

Assessing the Livelihood Benefits to Local Communities from the Profafor Carbon Sequestration Project, Ecuador

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INTRODUCTION

The Clean Development Mechanism (CDM), under Article 12 of the Kyoto Protocol, is one of three 'flexibility mechanisms' available to industrialised countries (Annex 1 countries) to meet their emission reduction targets and also contribute to sustainable development of non-Annex 1 countries. A pilot phase called 'Activities Implemented Jointly' (AIJ) was initiated to explore ways of implementing CDM-like projects and institutionalising, in the future, the provision for working jointly to achieve emissions reductions objectives. Drawing on experiences from the AIJ pilot phase, it is possible to begin assessing whether or not land use, land-use change and forestry (LULUCF) projects have the potential to protect carbon and biodiversity, and simultaneously contribute to long-term sustainable rural development.

This study assesses the actual and potential livelihood impacts of PROFAFOR, a carbon sequestration project in Ecuador, in the knowledge that the AIJ phase projects did not have a sustainable development requirement, but that this was an opportunity to explore the livelihood opportunities and risks of LULUCF projects. For PROFAFOR, addressing the livelihood needs of contracted communities will help to increase the duration of the carbon sequestered.

METHODS

A modified sustainable livelihoods approach and financial budget analysis were adopted to examine the local livelihood implications for communities involved in the projects. The 'before project' status of community activities, income sources and capital endowments (financial, environmental, human, social and physical) were evaluated to provide a 'business as usual' scenario. The short-term and long-term livelihood impacts of the projects were then assessed, in terms of actual and potential changes in activities, income sources and assets. Long-term financial profitability and expected revenues of community enterprises were calculated, considering best case and worst case scenarios. Primary data were obtained from 7 community workshops and four interviews on-site with individual landholders. The information was verified through interviews with the project teams, non-government organisations, government officials, research institutes and timber buyers. Financial data were collected from the project managers and independent sources.

OBJECTIVES

The objectives of the study were:

- (1) *To assess the potential of forest carbon projects to contribute to improving the livelihoods of rural communities in developing countries in the short term and long term.*
- (2) *To identify a number of constraints and opportunities both internal and external to the project that may affect the level of livelihood and financial benefits to local communities.*
- (3) *From the analysis, identify conditions and processes that could improve the probability of improving sustainable rural livelihoods through forest carbon projects.*

STATUS OF COMMUNITIES

The communities working with PROFAFOR in the Andes of Ecuador are both Indian and mestizo (mixed Indian and Spanish). Many of their lands are former haciendas, which have been over-cultivated and over-grazed by the previous landowners. Reduced livestock and agricultural income in the communities is increasing the number of youths migrating to the cities for employment. In terms of forest plantation activities, plantations of exotic species are already well-established in the Andes. Of the surveyed communities, five out of seven already had plantations.

PROFAFOR CONTRACTS

The communities who have made contracts with PROFAFOR have leased their communal land to establish plantations of both native and exotic species. Many communities have selected areas with low opportunity cost, planting on steep slopes and degraded sites. Others have planted on former grazing land. Most of the community contracts are for 15 to 20 years, but new contracts with PROFAFOR are now only made for 99 years. The project provides establishment and maintenance subsidies and technical assistance for the first three years of the project, and in return the beneficiaries are obligated to maintain the plantations under a selective cutting regime. The project beneficiaries are entitled to all the revenues from firewood, pulpwood and timber and non-timber products from the plantation but they will not earn revenues from the trading of carbon offsets. The foreign investors will receive 100% of the certified emission reductions (CERs).

SHORT-TERM IMPACTS ON COMMUNITY ASSETS

In the short term, the financial contribution, technical assistance and provision of planting material by PROFAFOR have, to differing degrees, increased the financial, environmental, human, social, and physical capital of project participants. In most cases, the subsidy had been used for paying local wages and food for the community members in establishing the plantation and the surplus funds had either been used for community or individual needs. Since the project prohibits the grazing of livestock and agricultural activities in the plantations, there were some reported community conflicts over the use of the land under plantation.

SHORT-TERM LIVELIHOOD IMPACTS ON COMMUNITY ACTIVITIES AND INCOME

The project has provided the communities with the opportunity to either expand their existing exotic plantation area or diversify on-farm activities. Many of the surveyed community members were experiencing reduced income from livestock and agricultural activities and hence the project subsidy to establish the plantation had provided local employment and additional income.

LONG-TERM LIVELIHOOD IMPACTS ON COMMUNITIES

All communities expected that the plantation would generate increased income for community members in the future. Community projections of the importance of forestry activities, particularly in terms of contribution to income, were varied. In a few cases, if existing constraints to livestock and agricultural activities continued, forestry activities were likely to replace agricultural activities. Some communities were establishing plantations to diversify their income base whilst others were expecting timber revenues to become the major income source for the community.

Given decreasing returns from other on-farm activities, the project contracts for 15 to 20 years

represent a potentially profitable investment for the surveyed communities, particularly to those with plantations of exotic species. Fire, harsh climatic conditions, pests and diseases, and access to markets were noted as the major risks to the profitability of the plantations. However, under the new 99-year contracts, only communities interested in both financial and environmental benefits are likely to gain. As a purely financial investment the 99-year contracts are likely to be unprofitable, especially if the opportunity cost of the land increases in the future. Community members would be better off establishing plantations under other schemes, where contract conditions are more flexible.

PROJECT CONSTRAINTS

Although only one community had signed a 99-year contract at the time of the study, the livelihood impact of such contracts on rural Andean communities is likely to be negative. In these communities, populations are increasing, hence the demand for individual grazing and agricultural land is also on the rise. If the communities decide to convert the plantations to other land uses they are under contract to give 30% of the timber revenues to the project. On-farm activities are currently constrained by the lack of irrigation and access to credit but if these conditions change, other land uses may become more profitable, increasing the opportunity cost of land under plantations.

At this stage, PROFAFOR has not provided community incentives to ensure the plantations are kept for the duration of the contract. Instead, PROFAFOR has adopted a 'disincentive' approach to try and prevent communities converting their plantations to other land uses. Penalties have been established whereby contracted communities lose about 30% of their timber revenues if contracts are broken. It is as yet unknown how enforceable these penalties are and whether they will act as a sufficient deterrent to the clear cutting of plantations, especially if community income sources are limited.

RECOMMENDATIONS

Forest carbon projects have multi-stakeholders and multi-objectives. To ensure that all objectives are met and that no stakeholder is made worse off, it is important to identify potential trade-offs and conflicts of interest at the start of the project. In the two case studies, the community members were not expected to receive benefits directly from the carbon offsets, but instead earn income from project related activities.

At the outset, projects managers should implement socio-economic assessments in communities that are interested in participating in the projects or are expected to be impacted on by project activities, in order to identify initial risks and opportunities to project goals. In particular, the opportunity cost of land under the project needs to be assessed in detail before projects are implemented. Once projects are implemented, monitoring of socio-economic conditions should continue, thereby capturing changes at the community level that may impact on the goals of the project.

Since forest carbon projects have a longer time frame than most development projects, project designers need to provide adequate incentives to stakeholders to ensure their long-term commitment and enter into collaborative and flexible partnerships with communities. For poorer communities with limited land, inflexible long-term contracts are likely to have adverse livelihood impacts, and may also be counter productive to achieving the carbon sequestration goals.

Most forest carbon projects have invested in long-term benefits to communities, either through supporting community plantation activities or supporting local enterprises. In doing so, project managers will need to ensure that the community members receive adequate training and information on both the production and the marketing side, to develop profitable and sustainable enterprises. If community ventures do not generate adequate funds for the community, the project risks negative leakage and early emission of carbon.