

## Making voluntary carbon markets work better for the poor: the case of forestry offsets

Leo Peskett, Cecilia Luttrell and David Brown

**T**he volume of private finance flowing through the voluntary carbon market has increased significantly over recent years, with an eight-fold rise from around five million to 43 million dollars between 2004 and 2005 alone (Capoor and Ambrosi 2006). A significant proportion of these funds is destined for the developing world. What is likely to happen to all this money? Will it be used to the benefit of the developing world, providing new opportunities for growth and poverty reduction, or will it be used to satisfy commercial and industrial interests in the north, to the detriment of southern interests?



Community forestry in Cambodia: can carbon sequestration provide pro-poor financing?

PHOTO: CECILIA LUTTRELL

### Policy conclusions

- More consideration needs to be given to developing incentives for voluntary markets to contribute to national and local development goals. This requires a shift away from prioritising the concerns of investors and producers to focusing on wider development interests of the host country.
- Ensuring 'value addition' at the developing country level might include requirements for nationally based project implementation bodies or a country level brokerage service to help develop national expertise in carbon finance.
- There is a need for the host government to take on enabling roles such as the regulation of standards or rewarding investments that give particular attention to national concerns. This suggests that more attention should be paid to harmonising standard-setting with local and national government structures.
- Clarity over the legal rights of all parties and effective redress and dispute mechanisms should be established for all projects. Safeguards need to be put in place against changing project design which may result from currently unresolved scientific conclusions.
- Careful consideration must be given to contract length, timing of payments and the types of activities allowed, to ensure that the concerns of small producers are prioritised and that contracts are not biased towards the concerns of investors.
- Standards should include more guidance on procedures for evaluating social impacts, not just provide checklists for project developers. Developing more 'creative' approaches to monitoring, such as community self-monitoring, could have benefits for the long-term success of projects by increasing producer buy in whilst still ensuring certainty - if handled in the right way, a demand-led approach to technology generation and information provision.



FPEP conducts independent policy-oriented research on tropical forestry issues, seeking to inform policy change in ways which improve the livelihoods of the forest-dependent poor, whilst also securing the long-term future of forest resources.

## Forestry in the carbon market

Investment in carbon markets currently takes place through two mechanisms: the more heavily regulated Clean Development Mechanism (CDM) which is governed by the Kyoto Protocol; and 'voluntary' mechanisms which have developed separately from the CDM and are not bound by its regulations. Currently the majority of finance flowing into forestry-based mitigation projects is through the voluntary market.

There are no exact figures on the value of emissions from these projects, but a recent survey of 26 investors found that Land-Use, Land-Use Change and Forestry (LULUCF) projects made up 56% of the total, compared with just 25% for energy projects (Harris 2006). By comparison, only one forestry project has so far been registered under the CDM, against 400 CDM projects in total. This is because of the high transaction costs of the CDM process (see Box 1) and restrictions placed on forestry projects under the CDM.

The 'socially responsible' nature of much of the voluntary market has also tended to favour forestry projects. 'Investing in trees' is a more tangible activity than investing in other forms of offsets such as energy projects, and forestry projects are therefore easier to sell to the public (Taiyab 2005). Associations between forestry and the livelihoods of the poor are perceived to be stronger than for more technical fixes, and their philanthropic associations can be strong. In addition, forestry offsets can be one of the cheaper ways to offset carbon (Sedjo 2006).

In this paper we refer mainly to schemes in the voluntary market initiated by private companies to deal with their own emissions, and schemes set up by carbon 'retail' companies (such as the CarbonNeutral Company) which sell carbon offsets as a service to other companies or individuals.

As voluntary schemes are not covered by the standards which regulate the CDM, new questions are raised over the development implications of these schemes for both the host countries (where offset projects are located) and for the small producers or farmers involved. Such questions include the way in which the capital flows, driven by international concerns over climate change, can be harnessed to address national and sub-national institutional needs, not just the concerns of those who are providing the capital.

On a positive note, the main objective of investment in carbon sequestration is for emission mitigation, but an increasing segment of the voluntary mechanisms is driven by a 'socially-responsible' market which may allow for development impacts. However, as the discussion below will show, there are also concerns about the benefit of such offset projects both to the small farmer and to the host country.

## Addressing barriers to the small producer

The first question is the extent to which financial capital from carbon offsets is available to the *smaller* rural producer, and is likely to help create a more diversified and robust livelihood. Many of the traditional barriers to involving small producers in investment opportunities are absent in the production of carbon offsets through forestry. Carbon forestry has fewer needs for physical infrastructure to gain access to markets, fewer requirements for intensive inputs throughout the rotation of the 'crop', and fewer specialised skills than those required for other forms of forest-product production.

These factors suggest that carbon forestry has the potential to enable small producers to access a growing global market. From the perspective of the small farmer directly involved in the production of carbon, there are two main barriers to accessing this potential market:

- a lack of certainty and predictability over the benefit flows, and
- the potential for high transaction costs.

The issue of uncertainty is important because of underlying flaws in the CDM, which have been inherited by many of the voluntary schemes. Under both the CDM and voluntary mechanisms there is uncertainty as to who owns the carbon emission reductions. The CDM 'has not created or bestowed any right, title or entitlement to emissions of any kind on Parties'<sup>2</sup> and this ambiguity has not been overcome in the voluntary market.

Unresolved conclusions in the science of emissions reduction can give rise to other forms of dispute. For example, verifiers may conclude that emissions reductions have not occurred as predicted. If they then recommend changing the design of the project, this can have important – and largely negative – effects on the participating farmers. This uncertainty increases the need for local redress and dispute resolution mechanisms, features which are currently under-developed in the voluntary schemes.

Equally, committing a producer to a long-term contract (as is required by many forestry offset schemes) can lead to a situation where farmers are tied into particular land use patterns which are not of their own making, potentially increasing their vulnerability to shocks and lowering their flexibility to deal with changing wider market and environmental trends. In some cases, the land use systems set up under the voluntary schemes may be more relevant to the need of the implementing companies to project a strong green image in the north, than to the needs of the small farmers in the south.

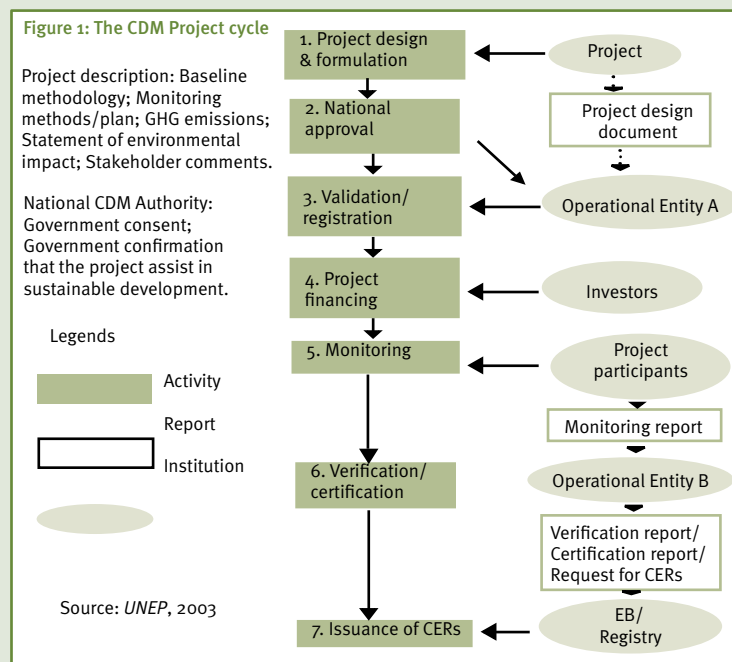
For example, one such scheme in Tanzania requires farmers to employ 'conservation farming techniques', as specified by the programme managers. In such situations there is a risk of

**Box 1. The CDM Project Cycle**

The CDM project cycle has been developed to ensure that CDM projects deliver realistic and verified greenhouse gas emissions reductions. In a typical CDM forestry project, project developers identify a project area and make initial project designs before entering the project cycle. The seven step process includes the following:

- Step 1: A Project Design Document is submitted to the Executive Board of the United Nations Framework Convention on Climate Change (UNFCCC) along with: additionality and baseline methodologies; monitoring methodologies; details on the selection of crediting period to be used; determination of the project boundary; an account of stakeholder comments; and a description of environmental impacts. An accredited third party ‘Designated Operational Entity’ (DOE) reviews the project design document to ensure it meets validation requirements.
- Step 2: The host country Designated National Authority (DNA) approves the project activity or requests a review.
- Step 3: The DOE submits the validation report to the Executive Board; the Executive Board registers the project activity or requests a review.
- Step 4: Investors implement the project
- Step 5: Emissions reductions are monitored by a third party in accordance with the monitoring plan in the project design document. Adjustments are made for leakage and a monitoring report is prepared.
- Step 6: The DOE reviews the monitoring report and verifies the reductions. A certification report is submitted to the Executive Board requesting that Certified Emissions Reductions (CERs) are issued. The Executive Board makes all reports publicly available through the UNFCCC website.
- Step 7: The Executive Board issues CERs into the CDM registry. A portion of these CERs are held back for administration and for the Adaptation Fund (aimed at assisting developing countries with climate change adaptation), with the remaining given to projects and Parties.

Source: [www.unfccc.int](http://www.unfccc.int)



diverting farmers from tried and tested practices towards locally inappropriate practices, in order to satisfy northern ‘green’ concerns.

**Minimising producer risk**

There are currently a number of ways to reduce producer risk. One of the most significant issues is how, and when, payments are made to producers. In the CDM market, an ex-post system is used, with buyers purchasing credits only once the reductions have been generated and verified. In many voluntary schemes, payments are made on an up-front basis which helps cover start up costs. This reduces the burden on small producers but also results in payments being made for reductions that have not yet occurred. This increases the risk to the investor in terms of guaranteed carbon emissions.

In some schemes, such as The International Small Group Tree Planting Programme (TIST), this trade-off is managed by making payments on a quarterly ex-post basis according to the number of trees planted.

Small producers are likely to benefit most where there is a stable price for the carbon credits they generate. Any internationally traded product faces insecure market access and prices. Nevertheless, compared with other internationally traded commodities, the outlook for carbon prices looks good in the short term (Capoor and Ambrosi 2006), and sustained long-term gains are likely if concern over climate change continues to grow.

Purchaser confidence is an important element in guaranteeing a market to the small producer. The stringent procedures and standards of the CDM

help guarantee to the purchaser that carbon offset reductions are occurring as a result of the investment and that its impact has been considered. As well as addressing purchasers' concerns, standards can help ensure that the interests of producers are taken into account, particularly through the procedures that influence the certainty of benefit flows. However, standards do increase the overall cost of project implementation: the voluntary Climate, Community and Biodiversity Alliance [CCB] certification, for example, adds between \$4000 and \$8000 to the cost of a project (EcoSecurities 2006).

A range of independent voluntary standards have been established in recent years, aiming to enhance the credibility of offset projects. These include the Climate, Community and Biodiversity (CCB) standard, the Greenhouse Gas (GHG) Protocol Initiative and the emerging Voluntary Carbon Standard, as well as certification processes developed by individual offset providers such as the CarbonNeutral Company's 'CarbonNeutral Protocol'. Standards in the voluntary market are varied: many companies follow their own procedures while others mimic the processes and standards laid down by the CDM. The variability of such standards reduces the comparability of the credits generated and could act as a barrier to investment.

Forestry projects have not proven popular under the CDM. One of the main reasons has been their high transaction costs, due to the CDM's complex and stringent procedures (see Box 1). The voluntary market has more to offer in this respect as project procedures tend to be simpler and there is scope to develop flexible mechanisms for monitoring and verification. An example of this is the community 'self monitoring' system developed in the community-designed Plan Vivo projects. At the same time, the absence of the stringent oversight mechanisms such as exist with the CDM (such as independent third party verification and standardised impact assessment procedures) can increase the potential for negative social and environment impacts. This trade-off between lowering transaction costs and the need to guard against negative impacts is a fundamental dilemma in carbon offset projects.

### Looking beyond the producer: a wider development perspective

One of the main problems facing poorer countries is how to attract carbon offset investments. Offset projects, particularly those under CDM, are unevenly distributed geographically, with a concentration in Central and South America and Asia. Rapid increases are occurring in China and India. There has been little such investment in Africa due to such factors as:

- lack of technical expertise in project implementation;
- difficulties of acquiring land under secure private tenure regimes; and

- increased transaction costs associated with the predominance of small-holder land-owning patterns (Jindal 2006).

In addition, rules governing 'Land Use, Land Use Change and Forestry' (LULUCF) projects in the CDM and the related EU Emissions Trading System (EU ETS) are restricting market access from this region. As of now, the CDM only allows reforestation and afforestation projects and the EU ETS is not admitting any LULUCF projects in its first period of operation (up to 2008). These rules have been introduced due to the problems of measuring emissions reductions from forestry, and the concerns raised by some NGOs that forestry sequestration does not result in reduced fossil fuel use or technological innovation, but merely acts as a palliative.

Such restrictions are likely to impact most on Africa, where forestry projects gain relative to energy offset projects by virtue of the lower infrastructural needs. The voluntary market does not have these constraints, allowing for more diverse forestry management systems, including 'avoided deforestation'.

Risks associated with land availability and tenure are some of the most important concerns for investors in carbon forestry offsets. Private tenure provides a means of controlling financial risk, and this could encourage moves towards the privatisation of unclear or common tenure regimes. Investment rules could require a fundamental reconfiguration of the tenure regimes that best serve the interests of the poor, to their evident detriment. To date, most of the concerns about development impacts of carbon forestry have focused on the immediate producers.

However, assisting niche producers does not necessarily ensure that projects deliver wider development benefits to the host country or even the wider community. The potential for wider 'development benefits' from the carbon sequestration market has had less attention to date, perhaps because of the project-based nature of the investment and the focus on community-level development.

Motivations for investment in this market have a strong bias towards social responsibility, and this tends to give emphasis to community development approaches. Small-scale projects with a strong community focus have become the main form of forestry project to deliver 'development carbon' (see Box 2).

There have been a number of recent studies of the development impacts of carbon forestry projects (e.g. May 2004; Landell-Mills 2002). Many authors highlight the ability of such projects to contribute to development at the local level (e.g. Boyd et al 2005; Grieg-Gran 2005). However, technical biases in project delivery (for example, the need for the accurate calculation of sequestered carbon) have tended to favour monoculture systems which may not be appropriate to the needs of the rural poor. Other documented impacts of carbon forestry projects include the loss of access to land and forest products

**Box 2. The International Small Groups Tree Planting programme (TIST)**

The International Small Groups Tree Planting programme (TIST) is a project generating revenue for small producers through the sale of emissions reduction credits in the voluntary carbon market. It is a reforestation programme operating in Tanzania, Uganda, Kenya and India, involving over 25,000 farmers. TIST also aims to empower small groups of farmers through supporting forestry and sustainable agriculture, local education programmes and HIV/AIDS awareness.

The programme was initiated in 1998 in Tanzania, based on a system of self-supporting cooperative community groups. The groups developed a model of sustainable agriculture, micro-lending and tree planting that was transformed into a carbon finance programme combined with a conservation based agricultural management, food security and business development programme by the Clean Air Corporation (CAAC) in partnership with the Institute for Environmental Innovation. CAAC provides funding and carries out multiple functions including training, reporting and monitoring and selling greenhouse gas credits to companies. Dow Chemicals became involved, contributing technical assistance and \$1.2 million to expand the project to other areas. USAID has also provided funding to the project through the Global Development Alliances.

*The TIST Process*

1. Communities are trained in small group organisations and convene 'small groups', based on common interests, such as membership of the same church. Each member group signs a covenant which includes agreeing to:
  - a. Set aside 10% of its agricultural produce and business profits as an emergency fund for group members.
  - b. Use 'best practices' to plant, care for, and establish a minimum of 1000 trees per year. Each group is responsible for protection of all other TIST group trees that have been or will be planted.
2. Groups receive training from CAAC on 'best practice' sustainable agricultural techniques, such as 'conservation farming' methodologies developed by the FAO in Zambia. Techniques used include using tighter spaces for planting, conserving water by using holes instead of rows, improving weeding and using compost as a fertiliser. Technical assistance is provided by Dow Agrosciences, which in return gains knowledge about the needs of small scale farmers and products that might be useful in the future.
3. Monitoring is carried out by the small groups themselves, TIST staff members and CAAC. In the first instance small groups submit data on their planting programmes to the local TIST office. Locally trained 'quantifiers' then visit project locations at least once a year to audit programmes. There is an emphasis on technology: information on tree growth and location is recorded using GPS and palm pilots. TIST employees are also trained to run local data management and reporting systems at the local office. The information gathered is verified by overseas analysts.
4. Payments to small groups are made on a quarterly basis via a network of rural banks. Only trees left standing qualify for payments, a system which incentivises preservation of trees. It is estimated that a typical group (up to 12 people) planting 2,000 trees could make up to \$40 per year, and raise an additional \$450 through higher yields from the use of conservation farming.
5. CAAC manages the sale of greenhouse gas emissions credits to companies based in the north. These credits can also be purchased on ebay by individual consumers.

The TIST programme has recently been registered by the BioCarbon Fund of the World Bank. This will create credits for land-use greenhouse gas emissions reduction projects that are tradable within the CDM.

Source: TIST website: [www.tist.org](http://www.tist.org), and World Bank BioCarbon Fund website: [www.carbonfinance.org](http://www.carbonfinance.org).

and weakened cooperative arrangements where markets increase competition (Landell-Mills 2002). Community development projects are also prone to the risk of benefit capture by elites (see for example, Brown and Corbera 2003).

Current provisions in the voluntary market for evaluating the impact of projects beyond the immediate project boundary are highly variable. Social impact assessments, for example, vary from ensuring that at least one stakeholder consultation has been held (Gold Standard 2006), to specifying detailed processes for identifying the needs of producers (Plan Vivo projects).

**The development priorities of host countries**

Wider benefits to society, beyond the immediate producer, are a major concern of producer country governments particularly in relation to national development goals. Under the CDM, the sovereignty of the host state is maintained by specifying that the Designated National Authority (DNA) - an institution created by the host country government to oversee the implementation of CDM projects - should judge whether a project contributes to national sustainable development objectives. Few - if any - voluntary

mechanisms interact with this body, although there are requirements for projects to comply with local and national laws. In some cases, a 'letter of approval' is exchanged between host and investing country governments. Most of the project-based standards specify detailed methodologies for assessing sustainable development and are obliged to have an independent verifier. Requirements for ensuring the sustainability of projects appear to fall more heavily on the investing institution than the host, and 'sustainable development' is therefore given variable treatment by the voluntary markets.

Beyond requiring adherence to local and national laws, the emerging independent voluntary standards pay little attention to how projects harmonise with national development goals and local and national governments, how investment matches existing forest or agricultural policy or how wider national benefits could accrue (e.g. through taxation). For example, debates about the relative advantages of small-holder carbon forestry models versus out-grower schemes (in terms of growth, employment generation, and migrant remittances from industrial plantations) are not prominent in the discussion surrounding voluntary carbon offsetting.

In addition, there has been little debate about the process of standard-setting for carbon offset projects or wider issues concerning the relationships between voluntary 'self-regulation' initiatives based on corporate social responsibility, the interests of marginalised groups and other developing nation priorities (Utting 2001).

To date, there have been few opportunities for value addition to the 'raw material' at the developing country level. Projects typically involve investing institutions and ancillary service providers (such as investment funds, insurance brokers, legal and advisory services) located almost exclusively in the

north. This bias is not addressed by voluntary market providers at present, though many do enlist local institutions such as NGOs to manage projects, and local universities to carry out baseline assessments. Introducing a requirement for nationally-based project implementation bodies for voluntary schemes or a country level brokerage service would help develop national expertise in carbon finance and increase the flow of benefits to the host country.

The various standard schemes that are currently in development appear to be more focused on producer concerns than national interests. If the financial flows associated with carbon offsets are to represent a significant form of investment for rural areas and provide new opportunities for wider growth and poverty reduction in developing countries, new institutional modalities are needed to manage the partnerships between farmers, host governments, retailers, and global markets. These might include the development of nationally-based brokerage institutions to sell services in the international market.

In addition to the direct monetary benefits to the producer from carbon fixation, there may be other important social and environmental objectives which private sector regulatory mechanisms are unlikely to achieve. This suggests that for development impacts to be maximised and guaranteed, the host government needs to take on enabling roles such as regulating standards for the voluntary market or rewarding investments that give particular attention to national concerns.

Leo Peskett is an associate of the Forest Policy and Environment Programme (FPEP) at ODI. Cecilia Luttrell and David Brown are research fellows with FPEP. The authors would like to thank Steven Gray for his input on legal issues.



**Overseas Development Institute**

111 Westminster Bridge Road, London SE1 7JD

Tel +44 (0)20 7922 0300

Fax +44 (0)20 7922 0399

Email

forestry@odi.org.uk

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### Endnotes

- <sup>1</sup> The following activities are referred to in the Kyoto Protocol: afforestation, reforestation, deforestation revegetation, forest management, cropland management and grazing land management.
- <sup>2</sup> Decision 15/CP.7 UN Doc. No. FCCC/CP/2001/13/Add.2 (2001)