

Forests, climate and Kyoto

The Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC) came into force in February 2005 – a signal for moving climate change decisions out of the conference room and into practice. The next years will hold a wealth of challenges and opportunities for the forest sector. This issue of *Unasylva* outlines many of them – while storing in every copy the equivalent of the CO₂ accumulated in 1 000 m³ of air since the beginning of the industrial era.

Much of what is written on this subject can seem obscure to non-experts. *Unasylva* aims to bring the issues within reach. First, an overview by D. Schoene and M. Netto summarizes how forests can help mitigate climate change, the importance of adapting them to climate change, and how they can help human societies adapt as well. It focuses on forests in the international climate change agreements and on possible effects on forestry practice.

The Clean Development Mechanism (CDM) under the Kyoto Protocol offers opportunities for developing countries to collaborate with developed countries to mitigate climate change through afforestation and reforestation (carbon sink) projects. In this way it can also encourage sustainable forest management. However, since the rules and procedures for forestry projects under the CDM have only recently been defined, are complex and can be difficult to implement, no projects in this category have been registered yet. Three articles look at the opportunities and obstacles for implementing CDM forestry projects in developing countries. N. Masripatin summarizes institutional and regulatory initiatives designed to smooth implementation in Indonesia. W. Oyhantçabal foresees the use of the CDM to integrate forestry in livestock production systems in Uruguay. P.V. Desanker examines the challenges to CDM forestry in Africa and makes some constructive suggestions.

It is a point of controversy that in the land-use sector the CDM allows only plantation activities as sink projects. Although tropical deforestation is responsible for almost one-fourth of annual global carbon dioxide emissions, conservation projects aimed at preventing deforestation are excluded. P. Moutinho and co-authors present a proposal for compensating both private parties and governments for forest conservation, which they suggest to include in the next commitment period of the Kyoto Protocol (after 2012).

The mechanism of the Kyoto Protocol known as Joint Implementation enables developed countries to offset some of their domestic emissions by investing in projects in another

developed country or country with economy in transition in exchange for emission reduction credits. P.I. Lakyda, I.F. Buksha and V.P. Pasternak describe the hopes for attracting investment in afforestation and reforestation through Joint Implementation in Ukraine, where pilot afforestation projects have been designed for about 5 000 ha.

Industrialized (Annex I) countries are required under the Kyoto Protocol to account for all their net greenhouse gas emissions and removals, including those from afforestation, reforestation and deforestation. Including forest management activities in the accounting is optional. In countries where growing stocks are increasing, this could be a relatively low-cost way to gain carbon credits – although it can also be risky if these forests later become a CO₂ source, generating debits instead. But who gets the credits or pays for the debits? Making reference to the situation in Switzerland, W. Kägi and H. Schmidtke suggest some solutions for ensuring that forest owners will benefit economically and have an incentive to enhance carbon sequestration.

Emission trading was conceived as a cost-efficient way to help developed countries implement emission reduction measures. In Europe, trading under the European Union Emissions Trading Scheme began in January 2005 for a three-year trial period. E. Hyvärinen raises the concern of the pulp and paper industry, however, that as designed, the scheme could hinder the competitiveness of European industry, most notably through elevated electricity prices – questioning also whether it really serves as an incentive to reduce emissions.

Not all countries have ratified the Kyoto Protocol; some are seeking other solutions. The United States, a member of UNFCCC, is pursuing technology- and project-based strategies and is experimenting with a variety of offset approaches. A. Tuttle and K. Andrasko outline some of the country's climate change mitigation policies at the national and subnational levels as well as forest-related initiatives such as registries, research and sectoral initiatives for voluntary commitments to reduce emissions.

The Kyoto Protocol is not a panacea. Critics point out, for example, that it does not require rapidly industrializing developing countries to restrict emissions. *Unasylva* does not endorse it or condemn it; rather, the focus is on examining its implications for forests, forestry and foresters. History will be the judge of its impact.

In the meantime, FAO will be working with countries to enhance the knowledge, information and expertise that will increasingly be needed to incorporate forestry concerns effectively in global negotiations, mechanisms and practices for climate change mitigation.

More information about the Kyoto Protocol, CDM and related issues can be found at the UNFCCC Web site (unfccc.int).