

ASIA-PACIFIC FORESTS AND FORESTRY TO 2020

Forest Policy Brief 03



The forest biodiversity challenge

Most of the terrestrial biodiversity within the Asia-Pacific region is contained within forests. Protected areas are the mainstay for biodiversity conservation although other forest areas are also important. Habitat destruction and extraction of high-value species are major threats to biodiversity. Ecosystem stability is based on interdependence among constituent species and with biodiversity loss, resilience to change is reduced. Awareness raising, stringent environmental impact assessments, and improved law enforcement are required.

While the Asia-Pacific region is extremely rich in biodiversity, it is also a region where biodiversity is under threat, having 13 of the world's 34 identified biodiversity hotspots (Box 1). Despite a long history of conservation efforts, the threat of major losses of biodiversity persists in view of intense human pressures. Rapid growth of economies and associated direct and indirect impacts on land use continue to cause significant erosion of biodiversity.

Reduction of forest cover has greater impact on levels of biodiversity than other threats. Reduction in forest density and forest fragmentation, including through logging, also have severe impacts and can lead to increasing risk of catastrophic fire and a resultant acceleration in species loss. In the Asia-Pacific region, primary forest constitutes only 5 percent of the total land area and only 19 percent of all forests are considered primary. The area of primary forest in the Asia-Pacific



region declined at an estimated 0.5 percent per annum between 2000 and 2010, up from 0.2 percent between 1990 and 2000.

Throughout the Asia-Pacific region, maintaining biodiversity poses a huge challenge. The porosity of national borders and park boundaries and huge demands for

wildlife will continue to threaten marketable species. Increased access to more isolated areas - as roads are constructed - will increase rates of depletion. Conservation of biodiversity will be particularly difficult for low-income, resource-rich countries, in view of enormous internal and external pressures. Southeast Asia, in particular is highly vulnerable to biodiversity loss (Box 2).

Box 1. Biodiversity hotspots

A biodiversity hotspot is a region with a significant reservoir of biodiversity that is threatened with destruction. To qualify as a hotspot a region must contain at least 1 500 endemic species of vascular plants (0.5 percent of the world's total) and at least 70 percent of the original habitat must have been lost. The Asia-Pacific is home to half of the world's ten most at-risk hotspots.

Source: CI (2007).

Box 2. Biodiversity crisis in Southeast Asia

Approximately 45 percent of the primary forest in the Asia-Pacific region is in Southeast Asia and much of Southeast Asia's biodiversity is contained within forests. Four biodiversity hotspots are located within the subregion, and forestry-related activities therefore have important repercussions on global biodiversity.

In combination with climate change and the increasing frequency of El Niño events in recent years, reduction in forest density and forest fragmentation leads to greater risk of catastrophic fires and accelerated species loss. The wildlife and bushmeat trade has reached an unprecedented scale in Southeast Asia with greater forest access and increasing demand behind the upsurge. It is estimated that between 13 percent and 42 percent of species will be lost in Southeast Asia by 2100, at least half of which could represent global extinctions. Containing and reversing losses will take a multinational and multidisciplinary effort involving awareness raising, enhanced protection and conservation incentives.

Based on Sodhi *et al.* (2004).

Protected area systems have expanded rapidly since the early 1990s and almost all countries in the region are signatories to the Convention on Biological Diversity. Biodiversity remains under threat, however, from the following challenges:

- Funds and capacity to manage protected areas generally remain deficient.
- Often conservation efforts are focused entirely on land (or forests) earmarked as protected areas and biodiversity conservation outside such areas gets very little attention.
- Rapid growth of economies and increasing demand for land for agriculture, to supply

export markets as well as growing domestic populations, is resulting in accelerating encroachment.

- Rapid expansion of infrastructure, dams and mines has had major impacts in many protected areas.

Apart from habitat destruction, the empty forest syndrome threatens the Asia-Pacific region. Greater forest access and huge demand for wildlife for food, medicine, pets and fashion, particularly from China, has led to increased trafficking and many species with high commercial value are now endangered. The Convention on International Trade in Endangered Species (CITES) and related international agreements

often remain unenforced and much of the supply originates in 'protected' areas. At present, however, forest loss associated with low incomes and low levels of development remains the greatest threat to biodiversity (**Box 3**).

Despite continuing threats, levels of deforestation and forest degradation within protected areas are generally lower than in surrounding landscapes and protected areas will remain the cornerstone of forest biodiversity conservation. Pressure on forests in the region is, however, widespread and conservation measures in other forest areas, including production forests, will also be required (see ITTO/IUCN 2009).

Box 3. Biodiversity decline in Papua New Guinea

Papua New Guinea (PNG) has the largest intact block of tropical forests in the Asia-Pacific region and is home to 6-7 percent of the planet's species. It is predicted, however, that 83 percent of commercially accessible forests will have been cleared or degraded by 2021. Commercial logging and mining are the largest threats to forests and to biodiversity while slash-and-burn agriculture and establishment of oil palm plantations have also led to widespread losses. Given that PNG is a low-income country reliant on agriculture and logging for economic development, great efforts will be required to minimize biodiversity losses.

Source: Shearman *et al.* (2008)

The way forward

Benefits from biodiversity conservation will largely accrue in the future; in the meantime, maintaining species diversity is mostly an issue of preserving the wealth of nature for the benefit of future societies. Biodiversity is effectively a public good, which limits the scope for market-based approaches to management, requiring the public sector to play the leading role.

In particular, there is a great need to raise awareness of the importance of biodiversity, particularly among consumers of wildlife products, and to improve financing and law enforcement in relation to protected areas. Financing is important for staffing and management planning, while the establishment of checkpoints, patrols and border controls can provide effective support for protected areas. Incentives to increase outmigration

and reduce immigration into high value conservation forests may also be useful.

Improvements in monitoring and implementation of environmental safeguards in association with infrastructure developments are of key importance and greater care should also be taken in placing rural roads and maintaining the integrity of protected areas in the face of new developments.

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