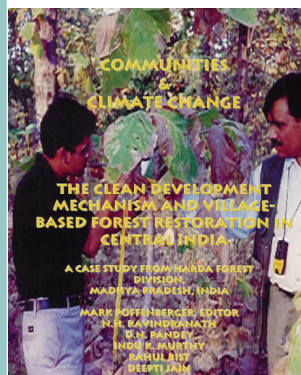
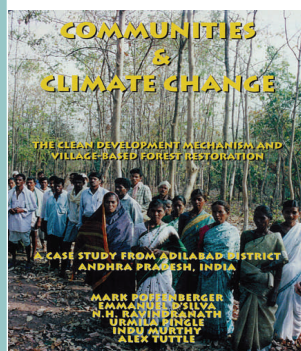


CFI Research on Carbon-Offset Credits



In October 2001, CFI published a report exploring how payments for carbon capture could be made to rural communities in Madhya Pradesh in return for their successful regeneration of degraded teak forests. As mechanisms to channel environmental service payments to community resource managers are still in an early phase of development, this is a landmark study. The report explores the feasibility of using carbon credit-based financing mechanisms to support community forest restoration initiatives in India. Participating in the study were scientists from the Indian Institute of Forests at Bhopal and the Centre for Ecological Science at the Indian Institute of Science at Bangalore. Funding for the project was provided by the USDA Forest Service, Office of International Programs and USAID Global Bureau.



In November 2002, CFI published a second report entitled, "The Clean Development Mechanism and Village-Based Forest Restoration: A Case Study from Adilabad District, Andhra Pradesh, India." The report describes cost-effective methods for assessing carbon additionality developed by the Centre for Ecological Science at the Indian Institute of Science at Bangalore. Funding for the project was provided by the Climate Change Division of the Department of Foreign Affairs and International Trade (DFAIT) of the Government of Canada, with field support provided by the Andhra Pradesh Forest Department.



In 2002, Dr. Mark Poffenberger, CFI Executive Director, presented the findings of its community forestry carbon project research to the Eighth Session of the Conference of Parties (COP-8) to the United Nations Framework Convention on Climate Change in New Delhi. Dr. Poffenberger presented an illustrative case study of forest carbon research from India which highlighted the high potential livelihoods and carbon benefits, but also the restrictions facing the project under the present draft rules of the CDM.

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Communities & Carbon-Offset Credit Payments

Introduction to CFI's Strategy

Community Forestry International's (CFI) climate change initiative is implementing "proof of concept" pilot projects that pay rural communities to halt forest habitat destruction and adopt restoration and conservation activities. Across Asia communities are protecting and reforesting forests in Asia and sequestering million of tons of carbon each year, unfortunately carbon markets have yet to develop to support community eco restoration efforts. CFI is pioneering new mechanisms for assessing and valuing carbon and other environmental services and arranging contractual agreements with interested communities in Cambodia, central and northeastern India. Payments for these environmental services are formulated to generate greater livelihood, including building financial management capacity, entrepreneurial abilities, and capital resources for investments in sustainable resource use.

In Northeast India, with support from USAID and the John D. and Catherine T. MacArthur Foundation, CFI has signed conservation contracts with Naga, Kuki and Khasi tribal communities who now strictly protect forest habitats considered to be biodiversity "hot spots" that had been a great risk. Community protection from fires, grazing, and logging are stimulating the rapid natural regeneration of thousands of hectares of degraded watershed surround the old growth core forests, facilitating habitat expansion for endangered species, while sequestering thousands of tons of carbon annually.

In Central India, Gond tribal Forest Protection Committees (VSS) and Self Help Groups (SHGs) are already involved in managing watershed restoration contracts and enrichment planting of valuable trees, such as Indian birch (*pongamia pinnata*) and *jatropha*. This strategy has multiple advantages in terms of creating terrestrial carbon sinks, providing bio-diesel fuels as an alternative to fossil fuels and thereby offsetting carbon emissions, and reestablishing the hydrological functions of degraded watersheds.

The strategy is to address climate change threats to high priority conservation areas by providing financial incentives and technical guidance to neighboring communities to strengthen habitat protection and restore degraded forests and watershed. Developing cost-effective methods for resource valuation, ESP marketing, community capacity building, and livelihood enhancement are all key components of CFI's responses to climate change threats.

Community Forestry International

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Context

Over the past century, the earth has lost over 1 billion hectares of forest, with current annual loss averaging 13 million hectares. Only 40 percent of the remaining forest can be classified as large, intact natural forest ecosystems. The majority of the lost and degraded forest biomass has been emitted into the atmosphere, substantially contributing to global warming. The Intergovernmental Panel on Climate Change estimates that 1.7 billion tons of carbon are released annually as a result of changes in land use, primarily tropical deforestation. While the loss of forests contributes directly to global climate change, climate change is accelerating forest loss due to increased incidence of fires and the creation of drier microclimates.

In East Khasi Hills of northeastern India, for example, in the past the majority of all rainfall was released by forest through evapo-transpiration, generating rainfall during the dry season. The loss of forests has led to rapid run-off and downstream flooding in Bangladesh and the Assam Plain during the rainy season, followed by extended droughts and declining water tables. This process of aridization is exacerbated by climate change and is contributing to the disappearance of forest habitat, one of the leading causes of biodiversity loss worldwide. Many Asian communities are interested in protecting and restoring their forests, but require financial and technical support that could take the form of carbon-offset payments.



Regenerating Community Forest in the East Khasi Hills District

In Cambodia, millions of hectares of forest have been cleared or degraded over the past thirty years. As the rural population has expanded, subsistence and commercial pressure on forests has grown dramatically creating resource scarcities. In response, over 500 villages have organized forest protection groups during the last decade and the Royal Government of Cambodia has passed new legislation recognizing the rights of rural people to manage forests. While a grassroots demand for forest regeneration and conservation has grown, international and national financing of community initiatives is extremely limited. Even modest payments to communities for regenerating forests and accumulating carbon would establish substantial incentives and help build local capacity. Local university graduates are receiving training in methods to assess forest biomass and carbon, while Cambodian NGOs are gaining skills in community organizing and technical guidance in sustainable forest management and livelihood generation. Forest carbon contracts could provide communities with a medium to long term stream of funding to restore forest ecosystems, while stimulating household livelihoods.



Community forestry group demarcating forest boundaries with GPS unit and field tape.

Carbon-Offset Trading Markets

Afforestation and reforestation are permitted as a carbon sink measure under the clean development mechanism (CDM). Since the approval of the Kyoto Protocol, valuing and trading forest carbon has begun, representing initial steps towards the creation of markets for a range of environmental services. Paying communities to protect and restore degraded forests provides new incentives that support sustainable resource management that can only be achieved through the active participation of rural populations. At the same time, payments to poor upland communities can inject badly needed capital that can be used to improve livelihood and fund entrepreneurial activities. Unfortunately, while climate change accelerates, the development of carbon offset markets for community forest generated carbon, have been slow to develop. Most carbon markets dealing with forestry have been limited to large scale plantations, while the trading mechanisms are geared for large volume sales which can handle the high transaction costs involved in project development, registration and monitoring. CFI is pioneering new ways to bundle CF projects and train communities and local organizations to design and monitor project progress. Remotely sensed data can also be used to verify that carbon stocks are present and additionality is taking place. CFI is currently negotiating with international carbon buyers interested in piloting new approaches to CF trading and is planning to facilitate contracts for 2008-2011.

Social & Economic Benefits

Payments for Environmental Services are not only an effective way to improve natural resource management, but are also assisting communities to gain enhanced tenure rights, strengthen institutional and management capacities, build financial resources, and develop entrepreneurial skills. Integrated projects that provide technical and institutional support facilitate community-based resource management transitions, while financial transfers based on PES create capital funds for investments in new livelihood activities.

Experiences from Adilabad district in Andhra Pradesh, India demonstrate how communities are able to establish and build micro-finance accounts with rural banks through funding for reforestation and watershed restoration. Villager groups are investing these community-managed funds in agricultural and NTFP production and marketing enterprises that have allowed thousands of Gond tribal families to escape indebtedness to local money lenders. In some cases, communities are using their own financial resources to reforest wastelands.

Biodiversity and Hydro Benefits

Forest restoration generates a range of hydrological benefits. Slowing run-off and facilitating water percolation reduces downstream flooding and dry season stream flow and aquifer recharge. Increasing water availability in the dry season is a key element in increasing agricultural productivity, while reducing flood damage in low lying agricultural and urban centers, both highly valuable services at the regional and national level. Protecting frontier forests and regenerating habitat is one of the most strategic means of conserving threatened biodiversity, a high priority global objective.

Carbon Benefits

CFI research in Madhya Pradesh and Andhra Pradesh indicate that community forests may generate from 1 to 6 metric tons of carbon each year depending on forest type. Assisted natural regeneration tends to sequester carbon more slowly than fast growing plantations, though establishment costs are lower. Current market prices for forest carbon range widely from \$ 2 to \$ 12 per ton. In addition to above ground carbon, forest soils also accumulate substantial quantities of carbon. In India, the 17.3 million hectares currently under community forest management are generating over 20 million tons of carbon annually.