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COMMENT

Environmentalists split over Kyoto and Amazonian deforestation

Controversies over tropical forest and Kyoto

Slowing deforestation in Amazonia would be a significant contribution to combating global warming and, depending on decisions under the Kyoto Protocol, could provide non-destructive support for rural population in the region (Fearnside 2000*a*). Crediting avoided deforestation is divisive, both within and among environmental non-governmental organizations (NGOs) and governments. Positions of NGOs on inclusion of avoided deforestation in the Kyoto Protocol's Clean Development Mechanism (CDM) are tightly linked to geography: European NGOs oppose inclusion of forests, USA NGOs (other than USA branches or affiliates of international groups) favour inclusion of forests, and Brazilian NGOs (also excepting most branches or affiliates of international NGOs) also favour forests. The probability of chance explaining these views being clustered in Europe, North America and Brazil in this way is miniscule. In other words, these positions are based on something other than the universal concerns about climate change and future generations that predominate in public statements on all sides.

Much opposition to avoided deforestation as a supposed 'loophole' stems from the belief that it is a 'dangerous distraction' because 'The way the Protocol has been written, every ton of carbon absorbed by a sink allows a ton of carbon to be emitted from burning fossil fuels' (WWF [World Wildlife Fund/Worldwide Fund for Nature] Climate Change Campaign 2000). Fortunately, this interpretation is mistaken because we do not need to assume a ratio of one-to-one between the carbon maintained in the forests and the credit granted that allows fossil-fuel carbon to be emitted. More carbon can be maintained in the forests than the amount of carbon credit granted. In this way, even if the carbon in the forests is temporary, at some point a net benefit exists for the climate from having a forest maintenance project instead of a smaller reduction in fossil-fuel emissions. If well negotiated, inclusion of forests can result in concrete gains for global climate, in addition to large advantages in other spheres.

Opponents of including forests point to the fact that forests could later be cut, degraded, or burned, thereby releasing their carbon to the atmosphere. Climatic change itself is used to attack crediting forest conservation on the grounds that many forests in Amazonia are doomed anyway due to predicted drying (e.g. Greenpeace International 2000; see rebuttal by Niles 2000). Because the credits generated by a CDM project would allow carbon to be emitted to the atmosphere by burning fossil fuels in an Annex I (developed) country, more carbon would be present in the atmosphere when the forest later disappears than in the no-project case (Meinshausen & Hare 2000).

Fortunately, several factors counteract this effect. Most important is the implication of forest opponents that the same weight should be given to events in the present as to those in the distant future. Global warming alters the probabilities of droughts, floods and other disasters, which can be assumed to remain higher forever after temperature increases. Therefore, any postponement of global warming represents permanent earnings of all damages that would have occurred during the interval that warming was postponed. In other words, time has value and maintaining carbon in forests has value even if uncertain and impermanent (Fearnside *et al*. 2000). Per tonne of carbon, this value is not 100% of the value of a tonne of fossil-fuel carbon, but neither is it zero. The relevant question is how to quantify the conversion and make appropriate adjustments to crediting (Fearnside 2000*b*; Fearnside *et al*. 2000). 'Market-based' mechanisms such as the 'Colombian Proposal' also achieve this end (Blanco & Forner 2000; Kerr & Leining 2000; see also similar proposals by Dutschke 2001 and Marland *et al*. 2001).

In July 2001, an agreement was reached in Bonn, Germany, at the second round of the Sixth Conference of the Parties (COP-6-bis) of the United Nations Framework Convention on Climate Change (UN-FCCC). The Bonn agreement excludes avoided deforestation from the CDM in the

Kyoto Protocol's first commitment period (2008–2012). The question of avoided deforestation remains relevant to the Kyoto negotiations because of the need to define the rules for the second and subsequent commitment periods and because of the possibility of funding avoided-deforestation projects with money generated by the as-yet undefined compliance system (Schlamadinger *et al*. 2001). Much of the debate over carbon accounting and possible adjustments (Noble *et al*. 2000) is also relevant to other forest-sector activities, such as reforestation, which have been included in the CDM under the Bonn agreement.

Government positions

The USA, Canada, Japan, Australia and New Zealand have supported inclusion of forests. The USA, Canada and Japan in particular stand to gain financially by buying credit to satisfy their Kyoto commitments. This financial interest, rather than concern for global climate change, explains these negotiating positions. It should be noted that the economic models used to justify these countries' claims that domestic reduction of fossil fuel emissions would be prohibitively expensive are based on assumptions that exaggerate abatement costs and understate the losses from climate change that would result from inaction; many of the groups that have produced these studies have severe conflicts of interest with the fossil fuel industry (see Chapman & Khanna 2000). Despite the often-tendentious nature of economic analyses, the conclusion that avoiding tropical deforestation can reduce net emissions more cheaply than many energy-sector alternatives is correct.

The effective withdrawal of the USA from Kyoto negotiations in March 2001 reduces, but does not eliminate, the potential effectiveness of the Protocol. Among other consequences is a substantially smaller demand for CDM carbon credits than would otherwise be the case, and consequently a lower expected price for carbon. In the longer term, the current position of the USA should not be viewed as permanent. The interdependence of all nations has been suddenly made clear on both sides of the Atlantic by the terrorist attacks against the USA in September 2001; we may hope that this increased awareness may result in increasing willingness to address global problems in a unified fashion.

Opposition of European countries to crediting avoided deforestation is best explained by the fact that fossil fuel prices are much higher in Europe than in the USA. In virtually any European country, a litre of gasoline costs at least double the price in the USA (Sheehan 2001, p. 48). This puts European industries at a disadvantage in competition for international markets. European governments are therefore anxious to force the USA to increase its energy prices. By closing the door to potentially large sources of carbon credits available for purchase abroad, such as CDM projects for avoiding tropical deforestation, the USA would be forced to apply carbon taxes to fossil fuels. While there is fairness in levelling the playing field for international competition, this is a separate issue from mitigating climate change.

Most Latin-American countries favour inclusion of both plantations and avoided deforestation in the CDM. However, Brazil currently opposes any credit for avoiding deforestation but favours credit for silvicultural plantations. This implies a certain inconsistency in alleging lack of permanence as justification for opposing avoided deforestation. The Brazilian foreign ministry's position on avoided deforestation is better explained by unspecified fears of 'internationalization' of the Amazon (Council on Foreign Relations Independent Task Force 2001; Fearnside 2001*a*).

NGO positions

Four major European-dominated NGOs (Greenpeace International, WWF-International, Birdlife International and FOE [Friends of the Earth]-International) oppose inclusion of avoided deforestation in the CDM. The opposite position is held by major environmental NGOs headquartered in the USA, such as Conservation International (CI), Environmental Defense (EDF), the Natural Resources Defense Council (NRDC) and The Nature Conservancy (TNC).

Environmental groups in the Spanish-speaking countries of Latin America have varying positions. The Regional Alliance for Conservation Policy in Latin America and the Caribbean (ARCA) issued a statement in November 2000 supporting inclusion of avoided deforestation in the CDM, signed by groups in 11 countries (ARCA 2000). However, several other groups are opposed to forests, the most voluble being the Friends of the Earth branch in Paraguay.

In Brazil, almost all environmental groups favour forests (Anon. 2000*a*), but a few do not (Anon. 2000*b*). Perhaps the situation was best summed up in a press interview by Mario Monzoni,

climate coordinator of FOE-Brazilian Amazonia: 'It is very easy to be in Washington or Amsterdam saying what non-governmental organizations in the south (developing world) should do. We live here, this problem is here.' (Bugge 2000). Among the organizations supporting inclusion of avoided deforestation are the Brazilian Amazonia affiliate of FOE (Monzoni *et al.* 2000), the Socioenvironmental Institute (ISA), Environmental Research Institute of Amazonia (IPAM), Institute for Man and Environment in the Amazon (IMAZON), and a wide array of grassroots groups such as the National Council of Rubber Tappers (CNS), the Amazonian Working Group (GTA), the Pastoral Land Commission (CPT), the Federation of Agricultural Workers of Pará (FETAGRI), and the Coordinating Body of Indigenous Peoples of Brazilian Amazonia (COIAB).

It is difficult to understand how any environmental organization could take a stand that implies throwing away one of the most important opportunities for maintaining tropical forests. This is particularly so for organizations like WWF and Birdlife International that have protection of biodiversity as their primary purpose, since without tropical forests the World's biodiversity would be much reduced. Even if achieved, the gain would be modest from forcing the USA to meet its Kyoto emission quota almost exclusively from reducing fossil fuel consumption (a highly uncertain payoff, given that the USA Senate has not yet ratified the Protocol, independent of the recent setback from President Bush). This opportunity results from the unusual circumstance of the USA having signed the Kyoto Protocol before decisions had been reached on matters such as inclusion of forests in the CDM. This situation is temporary. Any gains would be on a 'one-shot' basis because the 'assigned amounts' (the amount each Annex I country is allowed to emit without penalty) will be renegotiated for each commitment period after the first one, so countries like the USA will simply not agree to make emissions reductions as large as they would have were forest mitigation measures included. While excluding forests would be a very important loss for biodiversity, this would be in exchange for only a modest (or even non-existent) gain for climate.

Greenpeace and other groups opposing forests in the CDM base their argument on Article 2 of the UN-FCCC, which specifies the criterion as 'stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system', and Article 12, Paragraph 5(c) of the Kyoto Protocol, which calls for 'long-term benefits'. The words 'stabilization' and 'long-term' are interpreted to mean that we should only be concerned about the state of the atmosphere when equilibrium is reached centuries from now, and that what happens between now and then has no importance for humankind. Theoretically, the difference between the NGO positions in Europe and in Brazil could be explained if people in Brazil were interested in their children and grandchildren and Europeans were only interested in generations at least 200 years in the future. However, the probability of a difference of this type is virtually zero, as people all over the World appear to be the same in their priorities for the future.

The position of European NGOs can better be understood in terms of the unconscious attraction of an opportunity to strike a blow at the USA. In Europe, the USA's consumption lifestyle and associated cultural domination is resented on many counts, and symbols such as McDonalds, Coca Cola and Walmart are generally reviled. Attacking this vaguely defined complex of targets finds a ready following for reasons that have little to do with climate change. These include a desire to punish the USA for its various sins in the world, the country's role as villain in climate negotiations among them. Although reducing consumption in the USA would have climate benefits, reducing this consumption should be viewed as a means to an end rather than as an end in itself. Viewed in this way, it should not be allowed to subvert global-warming mitigation efforts in other spheres, such as tropical forest conservation. The environmental price would be high if we throw away a major opportunity to maintain tropical rain forest in exchange for an expected climate benefit several centuries in the future.

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