

The forests of Southeast Asia

Southeast Asia, containing the world's third largest tropical forests, is experiencing deforestation rates higher than almost anywhere else on Earth. The region's forests are endangered by conversion to agriculture or other land uses, such as oil palm plantations, logging (both legal and illegal) and climate change.

Tropical rainforests cover approximately 60 per cent of the region's total forest area, with tropical moist deciduous forests and tropical dry forests each accounting for around 15 per cent and mountain forests another 10 per cent (FAO 2001b). Mangrove forests, found in the interface between land and sea, represent about one third of the world's total mangrove cover (FAO 2007). Fresh-

water and peat swamp forests are also present. Dry forests include deciduous dipterocarp forests and mixed deciduous woodlands often containing some very valuable tree species, such as teak (*Tectona grandis*), and trees from the dipterocarp family (Dipterocarpaceae). In Malaysia, Indonesia and the Philippines the montane (evergreen) rainforest, most developed at altitudes between 1 400 and 2 400 m, still covers relatively large areas.

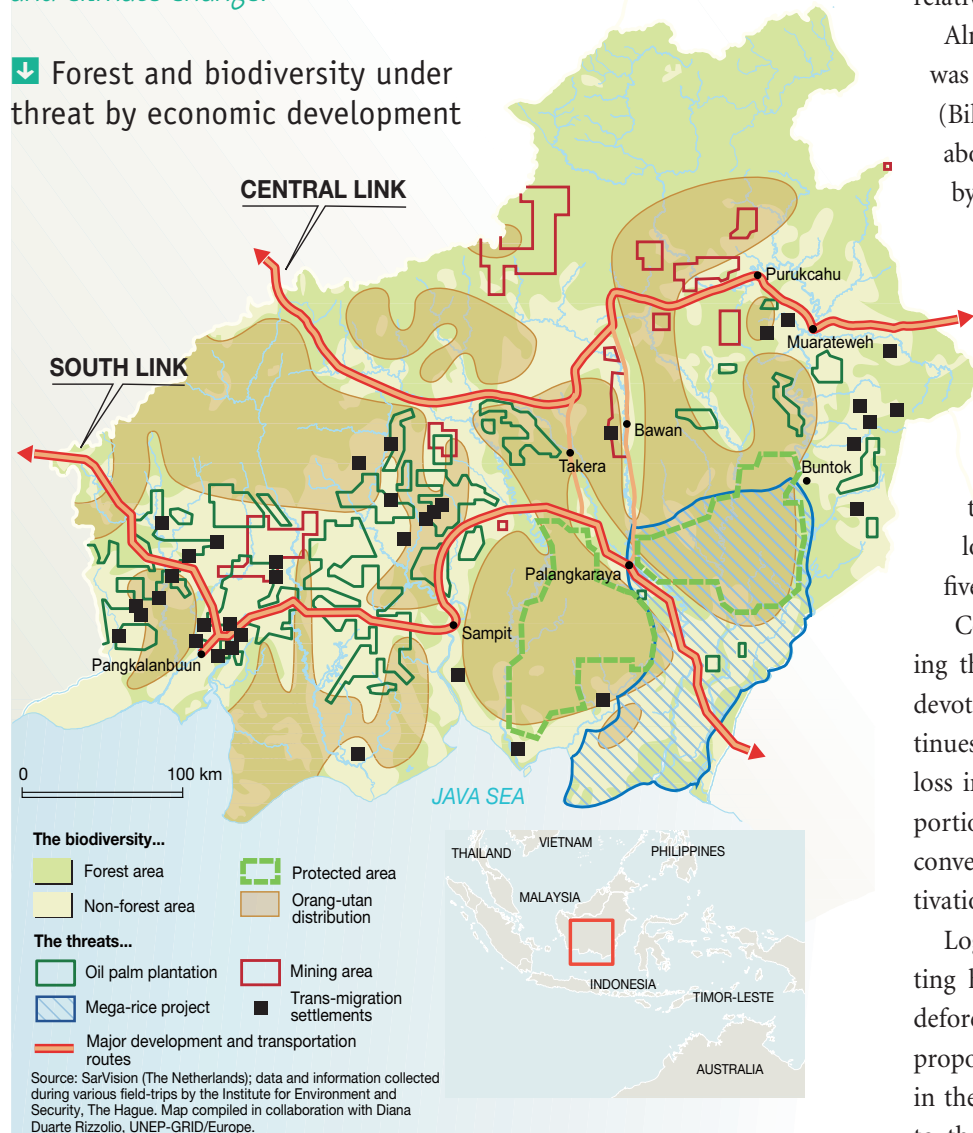
Almost the whole of Southeast Asia was covered by forest 8 000 years ago (Billington *et al.* 1996). Today only about half the land area is covered by forest and most of the countries in the region have experienced rapid declines in forest area.

It is calculated that the region is losing about 1.2 per cent of its remaining forest area each year, with Cambodia, Indonesia and the Philippines reporting annual losses of two per cent over the last five years (FAO 2006a).

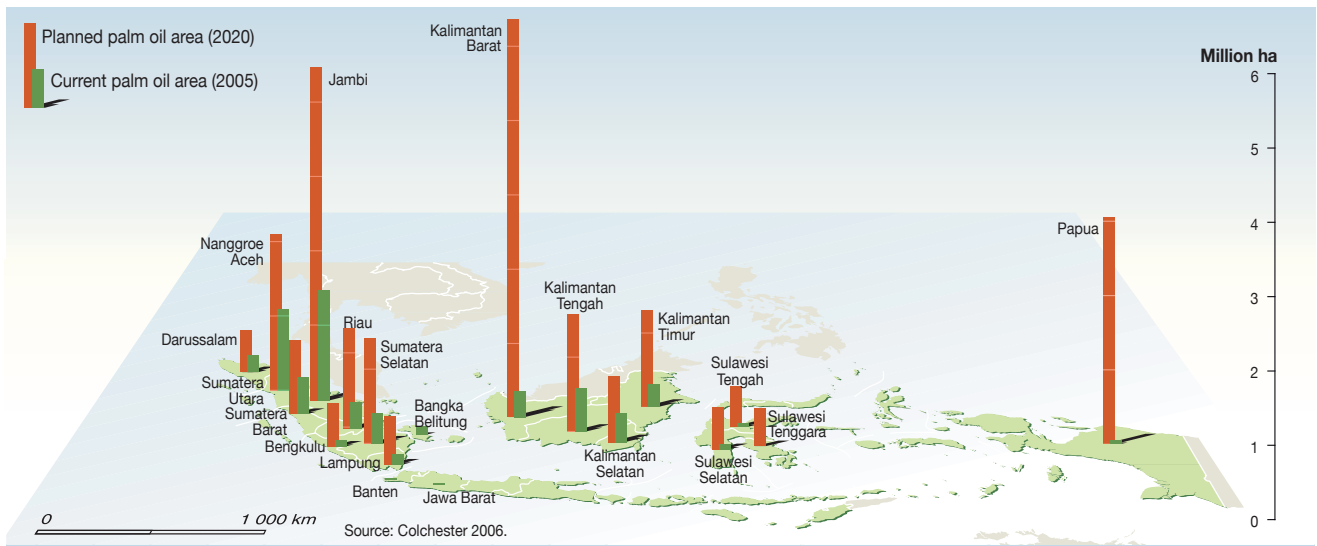
Conversion to agriculture, including the recent expansion in the area devoted to oil palm plantations, continues to be the main cause of forest loss in the region. Meanwhile, a large portion of mangrove areas has been converted to shrimp farms or rice cultivation.

Logging and pulpwood clear-cutting have also been major causes of deforestation in some areas. The high proportion of valuable timber species in the lowland forests and easy access to the coast and shipping routes are

Forest and biodiversity under threat by economic development



Future expansion of palm oil in Indonesia



among the reasons for this. Most of the more accessible forests in the region have been logged at least once. Commercial logging in Papua New Guinea, for example, has been heavily concentrated in forest areas that are accessible by bulldozers, trucks and coastal shipping.

Recent studies conclude that by 2021 approximately 80 per cent of the commercially accessible forests which were present in Papua New Guinea in 1972 would have been cleared, commercially logged or affected by low intensity fires (UPNG Remote Sensing Centre 2008). Even forests in protected areas in Kalimantan, Indonesia, are being logged and have declined by more than 56 per cent between 1985 and 2001 (Curran *et al.* 2004).

The interests of commercial activities such as palm oil plantations or mining, often clash with the interests of communities, small farmers and indigenous people when it comes to management of natural resources. Land rights issues are often at the heart of such conflicts.

For example, in Indonesia there is growing evidence of human right violations associated with the palm oil industry (Friends of the Earth 2008). Indonesia has set ambitious targets for oil palm expansion and such conflicts are likely to intensify if human rights

issues are not appropriately addressed.

Due to the rapid rate of deforestation and forest degradation in the region, there are growing concerns about increases in greenhouse gas emissions. Of particular concern are the peat swamp forests, where peat deposits are up to 20 metres thick and contain vast reserves of near-surface terrestrial organic carbon. Out of 27 million hectares of peat land in Southeast Asia, an estimated 12 million hectares has been deforested or degraded over the past ten years (Hooijer *et al.* 2006).

The establishment of conservation areas and better forest management practices are essential tools in the battle to save the tropical forests. One major step was taken in 2007 when the

Forestry Ministers of the three countries involved – Indonesia, Brunei and Malaysia – signed the Heart of Borneo Declaration and 220 000 square kilometres – or an area almost as big as Great Britain – was turned into a large network of protected areas and forest areas managed according to the principles of sustainable forestry.

The EU Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT) is also being seen as a good example of how to develop partnership agreements between the producer and the consumer countries to combat illegal timber trading.

➔ See also pages 20, 24, 30

Colonization of West Papua, Indonesia

