



Tackling climate change

During 2005, CIFOR increased the scale of its research on climate change. There are now two distinct strands. One is devoted to exploring the ways governments and communities can adapt to climate change. The other focuses on how forests and trees can be used to reduce the levels of atmospheric carbon and at the same time improve the livelihoods of the rural poor.

Climate change may suit some people – for example, farmers in temperate regions could benefit from longer growing seasons – but prove disastrous for others. The poor in tropical countries are likely to be among the worst affected, according to Markku Kanninen, director of CIFOR’s Environmental Services programme and co-editor of *Tropical Forests and Adaptation to Climate Change*. ‘One of the clear messages to come out of the book is that climate change is already happening, it’s going to cause severe disruption, and the poor in developing countries are going to suffer most.’

CIFOR scientists are now developing a set of robust, innovative methodologies to assess vulnerability to climate change and to mainstream adaptation to climate change into development agendas. When assessing vulnerability to change, there will be a strong focus on patches of forest within the wider landscape. Adaptation strategies will take into account the way in which diverse landscapes provide many environmental goods and services, and satisfy the needs of a wide range of stakeholders.

The poor frequently make their living on steep hillsides, on low-lying land and beside the sea – in areas prone to droughts, landslides, floods and tidal waves. Climate change increases the vulnerability of the poor in two ways: first, by exposing them to more frequently occurring climate-related natural events, such as droughts and floods; and second, by affecting the long-term productivity of the land on which they depend by gradual changes in, for example, precipitation patterns.

Tropical Forests and Adaptation to Climate

Change, a collection of papers from a workshop organised by CIFOR, the Tropical Agricultural Research and Higher Education Center (CATIE) and Intercooperation, provides a series of case studies which show that adapting to climate change will require an interdisciplinary approach involving policy-makers, scientists and natural resource managers. This strategy should combine advances in science as well as systematisation of local and traditional knowledge and the promotion of institutional development.

In some situations, suggests Kanninen, there are ‘no regrets’ measures which can be taken immediately. For example, better recovery of wood waste in sawmills and its use as a substitute for fossil fuels when drying wood not only reduces global warming, but saves money. But adaptation to climate change will often be a complex and contentious issue. For example, it might make sense for governments to prevent the development of flood-prone areas, but these areas might also be highly productive in agricultural terms. Keeping people out of flood plains will be no simple matter.

Adaptation to climate change is the central theme of a four-year research programme launched by CIFOR and CATIE in 2005, and funded by the European Commission. ‘The research will help us to get a better understanding of how climate change affects tropical forests, and the impact this will have on development,’ explains Claudio Forner, a CIFOR climate-change specialist.

The precise focus of the research will vary from place to place. For example, in Burkina Faso, where 90 per cent the population use fuelwood for cooking, the research will assess the impact of climate change on timber productivity, and its implications for energy supply. In Costa Rica, forests have an important role to play in regulating the hydrological cycle, so the researchers will analyse the impact of climate change on forests and water supply. All of this will enable governments to develop policies which will help them adapt to climate change.

Trapping carbon; improving livelihoods

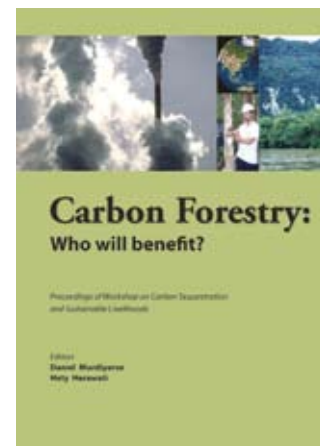
The Kyoto Protocol, an international agreement whose aim is to reduce global warming and at the same time encourage sustainable development, finally came into force on 16 February 2005. To mark the occasion, CIFOR and the Canadian International Development Agency (CIDA) held a workshop on 'Carbon Sequestration and Sustainable Livelihoods'. The workshop proceedings – *Carbon Forestry: Who Will Benefit?* – provides insights into the ways in which projects designed to trap atmospheric carbon can benefit rural communities.

'Some of the workshop case studies show that carbon sequestration projects can reduce global warming, and at the same time improve local livelihoods,' explains Daniel Murdiyarso, a CIFOR climate scientist. For example, the rehabilitation of degraded peatlands in Kalimantan has not only increased their carbon storage capacity, but led to higher fish yields and closed down transport routes formerly used by illegal loggers. However, other projects – such as the vast pulpwood plantations in Sumatra – may be good at sucking carbon out of the atmosphere, but they have proved detrimental to local people.

'Designing carbon projects carefully is absolutely crucial if they are to benefit both the environment and the rural poor,' explains Murdiyarso. At the international level, CIFOR

researchers have been involved in designing afforestation and reforestation projects and providing technical assistance about the Kyoto Protocol's Clean Development Mechanism (CDM). The CDM enables industrialised countries to meet some of their greenhouse gas emission targets by financing carbon-sequestering schemes in developing countries. One of the eligible measures involves planting trees on land that does not have forests. 'CIFOR scientists played a significant role in promoting a system of rules that makes the CDM smallholder-friendly,' says Claudio Forner, who worked on forestry-related CDM rules at the UNFCCC secretariat before coming to CIFOR.

CIFOR has also been working on issues related to the Kyoto regulations at the national level. In 2005, the Asian Development Bank launched a project to help Indonesia establish pilot sites which will earn emission reduction credits under the Clean Development Mechanism. The project is being managed by Winrock International, with technical assistance from CIFOR and the World Agroforestry Centre (ICRAF). 'This is very much a learning process for the government and for communities involved in carbon forestry,' explains Murdiyarso. 'One of the key stumbling blocks to establishing CDM sites is the methodology, and we hope this project will provide the Government of Indonesia with the skills and technical knowledge necessary to choose, set up and apply for CDM sites.'



A collage of images related to carbon forestry. On the left, there is a large green rectangle with the text 'Carbon forestry on the web' in white. To the right of this rectangle is a screenshot of the CarboFor website, showing a navigation menu and some text. Further to the right is a photograph of a man in a blue cap and light-colored shirt working in a field of young trees. On the far right edge, there is a vertical text credit: 'Photo by Sven Wunder'.

For anyone interested in research on carbon forestry, CIFOR's new website, CarboFor, should be one of their first ports of call. The website – www.cifor.cgiar.org/carbofor – has been developed as a service for scientists working on the technical aspects of carbon forestry, and on issues related to regulations governing land-use change and forestry activities under the Kyoto Protocol. The website lists recent publications, describes projects conducted by CIFOR and its partners, and provides tools and methodologies that can be used to develop and monitor carbon forestry projects. This is not an ivory tower for CIFOR scientists, but an open-access site that encourages others to contribute their ideas and data.