under discussion before The Hague shows that if most of the options proposed by the US, Canada, Japan, Australia and New Zealand are adopted, then very little if any domestic action would be required by industrialised countries to meet their emission targets. For example, inventory data submitted by some industrialised countries gives a glimpse of what governments – including some EU Member States – hope to add to their emission allowances: New Zealand, Sweden, the US and Finland would be able to increase their emissions vastly (between 38.7% and 22,6%) above 1990 levels if activities under Articles 3.3 and 3.4 of the Kyoto Protocol were added to their greenhouse gas emission budgets agreed upon in Kyoto (see graph pg.13).

If most of the suggestions on 'carbon sinks' proposed by the Umbrella Group were accepted, the Kyoto Protocol could allow OECD countries to increase their emissions by 15% (the same order of magnitude as their business-as-usual emission projections for 2010) rather than lead to a 6.6% reduction of greenhouse gas emissions – and countries could still claim to have achieved their Kyoto targets (see graph).

Overall magnitude of loopholes under discussion before CoP6. The graph shows to what extent proposals by industrialised countries in the run-up to the climate summit will reduce emission reduction obligations of industrialised countries. Impacts of Articles 3.7, 3.8 and Annex A were not discussed in detail in this report. The numbers refer to two scenarios for the quantification of loopholes: Scenario 1 takes 50% of the IPCC estimates for additional activities (Art. 3.4) in industrialised countries and 10% of the estimate for countries without emission reduction targets. Scenario 2 shows the full estimate for additional activties under Article 3.4 made in the IPCC 'Special Report on Land Use, Land Use Change and Forestry'. *Source: Greenpeace International (2000): Cheating the Kyoto Protocol: Loopholes and environmental effectiveness. Greenpeace, Amsterdam.*



5. Conclusions

Even if most of the outstanding technical issues were resolved by CoP6, there are a number of reasons not to include forests any further in the Kyoto Protocol and limit their use where they are already listed as an option. Many things can – and probably will – go wrong with 'carbon sink' projects:

Parties have not yet given adequate consideration to the potentially grave social impacts of 'carbon sink' projects. Furthermore, the Kyoto Protocol lacks any direct reference to Forest Peoples' rights and there is do date no guarantee that 'carbon sink' projects will respect Forest Peoples land rights and land use rights.

Even if governments agreed to include biodiversity provisions into the CoP decisions, these provisions might be difficult to implement and monitor effectively.

Where forests have been included already, credits from 'carbon sink' activities should be limited to those that are verifiable with narrow uncertainty limits. Large-scale tree plantations should be explicitly excluded from providing carbon credits due to their negative impacts on many local communities and biodiversity.

Governments should use the precautionary approach and not include 'carbon sinks' in the CDM because in addition to the general concerns listed above, temporary storing carbon in a CDM projects leads to additional permanent emissions in industrialised countries.

Acknowledgements

Writing this Briefing Note would not have been possible without access to the wealth of material already published by NGO colleagues on this subject. We have made an attempt to give credit where we have relied directly on data – particularly the technical analyses and calculations presented in reports available to us. Where we have missed to give credit where credit is due: Thank you to those who have stayed abreast the attempt by some governments to make the Kyoto Protocol so complicated that no lay person would be able to grasp the far-reaching implications it is bound to have.

[1] Vellinga, P & W.J. Versefeld (2000): Climate Change and Extreme Weather Events. WWF International, Gland, Switzerland; Friends of the Earth International (2000): Gathering Storm. Report on the Human Cost of Climate Change.

[2] Intergovernmental Panel on Climate Change (1990): First Assessment Report. IPCC, Geneva, Switzerland.

[3] According to the IPCC, "a substantial fraction of a global average of one-third, varying by region from one-seventh to two-thirds) of the existing forested area of the world will undergo major changes" and "entire forest types may disappear." IPCC (1990): First Assessment Report. IPCC, Geneva, Switzerland.

[4] More precisely, those countries listed in Annex 1 of the UNFCCC. Their emission reduction targets are listed in Annex B of the Kyoto Protocol. The terms 'Annex 1 Party' and Annex B Party' are therefore often used synonymously in climate negotiator's jargon.

[5] Because Russia's actual emissions plunged during the economic crisis of the early 90s, the allowance created a significant surplus in pollution "rights" – so-called 'Hot Air' that might be sold to the highest bidder through emission trading, one of the three flexible mechanisms.

[6] Greenpeace International (2000): Cheating the Kyoto Protocol: Loopholes and environmental effectiveness. Greenpeace, Amsterdam.

[7] Source: Vanessa Houlder (2000): The Kyoto Protocol. Vital talks loom at The Hague. Energy and Utilities Review 5. Financial Times September 29, 2000.

[8] In climate negotiator's jargon this is called the 'permanence' issue.

[9] Article 4 of the Climate Convention calls on governments to " promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases [...] including biomass, forests and oceans as well as other terrestrial, coastal and other marine ecosystems".

[10] In the last version of the negotiation text, FCCC/SBSTA/2000/12, deforestation is direct human-induced conversion of forest land to non-forest land, reforestation and afforestation are the direct human-induced conversion of non-forest to forest through planting, seeding [and/or the promotion of natural regeneration] on land that was forested, but that has been converted to non-forest land, resp. land that has not been forested for a period of at least 50 years.

[11] Intergovernmental Panel on Climate Change (2000): Special Report on Land Use, Land Use Change and Forestry. IPCC. Cambridge University Press.

[12] Friends of the Earth International (2000): Tree Trouble. A compilation of the negative impacts of large-scale monoculture tree plantations. Sobrevivencia, Paraguay; World Rainforest Movement (2000): Climate Change Convention: Sinks that Stink. WRM, Uruguay.

[13] For more information on the negative social and environmental impacts of plantations see: Carrere, R. and L. Lohmann (1996): Pulping the South: Industrial Tree Plantations and the World Paper Economy. Zed Books, London. Further material on the World Rainforest Movement webpage (www.wrm.org.uy).

[14] For further information on Indigenous Peoples' rights and climate change please see the publications of the 'Forum on Indigenous Peoples and Local Communities on Climate Change'. Available from the World Rainforest Movement (www.wrm.org.uy).

[15] Declaration of the First International Forum of Indigenous Peoples on Climate Change. Lyon, France. September 2000. The full text is available on the WRM web page (www.wrm.org.uy).

[16] For a detailed analysis of the underlying causes of forest loss see Verolme, H., M. Folley and J.Moussa (1999): Addressing the Underlying Causes of Deforestation and Forest Degradation. Case Studies, Analysis and Policy Recommendations.

[17] With the notable exception of the US, this applies to all of the industrialised countries with emission reduction targets.

[18] As a consequence of among others the Norwatch investigation, the Ugandan project has recently been withdrawn from a carbon credit. It was started however with the explicit aim of entering into the carbon market should governments at CoP6 decide to give credits to 'carbon sink' projects in the CDM.

[19] Intergovernmental Panel on Climate Change (2000): Special Report on Land use, Land-use change and Forestry. Cambridge University Press.

[20] Greenpeace International (2000): Cheating the Kyoto Protocol: Loopholes and environmental effectiveness. Greenpeace, Amsterdam.