Carbon crediting for forest communities
September 2008

Kyoto: Think Global, Act Local is a research and capacity building project being carried out by four regional research institutes in Africa and Asia, together with the University of Twente and ITC, and with support from DGIS (from 2003 to 2009). The project explores the potential for community forest management as a climate mitigation strategy (through avoided deforestation/forest enhancement), how this could be recognized within international climate policy, and what opportunities it might offer for rural livelihood support and poverty alleviation.

There is virtually no scope for community forest management under the present CDM. The restrictions are insurmountable and for various reasons such as land tenure most communities involved in forestry are not interested in establishing new forest areas. The main emphasis of community level action therefore needs to be on the sustainable management of existing natural forests. Good examples of this can be found in the mid-hills regions of Nepal, in Tanzania, in various forestry programmes in India and, on a smaller scale, in many other developing countries.

The project selected Nepal and Uttarkhand in the Himalayan region, Tanzania, Senegal, Mali and Guinea Bissau in Africa, and Papua New Guinea, for case study sites. In each country, around five sites were chosen where communities have been active in managing natural forests for some years. The research

looks at the outcomes of these examples of management and at how such initiatives might be integrated into the new REDD (Reduced Emissions from Deforestation and Degradation) policy now in discussion under the UNFCCC.

The first step was to train the communities to map their forests and to make reliable forest inventories. We found that villagers with four to seven years of school education were able to plot the boundaries of the forest and of strata within the forest area, using hand-held computers with GPS facilities, after only a few days of training. They were able to carry out annual forest inventories once permanent sample plots had been established, and they were able to use the GPS to locate these sample plots each year.


The costs involved, including the equipment, an allowance for the villagers' time and for a local organization providing technical support, were between $1 and $5 per hectare, which is one third to one half of what would be needed if professional foresters were to be hired for this work. The villagers' estimates of carbon stock were within 5% of those produced by the experts. This indicates that local transaction costs could be kept low if the forest users are made responsible for carbon monitoring.

In the test sites the community teams measured the carbon stock in their forests over a period of four to five years. The research results indicate that there is a net increase in carbon stock after communities had implemented sustainable forest management plans, which include the extraction of controlled amounts of firewood, building poles and fodder, usually for subsistence purposes.

http://www.communitycarbonforestry.org/

	Annual increase in CO_2 stock (tons/ha) due to additional growth	Estimated annual CO_2 emissions saved (tons/ha) by preventing degradation	Total CO_2 benefit tons/ha/year	Annual value per ha at $10 per ton
Dry forest and savanna woodlandst	1.5 – 5.5	1.5 – 3.5	3.0 -9.0	$30 - 90
Temperate woodlands and mountain forest	5.5 - 11	1.5 – 3.5	7 – 14.5	$70 - 145

In the locally managed sites, the carbon stock was found to increase at varying rates, which tended to be lower in dry forest and savanna woodland than in temperate woodlands and mountain forests, but significant in almost all cases, ranging from 1.5 to 11.0 tons $C0_2$ per hectare per year, as shown in the table. In addition, the research team estimates from control plots that if the forests had not been brought under management, they would be degrading at rates of 1.5 – 3.5 tons CO_2/ha/annum as shown in the diagram below. This means that the total carbon gain resulting from CFM may range from 3 to around 15 tons CO_2/ha/annum year depending on local circumstances. If CO_2 can be marketed at $10 per ton, the financial returns to CFM through carbon marketing could, at least in theory, be considerable. How much of these carbon funds would in fact be available at community level is unclear at this point, since REDD will almost certainly involve a national programme with considerable overheads for administration, monitoring, verification and marketing of credits. Therefore, a next step would be to develop models for the administration and marketing of carbon credits at national and local levels.
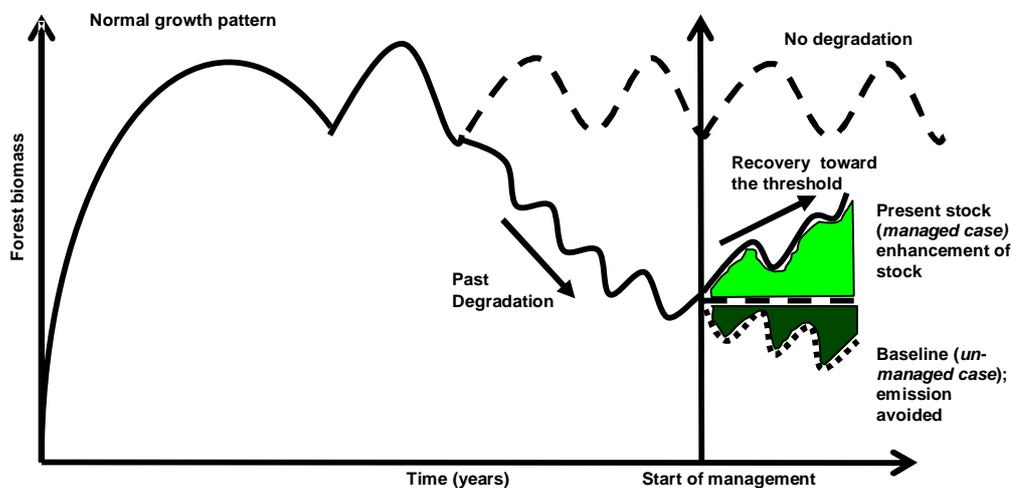
This research proves that it is technically and financially feasible for local communities to benefit from carbon crediting if they undertake sustainable management of forests in their vicinity. Payment for carbon credits over and above the benefits that communities now get from such activities could act as an incentive for more communities to start CFM and for countries to promote it on a larger scale. For local communities to benefit from such a crediting system, a number of conditions need to be fulfilled:

1. REDD policy needs to reward not only reduced emissions from deforestation and degradation, but also the increased stocks of carbon that result from the communities' on-going sustainable forest management activities.

2. The administration and marketing of carbon credits (overheads of the state and intermediary bodies) needs to be lean and cost effective. Transparent governance systems need to be introduced for the distribution of carbon revenue among the many stakeholders up and down the chain and in different districts/regions within a country.

3. The rights of local communities to sell carbon should be enshrined in law and protected. This may not be simple in cases where communities use local forests under customary law. Ways of dealing with disputes need to be established.

4. Within communities, transparency and accountability are necessary regarding the fair distribution of revenues.

http://www.communitycarbonforestry.org/