

## Land use

**F**AO's *State of Food and Agriculture 2007* noted that "human ingenuity applied to the production of food and other commodities has allowed production to keep pace with population growth and income-driven demand, but at the cost of considerable degradation of other ecosystem services" – including those of forests. This issue of *Unasylva* addresses the theme of land use and the relation of forests with other land uses. How do we balance forest conservation goals and the need for forest products and services with the need for land for agricultural crops, livestock, urban development and more recently biofuel crops?

Deforestation, forest degradation and other forest changes account for around 17 percent of global greenhouse gas emissions, more than the world's entire transport sector – a fact that has recently strengthened the argument for supporting forest conservation over other land uses and aggressively seeking measures to reduce deforestation. Future climate-change negotiations are likely to consider measures for reducing greenhouse gas emissions from deforestation and forest degradation (REDD). In the first article, R.M. Martin goes against the current, cautioning that advocacy of REDD may undervalue the economic and political forces behind deforestation. He argues that it may be more feasible to promote carbon uptake by restoring forest and agricultural landscapes and overcoming forest degradation than by using policy and economic tools to overcome deforestation.

The next two articles were developed from case studies presented at the international symposium "Our Common Ground: Innovations in Land Use Decision-Making", held 7 to 9 May 2007 at the University of British Columbia, Vancouver, Canada. These case studies show how individual groups resolve land and resource use issues or work together to achieve a common goal.

C. Azevedo-Ramos gives a broad overview of past and future challenges for development in the Brazilian Amazon, addressing the drivers of deforestation in the region, the contribution of science and technology to the solution of critical issues and the advancement of rules and regulations that can help orient land use. The Amazon basin has the world's largest contiguous tropical forest and is home to 20 million people. In the past 30 years, almost 60 million hectares of tropical forest were cut down there, most to support large-scale agriculture. But regional planning, backed by law enforcement, agro-ecological zoning and the expansion of protected areas, has slowed deforestation and improved biodiversity conservation in the Amazon. Developments are monitored through remote sensing and the results are posted on the Internet for public viewing.

The tropical forest of the Congo Basin in Central Africa has one of the world's richest concentrations of biodiversity. It provides food, materials and shelter for more than 75 million people and is a major source of wealth for the region. The Central African Forests Commission (COMIFAC) and other partnerships have fostered cooperation among countries of the region in harmonizing forest policies, building regional institutions and leveraging funds to finance large-scale conservation programmes. L. Usongo and J. Nagahuedi describe a regional conservation strategy undertaken by the COMIFAC countries based on land-use planning in 12 priority landscapes (large ecosystems with consistent biological and socio-economic features). The approach involves establishing core protected areas surrounded by multiple-use zones.

The foreseen expansion of biofuel crops, triggered by climate change concerns and the heightened search for alternatives to fossil fuel, could have potentially severe consequences for forests and the people who depend on them, especially in tropical countries. An article by O. Dubois and two short pieces that follow it consider impacts of biofuel development on rural livelihoods, on people's access to land and on land use in general. Dubois's article offers policy recommendations for ensuring that biofuel schemes do not harm – and preferably help – small farmers and rural communities. A brief review examines the potential for deforestation and land-access problems as new land is brought into production for biofuel crops. A box (p. 32) points out the risk that if forests are cleared for biofuel crops, it is possible that the resulting greenhouse gas emissions could cancel out the emissions prevented by using biofuel in place of fossil fuel.

The issue concludes with some articles on other themes. P. Bhattacharya *et al.* discuss certification of wild medicinal and aromatic plants. The authors describe an attempt to adapt global norms and standards for national-level implementation through a project in four Indian states. Finally, R. Panwar and E. Hansen explore the concept of corporate social responsibility (CSR) in forestry, suggesting an issues management methodology for companies in the wood products sector. An example of CSR from Chile follows.

**W**ith the risks posed by climate change, maintenance of forest ecosystem services and sustainable production of forest products are more vital than ever. But the earth's population is growing and its cultivable land is finite. Conflicts are likely. Decision-makers will have to weigh the trade-offs between different land uses. A coordinated, multisectoral approach to policy-making and planning in forestry, agriculture, trade, development, energy, climate and transportation is thus essential to achieve the land-use mix that best meets the needs of each country.