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**THE FUTURE OF FORESTS IN ASIA AND THE PACIFIC:
OUTLOOK FOR 2020**

16–18 October 2007, Chiang Mai, Thailand

Edited by

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Foreword

The past is a source of knowledge, and the future is a source of hope.

Stephen Ambrose (author)

We are all acutely aware of the future. But, in our daily work, we are all too often overburdened with the demands of the present. Decisions tend to be governed by what seems most expedient now – when information and knowledge are most clear – rather than the less certain and sometimes obscure future. Always, there is a temptation to downplay, or even ignore, potentially unpleasant futures – to leave unpopular actions for later or for others; sometimes even merely to hope for some sort of divine intervention to remove problems.

The “*Future of Forests*” conference was an important effort to understand the views of a wide spectrum of stakeholders on how forestry in Asia and the Pacific will unfold in the future in view of the larger societal changes. A comprehensive set of forestry and related topics was addressed, including sessions describing land-use dynamics and underlying forestry trends, key drivers of change in forestry, shifts in forest policies and institutions, efforts to balance social, environmental and economic functions of forestry, globalization and national outlooks, and civil society and private sector perspectives on forestry. All of these were drawn together to help describe potential futures for forests in the region and to chart prospective ways forward.

The widespread support for the conference – evident in the extremely high caliber of the speakers, the large numbers of active and enthusiastic participants, and the dynamism of the interaction – bears testament to a collective desire to confront the future of forestry in all of its guises; exciting, hopeful, challenging, difficult, and ominous.

Throughout the conference, a key message was that the future is not set in stone and that individual and collective action can make a difference. Ideas, energy, enthusiasm and leadership can enable trends to be reversed, and can turn bad to good. It is our responsibility – as decision-makers, professionals, teachers and advocates – to ensure that we meet the challenges and bequeath a better future to our children.

He Changchui
Assistant Director-General and
Regional Representative for Asia and the Pacific

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Sincere appreciation is expressed for the financial and in-kind support provided by institutional partner agencies, including Asian Development Bank (ADB), United Kingdom Department for International Development (DFID), International Tropical Timber Organization (ITTO), Swedish International Development Cooperation Agency (Sida), Center for International Forestry Research (CIFOR), Asia Forest Network (AFN), Regional Community Forestry Training Center (RECOFTC), International Society of Tropical Foresters (ISTF), International Model Forest Network (IMFN), and New Zealand Ministry of Agriculture and Forestry (MAF).

Special mention and thanks to the dedicated efforts of partner agencies and friends who went far beyond the calls of duty in collaborating to arrange travel, logistics and administration: Secretariat of the Pacific Community (SPC) Forest and Trees Programme staff led by Sairusi Bulai; Chiang Mai University's Forest Restoration Unit (FORRU) led by Steve Elliott; and the Asia-Pacific Association of Forestry Research Institutions (APAFRI) secretariat team led by Sim Heok-Choh, including Ms. Syuqiyah binti Abdul Hamed, who worked assiduously to prepare the conference CD.

Grateful thanks are offered to all of the many expert presenters, panelists and facilitators from a wide variety of institutions both in Asia-Pacific, and from around the world, for lending their expertise and knowledge and especially for their dedication in providing the high quality papers included in these proceedings. Thanks are also due to those who prepared organizational displays and posters, including all of the Asia-Pacific Forestry Sector Outlook Study (APFSOS) national focal points who prepared national posters, and many of whom made country presentations.

Sincere appreciation is due to the many FAO staff and consultants who contributed to the success of the conference including the organizing committee: Patrick Durst, CTS Nair, Simmathiri Appanah, Chris Brown, Kallaya Meechantra and Brian Cohen assisted by Ken Shono, Akiko Inoguchi, Jeremy Broadhead, Supaporn Daophises and Chanida "Tammy" Chavanich. Much appreciation is also due to the APFSOS Scientific Committee for their guidance and assistance in developing and implementing the program.

Finally, particular thanks to our colleague Brian Cohen, who shouldered much of the heavy administrative burden and carried out a large number of the many "thankless" tasks in arranging the conference, often without receiving due credit and recognition. Many thanks, Brian!

Background and overview

The purpose of the Outlook Study

The Future of Forests in Asia and the Pacific: Outlook for 2020 conference was designed as a preparatory stage of the Asia–Pacific Forestry Sector Outlook Study II (APFSOS II). APFSOS II comes at a time when the challenges for the sector are unprecedented in scale and in scope.

In 1997, during the conception of the first Outlook Study (APFSOS I), economic expansion and tumultuous political and socio-economic changes in the region found forests and the forestry sector in the midst of globalization. During the subsequent ten years the sector has repositioned and oriented itself within the global dialogue — especially with the environmental sector — to find means of dealing with daunting new challenges, whose causes and implications are clearly beyond the control of the sector alone.

In the same ten years, great change has taken place; for example economies such as China and India have manifested their trajectory in global trade. As environmental concerns rise on the global priority agenda, new plurilateral regimes such as payments for environmental services (PES) are being seriously debated by multiple stakeholders; decision-making is increasingly diversifying, the trend being from the central to local level. Emerging new opportunities — in response to the new challenges — invite some optimism in meeting the new challenges and social demands, but only if the politics of globalization manage to work cohesively towards global priorities. Forests and the forestry sector are, in fact, very much a critical part of this picture and its implications are directly and indirectly found in various facets of the global priorities that need to be addressed.

APFSOS is an instrument to help the proponents of the forestry sector through such challenging times. It collects information from various sources and perspectives, inside and outside the forests, to create a comprehensive picture of the region's forests, the sector and direct and indirect impacting factors on the sector in order to draw out future implications.

APFSOS II is designed to engage the governments of the region, as primary stakeholders and responsible agencies, in preparing for response to change. Representatives from 32 countries participated in the conference in order to learn about and to present their approaches and strategies for addressing the challenges. More detailed national outlooks and strategies will be presented as country studies in APFSOS II programme outputs.

Conference structure and discussions

The conference brought more than 250 participants into a dynamic arena that offered learning and forward leading discussions on key thematic issues among a wide range of stakeholders.

During three intensive days, the conference was structured around plenary sessions and a number of smaller “breakout” sessions, covering a comprehensive range of key thematic issues and perspectives relevant to the future of the sector.

Key thematic issues

- Macrosocio-economic changes and implications on forests
- Management of protected areas and biodiversity conservation
- Economic valuation and financing mechanisms for forest management
- Trends in forest-based industries and trade
- Mechanisms for ensuring sustainable forest management
- Roles and dynamics of forestry institutions

Participants’ perspectives

- Local governments and practitioners at local levels.
- Forest product trade sector — forestry companies, pulp and paper industry, trade institutions, etc.
- Civil society — forest-based communities and urban consumers.
- Forestry education and training institutions.
- Conservationists.
- National governments of rapidly emerging economies, including China and India.
- National governments of forest-rich developing countries, such as Indonesia, Malaysia, Viet Nam, Lao PDR and Myanmar.
- National governments of key import markets, such as Japan, Republic of Korea and China.
- National governments of forest-rich developed countries, including Australia and New Zealand.
- National governments of Pacific Island Countries.
- International donors and technical agencies.

Complementing the plenary presentations, a poster session allowed participants to engage in informal discussion on focused topics. In all, 55 posters were displayed, 27 thematic posters and 28 country posters that highlighted future prospects at the national level. Also adding great value to the event were the 20 organizations that showcased their programmatic work in the form of leaflets, brochures, publications, posters and various other displays.

The conference was further enhanced by the five winners of the “Young Professionals Essay Competition” who had provided their views on the future of forests in the region. Also, a side event on biodiversity and poverty modeling was organized by the Netherlands Environmental Assessment Agency. The workshop introduced participants to tools and techniques for capturing information on the status of biodiversity, ecosystem goods and services, and poverty.

Overview of forestry in the region, drivers of change and key issues (Sessions 1 and 2)

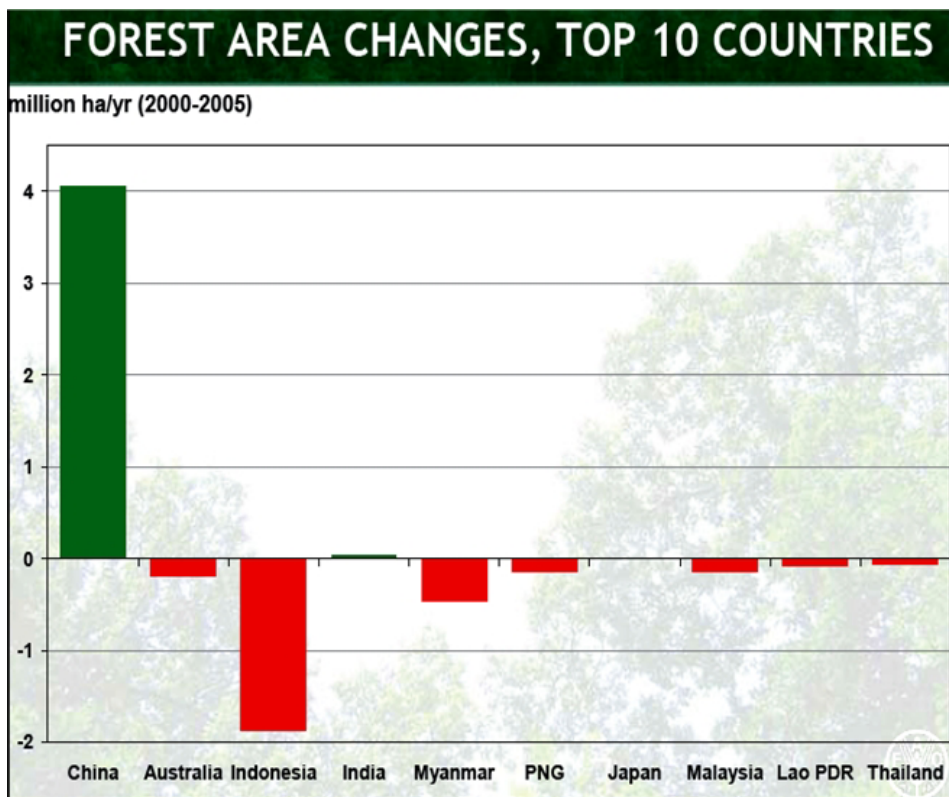
Changes in forest resources and forest–people dynamics

Massive changes and resulting unprecedented challenges are being faced by the region's forests. Depletion of the forest resource base in South and Southeast Asia, where deforestation is gravest in the region, is occurring at an alarming rate of about 80 km²/day (2.85 million hectares/year) — the inclusion of China and East Asia reverses the trend with an annual increase of 4 million hectares/year for China alone (Figure 1) — while forests are also burdened with increasing international and local demands for forest products and services driven by population growth and economic expansion.¹ The result is an emerging environmental crisis.

Domestic forest product demands in China and India will be major driving forces in the region's markets, competing with international demands for the delivery of environmental services such as carbon sequestration and biodiversity and watershed conservation. Meanwhile, forests will also be under pressure for agricultural conversion to feed more mouths in expanded populations² and to address rural poverty. Increasing population adds pressure to the resource base, while increased social mobility drives urbanization and changes forest–people dynamics.

¹ Macroeconomic trends and prospects for the region are, by and large, positive. Three hundred million people have been lifted out of extreme poverty since 1990 and economic growth for developing Asia–Pacific countries is projected to be 8 percent for 2007. But, the region is still home to half of the world's extreme poor, and for a number of Millennium Development Goals, including those related to forest cover and CO₂ emissions, the region is off-track.

² Regional trends for urbanization suggest that by 2030, all subregions other than South Asia will have more than 60 percent of the population in urban areas, but the relationship between economic growth and forest cover, and urbanization and forest cover may not be so simple.



Source: Presentation material by Mette Løyche Wilkie.

Figure 1. Annual flux in forest area change in the ten countries with the largest area of forest, 2000–2005

Environmental and institutional challenges

Socio-economic changes are taking a toll on the environment. Increased frequency of forest fires caused by forest clearance for agriculture, or conversion of naturally occurring ecosystems to extremely flammable invasive grasses, rapid biodiversity loss, floods, sea-level rises in the Pacific, severe water shortages, rapid soil erosion, river siltation, mudslides and desertification are all leading to forest degradation and deforestation throughout the region. The picture is a complex of inter-related issues at both the cause and effect ends of the dynamics.

With such intense interlinkage of issues and massive unprecedented changes, reactive responses will clearly not be enough. Governments and institutions need to be innovative and dynamic to match the changes taking place. Understanding the multistakeholdership and multiple functions of forests is the first step, developing governance systems that engage and address all facets will be the next. Government agencies and policies will have no choice but to respond and reform (see Session 9 on adapting institutions).

Balancing economic, environmental and social functions

Global trade in forest products has increased dramatically and the Asia–Pacific region is accountable for a significant share. Future demand will increase significantly, with increases coming in China followed by India. By 2020, the demand for all wood products will have doubled from current levels. Increased demands for wood products, non-wood forest products and biofuels all point to the need for increased forest area and/or productivity, backed by sound technology.

Demand for environmental services from forests has accelerated studies on the economic valuation and mechanisms for forest PES. The importance of forests' multiple functions, including biodiversity conservation, hydrological services and carbon sequestration are more or less globally consensual. However, consensus has not been reached on how to sustain such vital functions while meeting the other economic and social demands of international and/or local significance. PES mechanisms offer some options towards forest conservation, but for them to work effectively, many issues need to be addressed. Integration of PES into larger environmental financing strategies, including linking collected payments to re-investment in forests, is among core paths to success.

Poverty reduction functions of the forest sector remain a vital part of the rural poverty reduction agenda. On the other hand, societal transitions are occurring rapidly, prompted by economic and other factors. By and large, increased social mobility is prompting urbanization, which gives rise to an expanding middle-income class, thereby relieving forests of direct dependency for subsistence. In addressing the forest dynamics in poverty reduction, forest functions will need to be revisited within the context of the larger picture, where non-forest sector, macro-economic factors play a more prominent role.

However, this general trend does not cover all cases. Many indigenous people have failed to be integrated into social safety nets and are losing out on the economic success of the region. Continued efforts are needed to influence policy and mechanisms to promote rural livelihoods through global forest product markets — laws and regulations are often biased against small-scale producers, especially when their perspectives are not adequately accounted for in formulation — and to remove perverse subsidies that drive inappropriate investment.

Successful case studies of agroforestry practices in India have brought insight on balancing environmental services (e.g. trees in small-scale agroforests assimilate 20 times higher biomass than traditional forests in forest lands) with income generation for local communities, thereby contributing to poverty reduction.

In order to achieve a balance in the long term, short-term trade-off options may need to be carefully and strategically implemented. But, since environmental depletion is a significant factor in the impoverishment of half of Asia's poor, working on environmental improvement of forests may not be so much of a trade-off. Economic, environmental and social functions of forests are all integral parts of one picture; “balancing the trilemma” is the priority.

Dynamics between protected areas and economic use (Session 4)

Protected areas and biodiversity assessment

While the number and magnitude of protected areas in Asia continue to expand (amounting to 6 400 areas, 3.4 million km² or 10.4 percent of the land area), the quality of management is questionable, as many receive only “paper” protection. Weak protected area management results from poor governance and inadequate financing where conservation and environmental service budgets are not mainstreamed into economic planning. In the face of strong demand for timber and other forest products, serious degradation can occur.

Assessing biodiversity levels is an important task and a major challenge for the region, made more difficult by the lack of sound data and standards for assessment. Modeling approaches, as an alternative method, are being undertaken by some institutions by combining maps and images with models for the assessment of mean species abundance (MSA). MSA can be measured against levels of pressures on biodiversity by land-use change, habitat fragmentation, infrastructure development, nitrogen deposition (pollution) and climate change. Preliminary results presented for the Greater Mekong Subregion (GMS) suggest a 50 percent level of remaining MSA, with agricultural conversion of forest land being the greatest pressure for most of the GMS region — although pollution is increasingly becoming the greatest contributing factor for Yunnan Province of China. Modeling suggests that if biodiversity loss is to be limited to 7.7 percent in the 50 years from 2000, a 20 percent expansion of conservation areas from current levels would be the most effective option (see Session 7b on modeling and scenario-building).

Impacts of globalization (Session 5)

Forest products and market trends

As mentioned earlier, China and also India are driving major expansions in the region’s forest product markets. China is now the world’s largest importer of roundwood — imports in 2007 are expected to be over 35 million m³ — and also dominant in the trade of pulp and recycled paper. Globally, Southeast Asia maintains its position as an important player in pulp production and Indonesia in particular is keen on responding to increasing demands. Indonesia is aiming to raise its pulping capacity at current levels by two-and-a-half fold and applying similar multiplication to wood production capacity. A notable concern is that the Southeast Asian fibre industry has thus far depended largely on mixed natural hardwood species. The logical answer may be plantations; hardwood plantations — notably acacia — for woodchips, and palm oil plantations for biofuels (see Session 7b on modeling and scenario building).

PES and financing mechanisms for forest management

The climate change challenge poses an opportunity for testing globalization’s more positive traits in bringing a wide range of stakeholders together to innovatively overcome limited individual capacities. The Kyoto mechanisms provide some examples, but also a case where the politics of globalization have deterred the process. Nevertheless, payment mechanisms for environmental services are now being mainstreamed into the environmental dialogue, offering new opportunities

for financing forest management. The Clean Development Mechanism failed to channel funds, but voluntary markets are showing much more positive outlooks with high buyer interest. The market for reduced emissions from deforestation in developing countries is likely to be much bigger, amounting to anywhere between US\$2 to 3 billion annually. Globally, there is no shortage of funds or interest in forest investment, but current forestry investments in forest-rich Asian countries are few and far between. International rankings for investments in forests place forest-rich Asian countries at the bottom; almost all major western investors have moved away from forests in this region after weighing risks and benefits in the current landscape of insecure land tenure and weak governance (see Session 8b on private sector perspectives).

Policies and geographical/technical perspectives (Sessions 6 and 7)

Implications of China and India on the region

The implications of a growing China on the region's forestry sector will be massive, but no clear scenario has yet been presented. China itself is certainly aware of the enormous new demands, and is preparing itself to meet them. China's projected 1 500 million citizens are expected to consume 477 million m³ of forest products (roundwood equivalent) by 2020. China's priority approach in responding to these expanding demands is by increasing its own supply and capacity to generate 308 million m³ by 2020. The Chinese Government is promoting production by adopting financial measures such as tax holidays and other supporting mechanisms. As a result, planted forest areas increased one-and-a-half fold in the two years from 2001 to 2003 (about 8 million hectares in 2003); production of wood-based panels has grown at an astonishing annual rate of 23 percent since 1995 (production levels in 2005 were at 63.9 million m³). Production does not only cater to the domestic market, as export earnings from forest products in 2006 amounted to US\$24 billion.

Nonetheless, domestic supply alone will not be able to respond to the enormous demand. If by 2020, total consumption and production in China reach the projected levels, there will be a shortfall of 160 million m³ to be made up from imports. In 2006, 32.1 million m³ of logs alone were imported, marking a 9.5 percent growth from 2005. Other commodities on the rise are pulp and paper materials; total imports of pulp for 2006 were 7.9 million tonnes (growth of 4.9 percent from 2005) while imports of waste paper totaled 19.6 million tonnes (increase of 15 percent) and paper imports accounted for 4.4 million tonnes.

India has also identified a large gap between domestic supply and demand to be filled by imports, amounting to between US\$10 billion and US\$20 billion by 2020.

National outlooks

Several countries experiencing rapid economic growth, such as Viet Nam, are paying increasing attention to the multiple functions of forests. However, policy-makers are also encountering challenges in addressing the competing demands of national development — infrastructure development — and forest conservation, let alone the various environmental services of forests. Outlooks for Viet Nam include attaining 47 percent forest cover, with an annual forest

production capacity of 20 million to 30 million m³ having an export value of US\$7 to US\$9 billion.

Indonesia's current levels of deforestation stand out prominently in the region, but its forestry sector has plans to plant five million hectares by 2009, including up to 2.8 million hectares of pulp plantations and 2.2 million hectares of wood construction plantations.

Ten other countries (Mongolia, Nepal, Pakistan, India, Thailand, Malaysia, the Philippines, Papua New Guinea, Kiribati and New Zealand) presented national outlooks at the conference.

Perspectives from the non-government sector (Session 8)

Demand-side perspectives; mechanisms for sustainable forest management and trade

Illegal logging and associated trade in the Asia-Pacific region are estimated to amount to revenue losses of more than US\$10 billion *per annum* and have many more negative social and environmental impacts for developing country governments and rural populations. High risk countries on the supply side include forest-rich developing countries such as Indonesia, Malaysia, Myanmar and Papua New Guinea; and on the manufacturing and trading sides, include major importers such as China, India, Japan, Republic of Korea, Thailand, and Viet Nam.

Effective mechanisms to promote forest sustainability include augmenting trade rules to accommodate social and environmental objectives, antimoney laundering legislation and anticorruption measures, green purchase/procurement policies, plurilateral agreements involving a number of exporting countries (similar to the EU's Forest Law Enforcement and Governance and Trade, certification and legality verification schemes) and independent forest monitoring. Such anticorruption instruments are based on transparency and accountability — to tackle illegal transnational forest activities and to promote legal reforms for improved governance nationally — and must be developed and implemented based on comprehensive stakeholder analyses along the supply and demand chain, action-based research and multistakeholder processes.

Supply side perspectives for trade and forest investment; governance issues

The underlying notion in commercial forestry is that consumption and use of forests is the source of regeneration — both in terms of finances and management. Australia and New Zealand have largely overcome fundamental issues of illegality and sustainability of harvests. However, as discussed in the parallel session on views from civil society, the situation in many of the other forest-rich countries of developing Asia may not invite as much optimism. For such countries to address market demands and to effectively finance forest management, discussions again highlighted the potentiality of PES and verification and certification systems. However, the associated costs of such systems must be taken into account, and plurilateral procurement policies must be sensitively adopted in unison by all countries to avoid any resulting trade barriers against countries making the extra effort, while letting other countries get away with illegality. Whether the region can effectively address increasing demands in forestry markets, or whether the private

sector will assess investment risks as being higher than the benefits, will largely depend on responses on governance issues.

Adapting institutions (Session 9)

Institutional challenges for reform and innovation

Difficult times are ahead for institutions dealing with forests. Forestry sector institutions — especially government agencies — are among the most important stakeholders in meeting the new challenges, but frequently their mindsets are locked, and linger on past legacies. Meanwhile, decision-making is increasingly moving away from its previous centralist focus to include multiple levels of government, local populations, as well as other sectors (especially energy, mining, infrastructure, etc.), as these actors increase their roles and relevance in shaping the future of forests. Institutions need to reform, flexibly adapt and to re-invent themselves for the delivery of sustainable multiple forest functions by synergizing with the larger stakeholdership (creating private–public–people partnerships).

Policies and institutions will need to undergo urgent reform. There is increased need for integration of decision-making across sectors, at the landscape scale, while at the same time responding to demand pressure through economics, practical technology and the maintenance of multiple forest functions. This suggests decentralized rather than centralized solutions.

New mechanisms for forest financing and verification/certification will require increased capacity on behalf of forest institutions in order to secure transparency and accountability and to address and engage a wider stakeholdership.

Overview of findings and the way forward (Session 10)

The conference was a validating process that confirmed trends through perspectives from various angles. Different perspectives put different weights on approaches and strategic areas of focus, but inevitably, in order to meet the competing demands in a sustainable manner, the forest sector must address these challenges beyond the sector. Forestry needs to integrate and synergize with a wide stakeholdership, and communicate the relevance of the forest and forestry sector agenda to society more broadly in the language of priority area concerns (climate change, energy, economic and national development).

The concluding overview highlighted the trends of expanding economies and increasing demands for multiple forest functions and the challenges they pose for the sector's currently weak governance systems. Solutions must involve dramatic reform and action across all sectors.