

New Issues in Old Forests: Recent approaches to conserve Thailand's major protected areas

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To counter the loss of its natural forests and biodiversity, Thailand has pushed for an extensive network of protected areas to be imposed on the last forests of the country and – in some cases – the people within. However, as management capacities and political will appear to be marginal, forests and biodiversity remain under constant pressure. By means of new management approaches, ministerial reorganization and consolidated cooperation with NGOs, the government has started a new attempt to save Thailand's remaining natural heritage.

Semi-evergreen monsoon forest in
Khao Yai National Park

Forest trends in Thailand

Thailand experienced a major loss of natural forests between 1938 and 1985 when more than 43% of the country's terrestrial area was deforested and subsequently converted into agricultural land (ENGLAND 1998:60). Logging operations have accelerated since the 1950s when the Royal Thai Forest Department (RFD) allocated large scale logging concessions mainly to domestic companies with close ties to – or in possession of – the government. Additionally, the government implemented a policy to encourage cultivation of cash crops for export. Although lumber companies were contracted to reforest the areas, peasants employed the new logging roads to reclaim the cleared land. As a consequence, the proportion of natural forest cover of Thailand's total land area was reduced from over 60% to less than 30% from the 1950s to the 1980s (TITTO 2005). Following flash floods and human casualties caused by illegal

logging operations in South Thailand, a complete logging ban comprising all natural grown forests (except for mangroves) was enacted in 1989. Although most large-scale logging operations had ceased at that time, the forests have continuously been degraded primarily by small scale encroachment as well as publicly disputed development projects. Between 1990 and 2000, 1,120 km² of forest were lost per year; this equals an annual deforestation rate of 0.7% (FAO 2006). By 2005, primary and secondary forests accounted for only 22.3% of Thailand's land area (FAO 2006). Experts who commented on the current situation in the context of this research project estimated the effective percentage of natural forest cover in Thailand as being between 15% and 21%.

Protected areas under pressure

With a share of 19.53% of Thailand's territory, national parks and wildlife sanctu-

aries represent the most significant types of protected areas in Thailand (ONEP 2005). Wildlife sanctuaries, where no utilisation except research is permitted, are legally best-protected. The first protected areas were established in the 1960s and today comprise nearly all considerable forest areas left in the country. The RFD's rapid and extensive designation of protected areas arose not only from the desire to conserve nature, but also aimed at retaining comprehensive control over the dwindling forests (BUERGIN 2001). In 2002, amidst a constitutional reformation, stewardship for the protected areas was assigned to the Department of National Parks, Wildlife and Plant Conservation (DNP) under the newly-created Ministry of Natural Resources and Environment. Previously, the RFD had been in charge of all forest areas and designated forest areas in Thailand since 1896.

Approximately 12 million Thais reside in, or adjacent to, the forestlands of the

country, many of whom still depend on the forests economically (BUGNA & RAMBALDI 2001). The steep decline of natural forest area from 72% in 1938 to 22% in 2005, and the exclusion of utilisation of the extant forests by designating protected areas, led to severe conflicts between the rural population and the government. Hence, local people, often driven by poverty as well as a desire to improve standards of living, developed ways of evading restrictions. At the same time, activities of powerful businessmen and politicians did not set good examples, as deforestation frequently was a result of large-scale development projects, e.g. resorts, dams and roads. As a consequence, forest encroachment and poaching continually threatened the integrity of protected areas and biodiversity. In Khao Yai for instance, Thailand's oldest, most prestigious and best staffed national park, tigers became extinct in 2004/2005. 20 years ago, the area was one of the last strongholds of this endangered big cat species with an estimated population of 50 individuals (LYNAM et al. 2006).

The DNP, supported by considerable input of foreign expertise and capital, has been cautiously implementing and applying new procedures to cope with the threats for several years. Significant elements of a new ecosystem approach are the strict protection of core conservation zones according to a zoning scheme, participation of all stakeholders in management decisions and the creation of income alternatives for the local population, e.g. through tourism, enhancements in agriculture and job training. Furthermore, protected areas adjacent to each other as well as other fragmented forest patches are operationally and, where applicable, physically linked to form "Forest Complexes". The reason for this procedure is based on the knowledge that small forest areas cannot sustain viable wildlife populations and are prone to rapid degradation. The country's largest forest area, the Western Forest Complex, serves as pilot site in this process.

In order to determine their level of effectiveness, the new management approaches were analysed in three wildlife sanctuaries and one national park in 2008. Examined sites were the wildlife sanctuaries Huai Kha Kaeng and Salak Phra, located in the Western Forest



Fig. 1: Examined field sites and other protected areas in central Thailand

Complex, as well as the Dong Yai Wildlife Sanctuary and the Khao Yai National Park situated in the Dong Phrayayen - Khao Yai Forest Complex in Eastern Thailand (see Fig. 1). In addition to field visits, interviews were conducted with 23 experts of local and international NGOs, DNP officers and researchers of domestic universities.

New approaches – Same old problems?

The margins of Khao Yai National Park and the wildlife sanctuaries Dong Yai and Salak Phra are continuously deteriorating. Settlements and fields often constitute a sharp edge to the forest, because many of the previously existing buffer zones or community forests have been utilised for agriculture. In the past, conservation activities were very much limited to forests inside the parks and sanctuaries while the surrounding areas were neglected. Pressure as a result of hunting and encroachment is particularly severe in the vicinity of settlements. Sharp edges have also led to increased human-wildlife conflicts with regular casualties, mostly among the animals. In dry seasons, water and food is sufficiently available only outside the forests, where nutritious field crops are grown next to the boundaries. In order to tackle the problem, staff at Dong Yai Wildlife Sanctuary constructed a small dam inside the sanctuary to provide water year-round for the roughly 100 elephants. Additionally, it is planned to cultivate nutritious

plants in the sanctuary to prevent elephants and gaurs from foraging the surrounding fields. The situation became worse as dry seasons have intensified in recent years, according to the director of the Dong Yai Wildlife Sanctuary. Over the last ten years, confrontations have cost the life of two humans and four elephants in that area. At Salak Phra Wildlife Sanctuary in Western Thailand, the first 10 km of a projected 35 km electric fence have been constructed as part of a special arrangement between local people and the authorities. The fence cuts off a piece of originally protected forest from the elephant habitat and serves as an example that protected area boundaries are a matter of negotiation at times.

Despite new protective measures, poaching activities still take place on various levels and by different parties. Deer and wild boar are hunted mainly by local people for their own consumption or for wildlife restaurants in small towns nearby. Around Khao Yai National Park, "some communities are by 100% involved into poaching activities", according to the conservation organisation PeunPa, which works in the park. Valuable species such as bears, big cats, elephants and Aloewood are also poached by professional hunters, increasingly as part of an organized criminal network supplying purchasers in the big cities or abroad. Khao Yai National Park is perpetually subject to severe pressure from hunting. While tigers recently became extinct in the whole area, wild boar and

Protected Area	Staff (short-term contracts)	Area (km ²)	Staff per 100 km ²	Guard stations
Khao Yai National Park	382* (305*)	2,168	17,5	21
Huai Kha Kaeng Wildlife Sanctuary	169 (150)	2,575	6,6	19
Salak Phra Wildlife Sanctuary	168 (91)	858	19,6	13
Dong Yai Wildlife Sanctuary	34 (28)	313	10,9	5

Source: Own compilation based on information given by senior protected area personnel.
* Source: Submission for nomination of DPKY forest complex as World Heritage Site (2004)

Table 1: Personnel/ area ratios in selected protected areas

gibbons have disappeared in most parts of the park. Despite an elaborate network of guard stations to protect the park, frequency and range of patrols are too low due to management deficiencies (PARR 2007). An initiative launched in 2002 to jointly develop a participatory income scheme with each of the 118 surrounding villages was only implemented in two villages. In one settlement at the northern boundary of the park, villagers and park staff managed to resolve initial conflicts and designed a range of services for tourists. More important than the financial return of this activity is the creation of a joint responsibility for the national park, according to the village committee.

Positive stimuli derive from the pilot sites for the ecosystem approach in the Western Forest Complex. The area encompasses 18,000 km² consisting of 17 protected areas, settlements and infrastructure. Together with one other sanctuary, Huai Kha Kaeng Wildlife Sanctuary constitutes its core area and strict conservation zone. The other 15 protected areas will either be designated as buffer zone or also as strict conservation zone. A current project provides for a physical connection from

the western forests to the large Kaeng Krachan Forest Complex to the south. Therefore, several forest and non-forest areas in use by the military or subject to private ownership are being rededicated to become a forested wildlife corridor. Huai Kha Kaeng Wildlife Sanctuary remains the most important tiger habitat in Thailand with an estimated population of 60 to 80 individuals, according to field surveys conducted by the Wildlife Conservation Society (WCS). WCS is cooperating with public authorities to reduce hunting pressure and stabilise wildlife populations. The resulting considerable influx of knowledge, capital and equipment serves to make an impact, as poaching activities have significantly decreased in the first months of this project. A firm patrol scheme, strict law enforcement and regular monitoring constitute a different approach than most other conservation organisations pursue, which focus on communities and environmental education.

Between 2004 and 2006, joint efforts of a stakeholder committee for the Western Forest Complex have successfully prevented the construction of two new roads through the area. Although a rising civil society has the means to

question and sometimes to prevent large-scale development projects, it is commonly believed that powerful individuals are continuously able to defy environmental laws in order to pursue their own interests.

Given the dynamic of the considerable decline of wildlife in the last decades, certain large mammal species are not expected to survive long-term in Thailand if management deficiencies persist. Patrol frequency is too low in all surveyed protected areas except Huai Kha Kaeng. Many of the protected area employees show little motivation as senior staff is subject to frequent relocations. Political instability and a patronage system are the main reasons for this regular job rotation, which causes lack of identification with the position. On the ground level, government staff is increasingly being replaced by short-term workers who receive low salaries and little or no social benefits. The lack of financial and social appreciation for the rangers contributes to low patrol efficiency. Short term workers account for up to 89% of the staff in the reviewed protected areas (see Table 1).

Official mechanisms for participatory approaches are not in place. Newly formed stakeholder committees like the one in Dong Yai Wildlife Sanctuary are merely used for information exchange and nature education. Successful examples for income creating activities and management participation are usually based on initiatives of single actors.

Conclusion

As a consequence of poaching, many of Thailand's large mammal species are threatened with extinction. Although the



Brand new reservoir for elephants in Dong Yai Wildlife Sanctuary



Electric fence cutting through Salak Phra Wildlife Sanctuary

Source: Peter Höfken



Source: PeunPa, Bangkok

Poachers arrested in Khao Yai National Park

boundaries of the examined protected areas are demarcated and communicated to the local population, fringes are slowly degrading. Adequate participatory management plans comprising efficient patrolling schemes, satisfactory salaries for rangers and participation of all stakeholders are urgently required. Joint efforts of authorities and conservation organisations show good results, but funds and project run-times are limited. Achieving sustainable improvements poses a challenge as procedures often switch back to former conditions after programmes are closed. A key function of NGOs, secondary to capacity building, is to act as mediator between opposing interest groups.

Some government officers at the DNP are practising conservation in an outstanding and dedicated manner. Yet others do not identify with their work and lack a supportive attitude towards

conservation. This may stem from a century of regarding the forests and other natural resources as a facility to generate as much income as possible. The main stimulus for the RFD and also the DNP for the management of the forests has always been the commercialisation of natural assets; formerly by selling timber, nowadays by promoting tourism activities and increasingly by maintaining wildlife breeding centres, of which 23 already exist in the country. A change of mind in people who hold high government positions regarding the appreciation of natural resources is immediately required, most importantly to ensure they serve as role models for public officers and citizens.

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