2011

State of the World's Forests

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Foreword

The year 2011 has been designated 'The International Year of Forests' by the United Nations General Assembly. This builds on momentum already generated in other international arenas, such as those related to climate change and biodiversity, to bring even greater attention to forests worldwide. Work is progressing rapidly on international forest issues and this edition of *State of the World's Forests* focuses on a number of critical themes designed to stimulate greater analysis during the International Year of Forests.

State of the World's Forests, which is published on a biennial basis, presents up-to-date information on key themes affecting the world's forests. The 2009 issue considered the theme of 'Society, forests and forestry: adapting for the future' by presenting a 'demand-side' perspective on forest trends and topics. The 2011 issue takes a more holistic approach to the multiple ways in which forests support people's livelihoods under the theme 'Changing pathways, changing lives: forests as multiple pathways to sustainable development'. To explore this theme, the report tackles three core subjects – sustainable forest industries, climate change and local livelihoods – and examines their potential to stimulate development at all levels. In addition, we present new regional level analyses drawn from the Global Forest Resources Assessment 2010 (FRA 2010).

The book is divided into four chapters, each dedicated to one of the core subjects mentioned above. Across the chapters, a strong sense emerges of the wealth that forests offer and that can be accessed by utilizing them for industrial purposes; by managing and conserving forests within the context of climate change; and by tapping into local knowledge of the cash and non-cash value of forests. There is no single way in which these pathways are pursued – sometimes their goals and approaches intersect, while at others they occur in isolation. Yet, it is clear that in all cases, forests remain an underappreciated and undervalued resource that could stimulate greater income generation and development.

The first chapter explores some of the key regional trends in the extent of change in forest area, the areas allocated for productive and protective functions, levels of biomass, and employment, among other topics. This provides an indication of the regional approaches to forest resource use and the measures that countries have taken to adapt to changes in biological systems, policies and new management techniques.

Adaptability is also a key theme in our second chapter on developing sustainable forest industries. This examines a traditional development pathway based on industrial utilization of a natural resource. Over many decades this has been the main way in which forests have enabled countries and people to generate income. This chapter reviews the extent to which the forest industry has developed based on a number of key global drivers, and how it can strategically modify its approach to the use of forests. A key message of this chapter is that the forest sector continues to make a real contribution to employment and economic growth for many countries.

Climate change occupies a prominent position in international discussions, and forests have a particular role to play in the global response. In recognition of this, the report presents an update on the negotiations underway in the climate change convention and programmatic aspects related to forests and climate change. In particular, chapter three focuses on developments in reducing emissions from deforestation and forest degradation, and in conserving and enhancing carbon stocks (REDD+). The agreement reached on REDD+ in the Cancún negotiations in December 2010 could lead to transformational changes in conservation

and management of tropical forests while safeguarding the livelihoods of indigenous peoples and forest-dependent people. Secure and equitable forest carbon tenure has a major role to play in ensuring the sustainability of these activities. The chapter provides a snapshot of some emerging legal guidance on forest carbon tenure and different approaches to determining ownership of the resource. New localized project activities on climate change need to be accompanied by sound forest carbon tenure arrangements, which take into consideration the needs of local communities and ensure long-term sustainability and equitable benefit-sharing.

The theme of the International Year of Forests makes people a central focus of activities during the Year and our last chapter highlights the importance of forests to local livelihoods, through a discussion of traditional knowledge, community-based forest management, small and medium forest enterprises and the non-cash value of forests. These approaches have historically been an essential part of local development, yet our knowledge of their value is still relatively poor. Further analysis is needed during the International Year of Forests, to emphasize the connection between people and forests, and the benefits that can accrue when forests are managed by local people in sustainable and innovative ways.

The present edition of *State of the World's Forests* provides an introduction to the above ideas, which will take greater shape during 2011 and beyond. Together we must continue to pursue multiple pathways towards sustainable development using forests at all levels. I invite you to contribute to the discussion on these key themes during the International Year of Forests.

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Acronyms and abbreviations

APF	Adaptation Policy Framework (of UNDP)
AWG–KP	Ad hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (of the UNFCCC)
AWG–LCA	Ad hoc Working Group on Long-term Cooperative Action (of the UNFCCC)
CATIE	Center for Investigation and Teaching of Tropical Agronomy
CBD	Convention on Biological Diversity
CBFM	community-based forest management
CDM	Clean Development Mechanism
CEPF	Confederation of European Forest Owners
CEPI	Confederation of European Paper Industries
CIFOR	Center for International Forestry Research
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CO_2	carbon dioxide
COP	Conference of the Parties
CSR	Carbon Sequestration Rights
DFID	UK Department for International Development
ETS	Emissions Trading Scheme (of the EU)
EU	European Union
EUA	European Union Allowances (for CO_2 emissions)
FAO	Food and Agriculture Organization (of the United Nations)
FC	Forest Connect
FCPF	Forest Carbon Partnership Facility (of the World Bank)
FRA	Global Forest Resources Assessment
FSC	Forest Stewardship Council
FTE	full-time equivalent
GACF	Global Alliance for Community Forests
GDP	gross domestic product
GFP	Growing Forest Partnership
GHG	greenhouse gas
GPS	global positioning system
Gt	Giga tonnes
HWP	harvested wood product
IAITPTF	International Alliance for Indigenous and Tribal Peoples of Tropical Forests
IFFA	International Family Forest Alliance
IGC	Intergovernmental Committee on Traditional Knowledge, Genetic Resources and Folklore
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature

IUFRO	International Union of Forest Research Organizations
KP	Kyoto Protocol
LCA	life cycle analysis
LFP	Livelihoods and Forestry Programme (of DFID)
LULUCF	land use, land-use change and forestry
MA&D	Market Analysis and Development toolkit (of FAO)
MDF	medium density fibreboard
MJ	megajoule
MRV	monitoring, reporting and verification
MT	metric tonne
NAPA	National Adaptation Programme of Action
NC	National Communications (on climate change)
NFP Facility	National Forest Programme Facility
NGO	non-governmental organization
NWFP	non-wood forest product
PEFC	Programme for the Endorsement of Forest Certification
PROFOR	Program on Forests (of the World Bank)
REDD	reducing emissions from deforestation and forest degradation
REDD+	REDD plus the role of conservation, sustainable management of forests and enhancement of forest stocks in developing countries
SBI	Subsidiary Body for Implementation (of the UNFCCC)
SBSTA	Subsidiary Body for Scientific and Technological Advice (of the UNFCCC)
SFM	sustainable forest management
SFPA	Smallholder Forest Producers Associations
SMFE	small and medium forest enterprises
SOFO	State of the World's Forests
TK	traditional knowledge
TRIPS	Trade Related Aspects of Intellectual Property Rights
TroFCCA	Tropical Forest and Climate Change Adaptation Project
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VPA	Voluntary Partnership Agreement
WIPO	World Intellectual Property Organization

Executive summary

This ninth biennial issue of *State of the World's Forests* is being launched at the outset of 2011, the International Year of Forests. This Year aims to promote awareness and understanding of forests and forestry issues. The chapters assembled for this year's *State of the World's Forests* draw attention to four key areas that warrant greater attention during the International Year of Forests and beyond:

- regional trends on forest resources;
- the development of sustainable forest industries;
- climate change adaptation and mitigation; and
- the local value of forests.

Each of these themes has implications for the various upcoming assessments of progress towards sustainable development, including the Rio+20 Summit in 2012 and the Millennium Development Goals Review Conference in 2015.

Forests have unrecognized potential in furthering the development agenda. To maximize the contribution of forests to poverty eradication, this year's *State of the World's Forests* identifies some of the areas that can enhance or challenge the sustainability of people's livelihoods. Forest industries have the opportunity to maximize energy efficiency, spur innovation, create a reliable fibre supply and contribute to local economies. Negotiators designing climate change policies and actions recognize that, to be successful, efforts related to reducing emissions from deforestation and forest degradation and the role of conservation and enhancement of forest carbon stocks (REDD+) in developing countries must, at the same time, address poverty alleviation. They also recognize that the long-term implications of forest carbon tenure need to be examined more critically to ensure equitable benefit sharing and long-term management of local resources and rights.

The contribution of forests to local livelihoods also needs further consideration and research, for example on traditional forest-related knowledge, non-wood forest product (NWFP) governance, the non-cash value of forests, small and medium enterprises and community-based forest management (CBFM). Taken together, these themes can maximize the contribution of forests to the creation of sustainable livelihoods and alleviation of poverty.

This report is divided into four chapters, addressing the four key areas highlighted above.

Chapter 1: The state of forest resources: a regional analysis

The *Global Forest Resources Assessment 2010 – Main Report* (FAO, 2010a), which was released in October 2010, noted that the overall rate of deforestation remained alarmingly high, although the rate was slowing. Major trends in the extent of forests, and changes in the rates of forest loss, as well as the current state of productive and protective forests, show disparities between the six regions: Africa, Asia and the Pacific, Europe, Latin America and the Caribbean, the Near East and North America. The highest forest area worldwide was found in Europe, primarily because of the vast swaths of forest in the Russian Federation, while Latin America and the Caribbean had the highest net forest loss over the last decade.

Africa

Although continued forest loss was reported in Africa, the overall trend in net forest loss in the region slowed between 1990 and 2010. The area of planted forests was increasing in Africa, in particular in West and North Africa. Some forest planting programmes were established to combat desertification, while others were created in an effort to secure industrial wood and energy sources.

There were notable increases in the area designated for conservation of biodiversity, mostly as a result of changes in the designation of some forests in Central and East Africa. However, there were declines in productive forest areas.

Woodfuel removals jumped as a result of the rising population in the region. Nevertheless, Africa's share of global wood removals by value remained significantly lower than its potential. Nearly half a million people were employed in the primary production of forest goods, although countries in the region provided few data on employment, and particularly on informal sector activities where much employment occurs.

Asia and the Pacific

The extent of forests in Asia and the Pacific has changed dramatically over the past two decades. In the 1990s, the region experienced a net forest loss of 0.7 million hectares per year, while in the last decade the forest area increased by an average of 1.4 million hectares per year. The planted forest area also substantially increased through afforestation programmes, mainly as a result of programmes in China, India and Viet Nam.

The area of primary forests decreased in all Asia and the Pacific subregions in the last decade, despite the fact that the area designated for conservation of biodiversity increased in the same period. Mixed trends were observed in the subregions in the extent to which forests were set aside for soil and water protection.

With the exception of the South Asia and Oceania subregions, the area of productive forests declined over the last decade. Falling levels of wood removals were also observed throughout the region, largely as a result of the reduction in woodfuel removals. Employment in the primary production of forest goods was very high in the region when compared with the global total.

Europe

Europe contained the largest area of forests compared with other regions, totalling 1 billion hectares. Europe's forest area continued to grow between 1990 and 2000, although the overall rate of increase slowed during the last decade. The Russian Federation, which contained 80 percent of Europe's forest area, showed minimal declines in forest area after 2000. The rate of expansion of planted forest area also decreased in the last decade when compared with global trends.

Europe had a relatively high percentage of forest area classified as primary forest (26 percent) when compared with the global primary forest area (36 percent). Over the last 20 years, forest area designated for conservation purposes doubled in the region. There were also positive trends in the areas designated for the protection of soil and water, mostly as a result of actions taken by the Russian Federation.

A greater proportion of forest area was designated for productive functions in Europe than in the rest of the world. The area designated for productive functions declined in the 1990s, although this trend reversed in the last decade. Wood removals in Europe also showed variable trends over the last 20 years and have declined as a result of the 2008–2009 recession in Europe, which lowered demand for wood. Finally, employment in the primary production of forest goods declined, and this trend is expected to continue in the near future.

Latin America and the Caribbean

Nearly half of the Latin American and Caribbean region was covered by forests in 2010. Forest area declined in Central and South America over the last two decades, with the leading cause of deforestation being the conversion of forest land to agriculture. Although the overall planted forest area was relatively small, it expanded at a rate of 3.2 percent per year over the last decade.

The region contained over half of the world's primary forests (57 percent), which was mostly located in inaccessible areas. The area of forest set aside for biodiversity conservation has increased by about 3 million hectares annually since 2000, with a vast amount of this area located in South America.

About 14 percent of all forest area in the region was designated primarily for production. Wood removals continued to rise with more than half removed for woodfuel. In common with other regions, it was difficult to quantify the extent and type of NWFPs removed in the Latin American and Caribbean region. Employment trends in the primary production of forest goods showed an upward swing of 30 percent in the first few years of the last decade.

The Near East

The Near East region has a small forest area, with 26 countries in the region categorized as low forest cover countries[1]. Although the region showed a net gain in forest area over the last decade, an analysis further back in time is constrained by changes in assessment methodologies over time in some larger countries in the region. Planted forest area increased by about 14 percent in the region in the last 20 years, particularly as a result of expansion of these areas in West Asia and North Africa.

During the last decade, the area of primary forests has remained largely stable, with Sudan containing the largest area of primary forest. There was an increase in area of forest for biodiversity conservation, with an additional 85 000 ha designated for this purpose each year (on average) in the last 10 years. The region also enlarged the area devoted to soil and water conservation over the last 20 years.

The Near East saw a decline in the area designated for productive functions in the 1990s, although the trend reversed slightly in the last decade. The region represented a very small portion of global wood removals. It was difficult to determine a trend for the annual value of wood products, as data were missing from some countries' submissions for the Global Forest Resources Assessment 2010 (FRA 2010).

North America

North America showed a slight increase in forest area between 1990 and 2010. The planted forest area also increased, and the region showed a relatively stable, positive trend in the level of biomass it contained. This region accounted for about 25 percent of global primary forests. The area of forest designated primarily for soil and water conservation was less than in other regions, as the management of these areas is largely embedded in national and local laws and other forest management guidance.

In contrast with other regions, a very small amount of wood (about 10 percent) was removed for woodfuel, with the remaining amount removed for industrial roundwood. Employment trends in the United States of America and Canada's forest sectors showed a decline over the last decade.

[1] Low forest cover countries are countries with less than 10 percent forest cover.

Chapter 2: Developing sustainable forest industries

Over the last decade, there has been little analysis of what constitutes a 'sustainable forest industry' and the drivers that affect this sustainability. Of the factors identified for this report, increasing population and economic growth, expansion of markets, and social trends related to social and environmental performance were found to be the most important drivers for the sustainability of the industry. However, some of the same factors also have the potential to negatively impact markets where the industry faces a greater level of complexity and competition for resources.

Governments and industry have responded to the opportunities and threats presented by these drivers by making strategic choices to improve the industry's sustainability. Many of these strategies include similar features such as: analyses of competitiveness, and strengths and weaknesses in the sector; measures to increase and cover costs for fibre supply; support for research, development and innovation; and development of new products (e.g. biofuels), which may signal a move to a 'greener' economy.

As a response to the economic downturn that began in 2008 and negatively affected most developed countries, industry has consolidated and restructured, reduced overcapacity and reconciled production in areas where countries were competitive. Typically, this has been done by innovating or creating new partnerships. Governments have also strengthened policies and regulations to improve social and environmental performance. FAO will continue to research these trends and will produce a more thorough research product on the theme of sustainable forest industries in 2011.

Chapter 3: Climate change mitigation and adaptation

Over the last few years, forestry has become a critical part of the international climate change agenda. Governments have already agreed on the potential importance of REDD+, and have provided large financial resources to initiate pilot activities. Nevertheless, the long-term sustainability of climate change and forestry activities will depend on a number of factors, including effective forest governance, secure forest carbon tenure and equitable benefit sharing, and integration of adaptation actions into climate change policies and projects, among others.

The UN Framework Convention on Climate Change (UNFCCC) highlighted REDD+ and adopted a decision on REDD+ in Cancún, Mexico in December 2010. The decision outlines the scope of REDD+, which includes reducing emissions from deforestation and forest degradation, and the conservation, sustainable management of forests and the enhancement of carbon stocks, as well as the principles and safeguards for REDD+. Further work on methodological issues, including on monitoring, reporting and verification, will continue throughout 2011 and perhaps beyond.

One of the most difficult aspects of ensuring the sustainability of REDD activities is defining the ownership of forest carbon rights. As this report shows, a number of countries in the Asia and the Pacific region have created legislation establishing property rights in carbon and formalizing carbon rights. Some have taken this measure a step further to establish carbon rights as a separate interest in the land. The cases presented in this report show the diversity of established guidelines and laws on forest carbon rights at the country level, and provide clear examples that have the potential to be replicated in other countries.

While the issue of REDD in the climate change mitigation debate is being addressed at the highest levels, the subject of adaptation has not been as widely discussed or integrated into policies and programmes. Adaptation is complex and requires actions at multiple scales. Current international agreements take adaptation into account to a limited extent, but lack appropriate mechanisms to incorporate adaptation and related forest activities in the context of REDD+. More work is needed to consider the role of forests in adaptation in climate change policies and actions.

Chapter 4: The local value of forests

Chapter 4 provides an introduction to the local value of forests, in preparation for further discussions on the theme 'Forests for People' during the International Year of Forests in 2011. To expand upon this theme, the topics of traditional knowledge, community-based forest management (CBFM), small and medium forest enterprises (SMFEs) and the non-cash value of forests are explored.

Traditional knowledge (TK) contributes to local incomes, typically through the use of commercialized products. While there is some protection of traditional knowledge in the international policy arena, further awareness and integration of traditional knowledge into policies is needed, particularly as REDD activities take shape.

Community-based forest management and SMFEs are important for the production and marketing of wood and NWFPs. The drivers of CBFM include decentralization, enabling policy frameworks, national poverty reduction agendas, rural development and emerging grassroots and global networks. Under favourable conditions, CBFM benefits can be seen over the long term and can lead to greater participation, reduced poverty, increased productivity and diversity of vegetation, and the protection of forest species. As forests become more productive, they can also lead to the development of SMFEs, which are known to have clear benefits for local livelihoods but require a sound enabling environment to attract continued flows of investment.

Non-wood forest products remain critical to the success of SMFEs. Legislation and regulation of NWFPs are increasing to ensure the sustainable use of these resources, through both international arrangements and domestic policies and laws. Despite the known cash values of NWFPs and their promotion through CBFM and SMFEs, the 'non-cash' values of forests also need to be further explored. Non-cash values often provide important support for households in or near forests and can sometimes make a larger contribution to households than cash income. Particularly in remote, rural areas, non-cash income is an essential part of sustainable livelihoods, especially for women and the rural poor.