



# **Sustainable Forest Management in the Asia-Pacific Region**

Asia-Pacific Network for Sustainable  
Forest Management and Rehabilitation

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# Sustainable Forest Management in the Asia-Pacific Region

## I. Introduction

This paper presents highlights from 27 reports which participants submitted from the 17 economies<sup>1</sup> that attended workshops sponsored by the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation (APFNet), held in Kunming, China in November 2010 and October 2011. It notes the similarities and differences in the management of forest resources in the Asia-Pacific region, identifies challenges in this regard and suggests ways to improve the current situation. Mr. QU Guilin, Executive Director of the APFNet Secretariat, and Mr. LU De, Assistant Executive Director, supervised the preparation of this summary.

Given that authors did not follow a standard template, the information they presented varies. However, it was possible to conduct a qualitative (rather than quantitative) analysis of forest policies, legal frameworks and institutional arrangements in the region to show status and trends.

The Asia-Pacific region views forestry as an important component of sustainable and integrated rural development. It also recognizes that the sector not only contributes to domestic economic development, but also maintains healthy ecosystems and helps to reduce greenhouse gas emissions. However, forest management is at different stages. In some economies, basic issues such as the allocation of and rights to forest areas still need to be resolved. Others have addressed such concerns and have shifted their focus to matters related to sustainability and climate change where forest managers work at the cutting edge of science and seek excellence through continuous improvements in operations and techniques. People involved in forest management, whether farmers, communities, private entities or government agencies, face quite different challenges to achieve the goals they have set.

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<sup>1</sup> Australia, Bangladesh, Brunei Darussalam, Cambodia, China, Fiji, Indonesia, Malaysia, Mongolia, Myanmar, Nepal, Peru, the Philippines, Papua New Guinea, Sri Lanka, Thailand and Viet Nam,

## **II. Achievements and Similarities in Forest Resources Management**

### **1. Sustainable forest management post Rio**

Outcomes of the 1992 United Nations Conference on Environment and Development, including Agenda 21, provided the foundation to re-orient forest policies and strategies or create new ones to achieve sustainable forest development. Within the Asia-Pacific region, most economies are participating in key forest-related processes such as the United Nations Forum on Forests and they have signed or ratified major agreements such as the UN Convention on Biological Diversity, the UN Framework Convention on Climate Change and its Kyoto Protocol, and the UN Convention to Combat Desertification - all of which have influenced domestic forest laws and policies. Australia, Cambodia, China, Sri Lanka and Papua New Guinea, for example, have integrated the concept of sustainable forest management into revisions of their legal and regulatory frameworks. Fiji, Myanmar and Viet Nam are implementing it through financial measures and support from international partners. Legislative amendments in Australia, Cambodia, China, the Philippines, Sri Lanka and Thailand include a definition of sustainable forest management and laws set out rules for the production and use of wood - harvesting, thinning and regeneration, in particular. However, it is difficult to assess the impact of these provisions because information concerning enforcement is limited in the reports.

### **2. Recognition of the multiple functions of forests and full range of values**

In addition to sound legislation and regulations, more robust institutional and management structures are essential for effective forest management. Although changes in the Asia-Pacific region emphasize a strengthening of forestry organizations, it seems that well-functioning mechanisms to coordinate among different levels of government and stakeholders are still rare. This situation poses particular difficulties in terms of collaborating with other sectors on climate change. Although Australia and the Philippines have clearly stated the need for forests to be included in responses to adaptation and mitigation issues, they note that more efforts are required.

From the reports, it is evident that the concept of sustainable forest management is accepted and used as the basis for developing policies which reflect the economic, ecological, social and cultural dimensions of forestry. In many economies, guidelines on harvesting incorporate the principles of sustainable forest management to safeguard the future of these resources. They cover aspects such as road construction, silviculture techniques, reforestation, logging permits, and reporting requirements. Brunei, for example, aims to maintain timber production in designated areas while balancing this activity with forest protection and biodiversity conservation. Bangladesh expanded its notion of sustained yield to include management for multiple uses.

Several economies pursue policies which consider non-timber forest products and environmental services as a component of timber production. Australia, Bangladesh, Brunei, China, Malaysia, Myanmar, Thailand and Sri Lanka aim to enlarge forest area, source more timber from plantations, improve biodiversity conservation and strengthen the economic viability of the sector. However, in areas such as climate change, forest health and vitality, employment and cultural aspects, policies seem to be less focused or their implementation is weak. In all cases, government agencies are responsible for forest management and, as authorities better understand and recognize the economic, social, cultural and environmental services that forests provide, their focus not only includes timber production, establishment of plantations and forest protection, but also their active involvement in management and income generation.

### **3. Management plans, rules and classification based on zoning**

Management plans are essential for promoting sustainable forest management because they facilitate the achievement of multiple, long-term goals. According to the size of the economy, its administrative system and the complexity and disparity of issues, several types of forest plans/programs are in place at domestic (all economies), provincial (Malaysia, Viet Nam and Fiji), county (China), and concession (Cambodia) levels. Some plans span 1 to 5 years, while Cambodia's extends over a 25-year period.

With respect to wood production and consumption, most economies are guided by forest management plans and/or regional development plans. In Australia, Fiji, Malaysia and the Philippines, forest plans are mandatory for carrying out most activities and are the main instrument to ensure the wise use of resources. Malaysia and Viet Nam report the use of criteria and indicators for sustainable forest management or of the operational guidelines developed by the Forest Stewardship Council.

Zoning or classification provides another practical basis to develop and implement forest management plans and strategies according to the intended use/functions of resources. Almost all economies grouped forests into either general or specific types. Brunei, for example, has protection forests, production forests, recreational forests, conservation forests and national parks, while Cambodia has just two categories: production and protection forests.

### **4. Forest protection and plantation establishment on a large scale**

In some economies, high deforestation rates, unchecked degradation of natural forest ecosystems, unsustainable harvesting practices and increased frequency/severity of natural disasters have resulted in partial or complete logging bans or

similar restrictions in natural forests (Bangladesh, Brunei, China, Thailand and Viet Nam). These measures aim to promote forest conservation and protection and ensure benefits for future generations - China's Natural Forest Protection Program, Bangladesh's temporary moratorium on timber harvesting and The Heart of Borneo Initiative in which Brunei, Indonesia and Malaysia collaborate. Since 1989, all natural forest (25% of total area) in Thailand is protected by law from commercial exploitation. At the same time, forest plantations are established to reduce pressure on the natural forest and to meet industrial demand for timber and other raw materials on a sustainable basis.

The severity of these protection programs varies according to the specific conditions in each economy. For example, in China, the logging ban prohibits not only commercial harvesting, but also other non-commercial uses for both timber and non-timber purposes. In Australia, Bangladesh, Cambodia and Viet Nam, indigenous communities have access to protected areas for basic necessities, including fuel wood, non-timber forest products and fodder.

## **5. Public participation in forest management**

The important role that forests play in rural livelihoods, especially of poor people, is well recognized in the Asia-Pacific region. Many economies have adopted approaches which involve local communities in forest management in an attempt to reduce deforestation and its negative impacts on the environment and rural livelihoods: joint forest management, social forestry, allocation and utilization of forestland by farmers, and community forestry, to name a few. In Nepal and the Philippines, community forestry has been mainstreamed, while in Cambodia, Indonesia, Sri Lanka, Thailand and Viet Nam, the concept is relatively new and still evolving. In their reports, Australia, Peru and the Philippines highlighted the importance of drawing on indigenous knowledge and Brunei noted that it is moving toward public-private partnerships to share the responsibility for forest management.

## **III. Differences in Forest Management**

### **1. Governance and ownership**

Different forest management systems, laws and regulations are found in the Asia-Pacific region, ranging from central government control down to provincial, municipal and local administrations. Under a centralized approach, officials develop domestic policy and legislation, are responsible for domestic and international coordination, guide forest management planning and are in charge of monitoring and evaluation programs. Decentralization is at different stages and the process, objectives and

outcomes are specific to each economy's context. In Cambodia, more responsibility for forest management was delegated to field offices and more resources were allocated to them after reforms took place in 2002. In Thailand, changes are driven by the desire to increase efficiency and improve forest management. The focus in Viet Nam is on increasing benefits to forest-dependent communities and giving local people more responsibility for production and management aspects.

With regard to ownership, in some economies, all forestland belongs either to the state or to collectivities and management/tenure rights are contracted out. In other cases, communities own and manage the forestland, with government overseeing operations and providing technical guidance. Other arrangements allow the private sector to manage forests, again under government supervision. As a result, implementation of forest policies and law enforcement differ considerably among economies, both at domestic and lower levels.

## **2. Approaches to forest management and protection**

Perhaps even more important than local conditions and context, people have widely differing expectations and perceptions of forest management and, as a result, use different indicators to measure its quality. On the one hand, Australia and Brunei are preservation approach by increasing the area of forests and woodlands in the reserve system. On the other hand, Bangladesh, Sri Lanka and Viet Nam consider the equitable sharing of benefits from forests as one of the main goals for forest management.

The fact that forest programs differ significantly across economies reflects the variety and complexity of issues they each face. For example, Brunei, China and Malaysia establish plantations to optimize timber production and to meet domestic demand. Thus, they opt for even-aged, single-species with the shortest possible rotation periods. Because Fiji favors the idea of providing maximum benefits to local communities, it tries to add value by processing raw materials locally through the construction of sawmills or paper plants, employment of local residents and the provision of new sources of income for the community.

During the past two decades, concerns over the status and use of natural forests are growing, given continued deforestation and forest degradation in the region. To address this challenge, many economies have created protected areas and prohibit commercial timber harvesting in natural forests. For example, 40% of Brunei's land area is either gazetted or notified as forest reserve and the government aims to set aside an additional 15%. Other economies, such as Bangladesh, are making good use of the natural forest for ecotourism, taking care not to damage vegetation and wildlife.

In most Asia-Pacific economies, forest management plans are prepared for different levels (e.g., domestic, provincial and district) and are mandatory. Logging operations are conducted according to these plans and, in some economies such as China, a quota strictly controls annual allowable cuts, based on the principle that timber consumption shall not exceed growth. Brunei and Malaysia issue logging licenses/permits using a similar criterion.

### **3. Incentive and subsidy schemes**

The availability of financial incentives for the forest sector varies throughout the region. Generally, governments invest in the establishment of plantations because they are long-term ventures which require large capital expenditures in the first several years. The Three North Shelterbelt Program in China, Mangrove Plantation Programs in Bangladesh and the Coastal Green Belt Project in Brunei are examples of such support. Other incentives include free seedlings and fertilizer, local infrastructures, grants, tax concessions, preferential loans, subsidies to maintain/protect ecological services and to plant certain species, access to credit and cost-sharing arrangements.

### **4. Research priorities**

Many economies seek to strengthen research, education and training but, in reality, capacity appears to be decreasing. Most institutions expressed the need to improve domestic research so that it meets and is more integrated into international standards. Some reports noted that research should be more demand-driven and that the links among science, policy and practice should be closer.

### **5. Sustainable forest management and certification**

Sustainable forest management means different things to different people but it is generally agreed that it requires a shift in focus from management for a single objective (usually timber production) to management for multi-purposes. In the Asia-Pacific region, the importance of achieving this goal is well recognized but progress is uneven. In some economies, the concept is grounded in forest laws and regulations but is not implemented in practice. In other instances, forests are managed according to related principles, criteria, and indicators and are linked to certification schemes such as the Forest Stewardship Council. In Malaysia, 9 forest management units covering 4.486 million ha of permanent reserved forests have been certified using MC&I 2002/2001 and 146 timber companies have been certified for chain-of-custody. In Viet Nam, in July 2010, a group of households in the province of Quang Tri was the first to be certified under the Forest Stewardship Council. However, most economies

are still working to obtain certification.

## **IV. Challenges**

While the Asia-Pacific region is moving closer toward sustainable forest management, many challenges remain.

### **1. Rates of deforestation**

Despite progress to date, forests are still under serious threat due to several factors: population growth, agricultural expansion, industrialization, urbanization and the competing priorities of other sectors, to name a few. In addition, the number of rural people who depend on forestry and farming for their subsistence and livelihoods is increasing and their needs often take precedence over forest protection. Pressure to clear forests or illegally encroach on forestland to grow crops is significant. As a result, the destruction of these resources continues at an alarming rate in many areas.

### **2. Community involvement in forest management**

The extent to which decentralization and devolution in forest management succeed depends on the extent to which forest users are involved in planning, implementation, monitoring and evaluation. Although public participation in decision-making is increasing, it mostly focuses on matters related to forest protection. Decentralization can increase benefits to local communities but, unless the process is participatory, it can further marginalize poor people and give more power to the elite. In many economies, it has been difficult to engage forest communities in poverty alleviation programs because they have not been granted ownership or adequate use rights.

With the exception of Nepal and the Philippines, domestic policies or legislation to decentralize forest management to the local level are unclear and top-down approaches create structural, legal and economic impediments which have the effect of limiting stakeholder involvement. Government establishment of nature reserves and protected areas to prohibit commercial logging, conserve biodiversity and protect habitats and critical watersheds, among other reasons, also deprives local communities of their timber supply and their means to earn a living. Furthermore, declaration of protected areas does not guarantee effective protection, administration or management for the intended purposes. Such decisions require broad social consensus and support, particularly where forests have traditionally been a source of livelihood for local families and communities.

Many economies described the difficulties they face in balancing forest conservation with the social, cultural and economic functions of forests and the need to respect

the rights of local communities. Thailand, for example, reported that nature reserves not only altered the balance of its timber trade, but also caused tension between authorities and Thai citizens, especially the more than 1 million households that live in domestic parks, wildlife sanctuaries and forest reserve lands.

### **3. Unclear forest ownership and tenure**

Forest ownership, along with access and tenure rights, are basic requirements for sustainable forest management and significantly influence the extent to which this goal is achieved. Secure tenure and usufruct rights provide individuals and communities with economic and legal incentives to invest in forestry for the long term. Although reports did not focus on tenure per se, several economies made reference to it. For example, China, the Philippines, Sri Lanka and Thailand allocated forests to private households but only under short-term agreements (e.g., 30-70 years in China). Considering the long rotation period in forestry, this timeframe discourages long-term investment in the sector and the maintenance of a permanent forest cover. In addition, the granting of tenure rights to individuals and private companies remains limited and, in many economies, resource users and managers do not fully understand their roles, responsibilities and rights - a situation which often leads to weak management.

Unclear forest boundaries is another major issue. For example, Sri Lanka reported that only gazetted forest areas (about 66% of the total) were surveyed and demarcated. Boundaries in the remaining 34% (proposed forest reserves and other provincial forests) are not well defined and this omission gives rise to illegal logging and encroachment because land is scarce, poverty is widespread and unemployment is high.

### **4. Timber production versus ecosystem services**

Many economies indicated that markets were developed for only a few forest products and noted that trading in ecosystem services was extremely limited. As a result, forest management for timber production is often still a priority because of the economic returns. Therefore, the establishment of plantations takes precedence over the close-to-nature management of mixed stands for the ecological, social and cultural functions they provide. Another obstacle to achieving a better balance of management objectives is the absence of data to quantify the value of all forest goods and services. This lack of information makes it easier for other sectors to successfully argue for the conversion of these resources to non-forest uses.

### **5. Top-down approaches and inconsistencies**

The development and implementation of many forestry projects are top-down and fail to consider local conditions, practices and knowledge. Several economies imposed logging bans in reaction to public outcries over the deforestation and degradation of natural forests and in the aftermath of natural disasters such as mass flooding and landslides. Such action can cause serious unanticipated and unintended impacts: acute shortages of timber, industry closures, loss of jobs and an increase in illegal logging and associated trade. Few economies consider alternative programs to address the needs of affected people for non-forest-based livelihoods.

In addition, the wide scope of natural resources management calls for the involvement of many sectors which offer different and sometimes conflicting programs, initiatives, incentives and institutional arrangements. In some cases, government incentives/ subsidies to the forestry sector are less attractive than those offered to agriculture.

## **V. Suggestions**

Forest reform does not happen overnight and seldom happens without external inputs. Fortunately, improving forest management is now high on the political agenda and international organizations such as the ITTO, FAO and World Bank are supporting domestic efforts to reduce deforestation and forest degradation. The number of environmental groups is increasing as well and concerns about climate change is strengthening cooperation on a global scale. For example, the Forest Carbon Partnership Facility of the World Bank is developing a mechanism to compensate economies for avoiding deforestation and is preparing them to participate in this scheme. The opportunity for the sector to benefit from initiatives related to carbon sequestration is significant. In this regard, economies can earn credits by reducing carbon emissions which are caused by deforestation and forest degradation and by combining sustainable forest management with climate change mitigation and adaptation efforts.

### **1. Institutional development**

Reports revealed the need to strengthen forestry institutions to enhance conditions that promote sustainable resource management and facilitate project implementation. Participatory processes to address community needs and transparent systems for applicants to secure forest management and tenure rights should be established. In addition, building the capacity of local authorities to enforce policy and legislation to protect and conserve forests is a prerequisite to translating words into concrete action. Closer monitoring of forestry activities through aerial surveys, geographical information systems and remote sensing technology should be employed.

## **2. Cross-sectoral collaboration**

Many decisions which have a profound affect on forests are taken outside the sector, often without an assessment of their full impact on the landscape: conversion to other land uses, economic development, energy production, mining and industrial expansion, to list but a few examples. Poorly aligned strategies in these areas, conflicting policies and weak collaboration among stakeholders are major causes of deforestation and forest degradation. A multi-sectoral approach which takes into account the activities, policies and practices outside the sector would help to address cross-cutting issues in an effective manner, to the benefit of both forests and the people who depend on them.

Given the complex and multi-faceted dimensions of sustainable forest management, the many agencies involved must strengthen their coordination efforts if this goal is to be achieved. Such mechanisms should not only be structured along horizontal lines (different departments and sectors) but also along vertical ones (domestic, provincial and local levels) as a key means to harmonize programs, services and initiatives.

## **3. Stakeholder involvement, local empowerment and secure tenure**

Government policies should promote decentralization and local participation in forest management and conservation because partnerships are known to be more effective than top-down approaches. More specifically, they should grant secure tenure to individuals and other eligible entities to encourage them to engage in forest activities. They should also clarify forest ownership and access rights, define the responsibilities of each party and establish equitable benefit-sharing arrangements.

The empowerment of local communities to make their voices heard and to influence decisions on all aspects of forest management, including planning, implementation, monitoring and evaluation is critical. In this process, special attention should be paid to the needs of underprivileged groups to increase their participation: poor households, marginalized farmers, indigenous people, women and youth.

## **4. Alternative livelihoods**

The reports are clear about one of the causes of forest degradation and deforestation: overexploitation in search of income. Without alternatives, forest-dependent people have little choice but to use these resources to meet their immediate needs, even if doing so is not sustainable. If other options were made available to develop the rural economy and reduce dependency on forests, people would be more willing to protect these assets, as experiences in Bangladesh, Brunei and Fiji show. Bangladesh has illustrated how eco-tourism and conservation measures can go hand in hand to

achieve win-win outcomes for government and indigenous communities. If managed well, eco-tourism promotes conservation of the environment, including biodiversity, while providing socio-economic benefits to participants through sustainable and non-consumptive uses. Limited forest resources in Brunei has prompted the Forestry Department to urge industry to diversify the wood products they offer and add value to them through processing. This strategy calls for greater efficiency, including the utilization of a greater proportion of raw materials. It also requires the development of new and innovative products. In addition, operators of small saw mills are being encouraged to combine resources, formulate common business strategies and modernize facilities. In a similar fashion, resource owners and managers in Fiji seek to obtain the maximum value and economic return from forests through community-based processing and facilities that add value to products.

Alternative livelihood options take pressure off forest reserves and conservation of these resources should be expanded throughout the region. Non-timber forest products such as mushrooms and medicinal plants should also be identified, inventoried and marketed to generate revenue for local communities.

## **5. Forest management plans**

Forest management plans which are well prepared and coordinated are useful tools to operationalize national and/or provincial policies and strategies at the forest management unit level. They guide activities for a defined period of time by specifying targets, silviculture techniques, harvesting practices, monitoring and other operations which aim to manage forests in a sustainable manner for the range of functions they perform. The development of such plans should be participatory so that they accurately reflect the needs and choices of local communities, thereby minimizing the risk of conflicts during implementation. Although in some economies, such as China, the quota system is successful in controlling excessive forest harvesting, a site specific approach based on forest management plans might be effective as well and should be promoted.

## **6. Innovative financing**

Sustainable forest management is not only about planting or protecting trees but it also involves a complex interaction among policy, institutions and incentives. A review of these linkages in each economy would help to identify barriers and disincentives to reducing deforestation and forest degradation. Governments will not likely be able to scale down timber extraction to preserve forests for their environmental services unless the lost revenue can be offset in some way. According to China's report, the value of forest ecosystem functions is as high as 10.01 trillion yuan per year (carbon fixation and oxygen release, water and soil conservation, purification of

the atmosphere, accumulation of nutritious materials and biodiversity conservation). Therefore, public financial and market-based instruments which are complementary should be further considered as a means to achieve the four pillars of sustainable forest management: economic, ecological, social and cultural. Public financial support in the form of payment for environmental services, subsidies for reforestation and tending, and compensation for forest protections is required because these activities are not yet self-financing. Thus, markets for such services should be developed in the region, in parallel with the establishment of a platform to trade in carbon credits.

## **7. Capacity building, education and research**

The many pressing forestry issues worldwide (e.g., deforestation, forest degradation, illegal logging and associated trade, unsustainable practices and lack of integrated approaches to ecosystem management) have made research and collaboration among research institutes, government and companies more crucial and relevant than ever before. Some economies, such as Malaysia and the Philippines, also emphasize the need for more studies on cross-cutting issues and several of them indicated their need for context specific research, for example, on silviculture in mangrove forests.

Targeted capacity building and training of forest practitioners and government agencies is also required to foster a common understanding of sustainable forest management and ways to achieve it. As importantly, operational guidance and support should be provided to staff at the local level and training to improve skills in areas such as land-use planning, the development of sustainable alternative livelihood options and conflict resolution should be conducted. Technical training on the sustainable management of natural forests, silviculture treatments in forest plantations, ecosystem services and industry operations will increase knowledge and, in turn, will inform decisions on forest policies and improve practices. Innovative modalities such as farmer-to-farmer training programs, pilot demonstrations by households and field schools would also serve to build the capacities of field practitioners.

In addition, forestry curricula must be revised on an urgent basis to produce professionals who can respond to the range and complexity of emerging issues, provide technical assistance to projects and fill the shortage of skilled staff in forestry agencies and industry.

## **VI. Concluding Remarks**

Reports from the 17 Asia-Pacific economies show that, over the last two decades, some progress towards sustainable forest management has been made. However,

many of the challenges described in this paper require further action and better policies to address issues such as forests and climate change, the need to balance their multiple functions and the growing demand for forest products and services. More sectors and more stakeholders need to be involved in forestry matters to integrate sustainable management more systematically into legal and regulatory frameworks. Ways in which this objective can be met are through financial support mechanisms, decentralization, transfer of responsibilities to local communities and better coordination through comprehensive and integrated strategies that deal with cross-cutting issues.

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