

Using Barren Land for Afforestation: Assessing the Results of the First Registered CDM Forestry Project

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Introduction

Clean Development Mechanism Afforestation/Reforestation (CDM A/R) projects have been included in the Kyoto Protocol since 1997; they can contribute to both climate change mitigation and poverty alleviation. However, only six A/R projects had been registered to the CDM Executive Board up to 31 July 2009, according to the UNFCCC's CDM statistics.

The first CDM A/R project, Facilitating Reforestation for Guangxi Watershed Management in the Pearl River Basin in the Guangxi Zhuang Autonomous Region of China, was registered in 2006, with 4000 ha of multifunctional trees to be planted in "barren lands suitable for afforestation"¹ in Cangwu and Huanjiang Counties. US \$2 million will be provided by the BioCarbon Fund to buy the Certified Emission Reductions (CERs), with the governments of Italy and Spain as the final buyer (see figure 1). Temporary Certified Emission Reductions (tCERs)² were selected for this project with a fixed 30 year crediting period. The tree species used for reforestation include *Eucalyptus*, *Pinus massoniana*, *Schima superba*, *Quercus griffithii*, *Liquidambar fomesana* and *Cunninghamia lanceolata*. Before project implementation, most of these lands were kept and managed

as public goods by the local villages, with some villagers using the lands to raise animals.

Developing the Compensation and Rewards for Ecosystem Services Framework

The Compensation and Rewards for Ecosystem Services (CRES) Framework is defined as contractual arrangements and negotiated agreements among ecosystem stewards, environmental beneficiaries and/or intermediaries (Swallow et al. 2007).

This project involves the BioCarbon Fund, the Afforestation Companies and local households (see figure 1). The Afforestation Companies are private forestry companies, who participated in the scheme because they anticipated higher profits from selling CERs on the international market than from a common plantation project. The BioCarbon Fund buys the CERs; the Afforestation Companies and the local households develop and sell them. As the actual stewards, local households can benefit from this project but at the same time they lose some of their rights (see next page) to the Afforestation Companies.

Since all the lands involved in this project are owned by the local communities, the Afforestation Companies had to find ways of cooperating with the local households to obtain lands and labour for project implementation. Given the system of collective land tenure, once the land was selected negotiations between the local households (either representatives of each household or the whole village), the local Forest Bureau and the Afforestation Companies took place to assess the potential for participation, the process for renting land and/or cooperation in programme activities. 38 natural villages amongst 13 administrative villages in

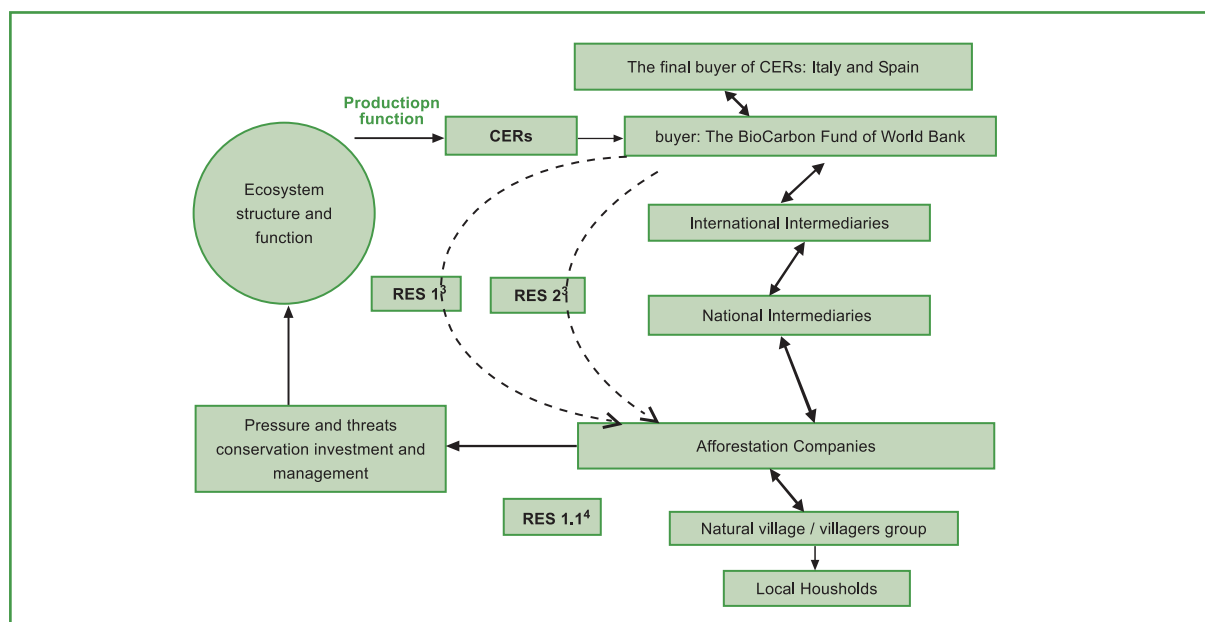


Figure 1. RES Framework. Source: Adapted from Swallow et al. 2007

¹ An official term used by the forestry institutions, meaning land without trees or only with grass and a few trees.

² A "tCER" is a certified emission reduction under the CDM, which expires at the end of the given commitment period. A "tCER" is equal to one metric tonne of CO2 equivalent.

³ RES1 and RES2 refer to the rewards for threat reduction and conservation/investment flowing from the buyer of CERs to the Afforestation Companies.

⁴ RES1.1 corresponds to the rewards from the Afforestation Companies to the actual land stewards (the local households).



Tree planted. Photo: Chongying Chen.

Cangwu County and 39 natural villages of 12 administrative villages in Huanjiang County participated in this project. Of the total land area (4000 ha) proposed in the Project Design Document, 3238.7 ha had been planted up to May 2009. This suggests that about 20% of lands were not involved in this project, though the reasons for this may be complex: in some cases it is because the price was too high for the Afforestation Companies, because the villagers preferred to keep the land for sustenance and livelihoods, or because the land had already been planted.

Benefits flowing to local households

Local households obtain six main benefits. They can obtain income from:

- Fees for renting their land to the Afforestation Companies.
- Selling non-wood products, such as resin.
- Selling wood.
- Selling CERs.
- Participating in tree planting activities.
- Participating in forestry management.

Among these, only the benefits acquired from selling CERs derive from the BioCarbon Fund; the others are provided by the Afforestation Companies.

Not every local household can benefit in all of these ways. The first four benefits are based on forest land ownership, which apply to all households irrespective of income and wealth because of the system of collective land ownership. However, income distribution between the collective and the Afforestation Companies will vary depending on whether it

is the Afforestation Companies or the villagers themselves who invest in plantation activities and forestry management. If it is the companies, much rests on the collective's capacity for negotiating, the tree species and the location and quality of the land.

Rights lost by local households

In the CRES framework, local households give up their ownership to the CERs to the ecosystem beneficiaries, first to the BioCarbon Fund, then to Italy and Spain; they also give up some other rights related to forest land to the Afforestation Companies. For example, during the whole fixed 30 year crediting period they lose certain rights to access the forest, graze animals in the forest, collect firewood, grow any other plants under the trees, cut grass in the forest, and collect resin.

Conclusions

Although local people lose some relevant rights, a well-designed A/R project can open the door for local households to get more benefits from their forest lands, especially those who live in marginal areas far from the wood market. The direct benefits from selling CERs might be low, but villagers can obtain indirect benefits, e.g. constructions of roads, from the project that are even more important for their livelihoods.

Until now, this CRES project in Guangxi has been very successful with more than 3238.7 ha land (more than 80% of that proposed) planted with six species of trees, but it is questionable if this kind of forestry project is sustainable under CDM given the reluctance of the Afforestation Companies, the main developer of the carbon sequestration project, to participate in the future. When asked whether

they would apply another A/R project or not, the Afforestation Companies replied that they would not if there were no changes in the rules and the price.⁵

A key limitation is the complicated rules established under the CDM and requested by the BioCarbon Fund. In a common forestry project, the afforestation companies have more independence to rent land from the local households, then they can decide independently on tree species, tree planting models and so on. In this CDM forestry project, however, they lose the freedom to choose the land, the tree species, must adhere to fixed site boundaries with no scope for changing land use practices (not always easy to control when projects are implemented on community land), and they must meet CDM certification and monitoring criteria.

Moreover, income from this project is just US \$4.35/t of CO₂ equivalent, which is considered low compared with the total costs accrued from transaction and registration, the professional fees for baseline surveys and associated costs such as road-building.⁶ In this project, costs are further elevated because most of the land is poor quality and in marginal areas (remote from the wood market), which means higher outgoings on transportation and plantation.

In order to make these forestry projects sustainable, it is therefore suggested that the rules established under the CDM are simplified to allow more flexibility to the developers, and a higher price is attached to the CERs. This will enable carbon sequestration projects to be implemented on poor quality community land with some financial efficiency. Only then will it be possible for CDM forestry projects in wasteland areas such as Guangxi to contribute to global climate protection and poverty alleviation.

References

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⁵ Based on interviews conducted with selected representatives of the Afforestation Companies between May and August 2009.

⁶ Ibid.