Additionality, non-permanence and leakage

Key points:

- The requirements for additionality, permanence and minimal leakage in carbon offset projects can act as barriers to the participation of poor communities in projects and could increase risks for those who participate.
- As most carbon offset projects aim to replace high GHG emissions activities with lower emissions activities, poor communities are often unable to participate, because they generally produce low emissions. This means that afforestation and reforestation projects, which remove GHGs from the atmosphere, rather than avoid GHG emissions into the atmosphere, can offer more opportunities for poor communities.
- The need to ensure that emissions removals from carbon offset projects are permanent means that projects are often established in areas where rights to land, trees and carbon are relatively clear, that project investments are well protected and that insurance systems are in place if trees are destroyed. These factors can create barriers to participation and risks for poor people if they are not carefully managed.
- Alternative livelihood activities established to avoid leakage need to be rigorously tested to ensure that communities' livelihoods are supported and that leakage will not occur.

What is additionality?

'Additionality' is the requirement that the GHG emissions after the implementation of a CDM project are lower than those that would have occurred in the most plausible alternative scenario to the implementation of the CDM activity. In forestry projects, additionality is the requirement that GHG removals after the implementation of the project are greater than those that would have occurred in the baseline scenario (the most plausible alternative scenario to the implementation of the project). It forms the main condition for determining the eligibility of carbon offset projects because it defines whether the project is having an impact on lowering GHG concentrations in the atmosphere.

This information sheet is part of a larger resource pack, Understanding the social opportunities and risks in forestry and bioenergy carbon offset projects. The resource pack has been developed by the Overseas Development Institute (ODI) on behalf of the Ford Foundation. For more information, please e-mail CCEF@odi.org.uk.

Examples of 'non-additional' scenarios which would not be eligible for avoided deforestation projects

- There is no history of deforestation in the area, therefore no emissions are occurring
- The proposed activity is already being carried out by a government programme, so the associated emissions reductions could have occurred without carbon finance
- There are no institutional, technical or financial barriers preventing project uptake. For example, there is high availability of skilled and trained labour, the approach used to address deforestation is well tested, etc.

Questions to determine additionality

- Are there technical barriers to the project? Can such barriers only be overcome when carbon finance revenues can be obtained?
- Does the project go further than what the law / regulation requires
- Is the proposed project activity loss-making without the carbon finance revenues?
- Are there alternative activities that are more profitable without these revenues?
- Will the project be economically attractive if carbon finance is obtained?
- Is it impossible to arrange the financing of the project in absence of the carbon finance?

Standard tools have been developed for assessing additionality within both CDM and voluntary projects. These help to demonstrate that projects that are not local or regional common practice, face technical or institutional barriers that would prevent their implementation under normal circumstances and would not have been viable without carbon finance. Additionality is crucial in ensuring the credibility of carbon offset projects or programmes in mitigating climate change, but it also places a large burden on their development because it is difficult to prove.

What does additionality mean for poor rural communities?

Often, poor communities have very low GHG emissions. This means that it can be difficult to secure additional GHG reductions through implementing carbon offset projects, which means that overall, there may be limited opportunities for the poor.

Because afforestation and reforestation projects enhance the removal of GHGs from the atmosphere, rather than avoid emissions (as in the case of energy

Liability arrangements – How to protect against non-permanence?

Because afforestation and reforestation carbon offset projects only hold the climate benefit as long as no deforestation occurs, credits are issued on a temporary basis (as opposed to permanent credits granted to energy projects). In the CDM, credits from forestry projects are defined as short-term (tCERs - "temporary Certified Emission Reductions") or long-term credits (lCERs – "long-term Certified Emission Reductions") each signifying a different duration in which they are valid. Both types must be replaced when they expire.

During the period for which temporary credits are being issued, a key concern in forestry projects is that trees may be lost, for example through fire, disease or animal damage. Such losses affect the permanence of carbon sequestered, which means that in order to meet the terms of contracts, project participants have to compensate. This can be done by:

- Withholding a pool of issued credits from sale: some project standards require that a pool of credits (known as a 'buffer) is established which can be used to compensate the loss of any credits in case of carbon lost through fire, etc.
- Establishing a requirement to re-plant any trees that are destroyed
- Implementing systems to reduce risks such as fire management plans

These liability arrangements are included in the project's Emission Reduction Purchase Agreement (see Infosheet 6).

projects or avoided deforestation), there may be relatively more opportunities for poor rural producers who can engage in tree planting activities.

The need to ensure additionality could result in risks for poor rural communities. For example, tree planting projects may target degraded or marginal lands which are not being used for other activities. It is important to ensure that this is in fact the case and that local land use systems are well understood.

What is Non-Permanence?

Non-permanence refers to the risk that emission removals by afforestation or reforestation carbon offset projects are reversed because forests are cut down or destroyed by natural disaster[1]. Projects need to be designed to reduce non-permanence risks, which can result in impacts on those involved.

What does non-permanence risk mean for poor rural communities?

Non-permanence risks mean that clear land ownership (clarification of property rights, land tenure) is likely to be essential for carbon offset projects, as the land management systems can be more easily controlled over long timescales. Areas with complicated land tenure systems and insecure ownership are unlikely to attract carbon finance. Conversely, the potential for selling carbon credits could incentivise the clarification of rights to land, trees and carbon. Depending on how this is carried out, it could be positive or negative for poor people. However, experience with tenure reform processes indicates that it is often anti-poor.

In forestry CDM projects 'temporary' carbon credits may be used to reduce permanence risks. These can be less attractive than 'permanent' credits and have lower prices, meaning that forestry projects may attract less investment or that communities get fewer benefits.

What is leakage?

Leakage occurs when a carbon offset project displaces activities which create emissions outside the boundaries of the project. There are two main types of leakage which can occur in both forestry carbon and energy-related carbon projects:

1. *Activity shifting leakage* includes leakage which may occur in-country, for example when forest conserved in one area of a country leads to deforestation or degradation in another area.
2. *Market leakage* may occur when mitigation policies have an effect on commodity prices, driving changes in investment patterns, potentially towards high emissions activities. For example, if timber and crop production are reduced, then market prices will rise, which may cause a shift to more intensive activities (that could involve higher

1 Other types of emission reduction projects are permanent in nature as they avoid emissions from ever being emitted. In contrast, forestry projects mitigate climate change as long as the carbon remains stored in the trees.

emissions). Market leakage is less likely to occur at the project level.

Leakage assessment requires detailed knowledge of the drivers of deforestation in the local area.
There exist a number of options for controlling leakage at the project level. These include both 'project specific' approaches and 'standardised approaches'.

- **Project specific** approaches address cases-by-case local circumstances such as fuel wood collection or ecosystem characteristics. They include careful site selection (e.g. degraded land where it is easier to guarantee the activities will not be shifted); implementing multi-component projects that incentivise landowners to maintain emissions reductions or sequestration benefits (e.g. activities that are an alternative or complementary land use for existing landowners, and economic benefits are comparable to non-forest alternatives); use of 'leakage contracts' that make it a legal requirement for those that have ceased activities to not carry them out elsewhere; and leakage monitoring.
- **Standardised approaches** include: Discounting of emissions reductions based on leakage estimates or default values; and the use of project eligibility criteria that rule out certain project types that are prone to high leakage levels.

What does leakage mean for poor rural communities?

Projects must ensure that the emissions-intensive activities (e.g., agriculture or fuel wood collection) tackled by the project are not simply shifted outside the project boundary. Alternative livelihood strategies need to be well planned and profitable enough to replace (rather than displace) emissions-intensive activities. This can be difficult to achieve, particularly if the communities' 'business as usual' activities are being restricted. 'Leakage contracts' are another approach, which may be difficult to enforce in practice and/or could result in negative impacts on communities if they are unable to meet the terms of contract.

Further Resources:

CDM: A User's Guide: Prepared by UNDP. http://www.energyandenvironment.undp.org/undp/indexAction.cfm?module=Library&action=GetFile&DocumentAttachmentID=1032

CDM tools for the demonstration and assessment of additionality. http://cdm.unfccc.int/Reference/tools/index.html

CDM rulebook – what is additionality? http://cdmrulebook.org/84

Carbon Catalog: A glossary of carbon offset terms. http://www.carboncatalog.org/guide/carbon-offset-glossary/

Voluntary Carbon Standard: Tool for Non-Permanence Risk Analysis and Buffer Determination in afforestation, reforestation and other land use projects. http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf