



GMS Forest Policy Brief 03

Forest biodiversity conservation

Most of the terrestrial biodiversity within the Greater Mekong Subregion is contained within forests and although other forest areas are important, protected areas are the mainstay for biodiversity conservation. Habitat destruction and extraction of high-value species are major threats. 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 Greater Mekong Subregion is extremely rich in biodiversity, the Indo-Burma biodiversity hotspot, which covers the GMS, is one of the world's most threatened environments (**Box 1**). A wide variety of ecosystems are represented in the Subregion, including mixed wet evergreen, dry evergreen, deciduous, and montane forests as well as shrublands and woodlands on karst limestone outcrops, and mangroves.

Protected area systems have expanded rapidly in GMS countries. Including locally and provincially managed areas, they cover close to one-fifth of the total land area in Cambodia, Lao PDR and Thailand, but less than one-tenth in Myanmar and Viet Nam. Protected areas are mostly located in forested uplands and have almost all been established within the past three decades. Apart from less accessible and mostly mountainous areas, however, most other forested areas are affected by human activities and these frequently overlap with protected areas.

The area of primary forest in the Subregion continues to fall and 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 has severe impacts and can lead to increasing risk of catastrophic fire and a resultant acceleration in species loss. Degradation almost always results in local biodiversity loss because secondary forest does not reach parity with primary forest in terms of species richness.

Apart from habitat destruction, the 'empty forest syndrome' threatens the GMS because greater forest access and increasing demands allied with uncontrolled exploitation of wild plants and animals is having a devastating effect on biodiversity. Huge demand for wildlife for food, medicine, pets, display and fashion, particularly from China, has led to increased trafficking and many wildlife species with high commercial value are now endangered. The Convention on International Trade in Endangered Species (CITES) and other international agreements often remain unenforced and much of the supply originates in 'protected' areas.



Box 1. Biodiversity hotspots

A biodiversity hotspot is a geographic region with a significant reservoir of biodiversity that is threatened with destruction. A hotspot contains 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 has been lost.

The Indo-Burma hotspot has a high number of endemic species found in tropical forests. This includes 7 000 endemic plant species, 1 300 bird species and six large mammals discovered in the last decade. Indo-Burma is one of the most threatened biodiversity hotspots, due to the rate of resource exploitation and habitat loss. Only about 5 percent of natural habitats remain in relatively pristine condition.

Source: Conservation International 2007.

Despite a long history of conservation efforts, biodiversity is threatened by the following challenges:

- While parks and reserves are easily established, funds and capacity to manage them generally remain deficient. There are several examples of such 'paper parks' in the GMS.
- Often conservation efforts are focused entirely on protected areas and biodiversity conservation outside these areas receives very little attention.
- Rapid growth of economies and increasing demand for land for agriculture, increasingly to supply export markets but also to supply growing domestic populations, is resulting in accelerating encroachment.
- Rapid expansion of infrastructure, dams and mines has had major impacts in many protected areas.

Climate change also threatens forest ecosystems and, with increased infrastructure development and population growth, reductions in the extent and the health and vitality of forests could lead to compound impacts. 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 raise rates of depletion where environmental safeguards are weakly implemented.

Throughout the GMS, maintaining biodiversity poses a huge challenge. Conservation of biodiversity will be particularly difficult for low-income, resource-rich countries, in view of enormous internal and external pressures. Lao PDR, Myanmar and Cambodia – situated in the midst of resource-hungry, emerging economies – are highly vulnerable to biodiversity loss (**Box 2**). Thailand and Viet Nam will also face considerable challenges in establishing trade-offs between competing uses. Protected areas will, however, remain the cornerstone of biodiversity conservation and although there are exceptions, deforestation and forest degradation within protected areas will be lower than in surrounding landscapes.

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. This 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 necessary.

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.

Box 2. Development and biodiversity loss in Lao PDR, Cambodia and Viet Nam

In Lao PDR, Cambodia and Viet Nam, protected areas adjacent to areas of development are under serious threat of biodiversity and resource loss. Timber, wildlife and NWFPs are being severely overharvested causing damage to habitats and undermining local people's subsistence.

The Song Thanh Nature Reserve in Central Viet Nam, Dong Hua Sao National Protected Area in southern Lao PDR and Peam Krasop Wildlife Sanctuary in southwestern Cambodia are all threatened – mainly by external commercial interests supplying distant markets. Degradation is resulting from logging, conversion to plantations, mining, unmanaged harvesting of NWFPs and organized hunting of wildlife for medicines, skins and meat.

Source: Corbett 2008.

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