

4. Protected areas and development: lessons from Thailand

4.1 Introduction

4.1.1 *Degradation of natural resource systems and protected areas*

Thailand's national protected area system consists of declared wildlife sanctuaries and no-hunting areas, national parks, and forest, coastal and marine reserves. In addition to formally gazetted PAs, many local communities protect portions of their village domains to conserve or regenerate natural systems. Community conservation and sustainable use agreements and their local enforcement are integral aspects of Thailand's rural social fabric and culture (Jamarik et al. 1994).

The total PA system covers some 17 percent (88,000 sq. km) of Thailand, and incorporates most of the nation's forests. The total number of gazetted PAs is now above 260, with a number of additional areas proposed. The major share of the PAs is national parks and wildlife sanctuaries. The PA system is relatively fragmented, and the PAs vary considerably in size, habitat and conservation condition. In many areas degradation of the PAs conservation values is ongoing from local agricultural encroachment, infrastructural and tourism development, illegal logging, a substantial illegal wildlife trade and commercial over-fishing in and around marine protected areas.

During the past several decades of rapid economic development, Thailand's natural resources have been severely degraded despite a range of policies and activities aimed at protecting them. Population growth and land pressure, legal and illegal conversion of natural resources for commercial purposes and the dominance of economic development priorities over conservation have all contributed to the serious degradation of protected areas and their biological diversity (OEPP 2000).

4.1.2 *Government reform and decentralisation*

The last decade in Thailand has ushered in a new era in the nation's system of governance. Dramatic changes occurring in governance reform have affected the way rural natural resources including protected

areas are managed. Decentralisation of decision-making and budget-making authority is proceeding in response to the recently enacted “people’s” Constitution (1998) and the related Government Decentralisation Act of 1999. Policies based on these two key pieces of legislation are evolving to enable a significantly restructured government to carry out its mandate. These policies are defining the specific mechanisms under which authority for planning and budgeting will be gradually devolved to the *Tambons* or sub districts.

Governance reform in Thailand is a direct response to the increasing influence of the non-government community, which has begun to play a much more active role in determining the nation’s development directions. While this influence had been growing during the 1980’s, its real power became apparent with the mass expression of public discontent leading to the overthrow of military rule and reinstallation of a civilian government in 1992. The need to replace the military-installed Constitution led to the drafting and adoption of a people’s Constitution in which national reform and decentralisation processes are now enshrined.

4.1.3 *Growing public awareness of the importance of conservation*

Awareness of Thailand’s growing environmental problems and of the importance of nature conservation to national development has grown steadily since 1982 when plans to build the Nam Choan hydropower dam that would have flooded a large area in Thung Yai Naresuan National Wildlife Sanctuary provoked broad-based opposition. The controversy galvanised a national conservation coalition including local villages, students and academics, environmental NGOs, and business people opposed to the dam’s construction. This protracted dispute gave birth to Thailand’s “green movement” - a movement which has continued to develop and gain momentum ever since. Also, it is regarded as the precursor to Thailand’s adoption of national environmental impact assessment standards in 1992, and later provisions in the constitution requiring public consultation. Citizens now have a right to a voice in decisions on projects with potential for significant environmental impacts.

In 1988, national environmental concern peaked again when hillsides in Nakhon Srithammrat Province collapsed during an intense rainstorm. The resultant floods killed hundreds and caused immense damage to land and property. In 1989, in response to this tragedy and public outcry, the Ministry of Agriculture and Cooperatives (MOAC) placed a nationwide ban on commercial logging. This was a momentous event for the conservation of the country’s natural forest cover. The Thai Government and its agencies, the Ministry of Agriculture and Co-operatives, the Royal Forest Department, private enterprise and the general public began to view forests in a new light; one which had been obscured by the lucrative short-term profits to be made from large-scale logging.

While Southern Thailand’s Khiriwong District disaster and the subsequent logging ban sparked an increase in conservation initiatives and contributed to growing environmental awareness, the Kingdom’s annual rate of deforestation did not diminish significantly (FAO – RAP 2002; OEPP 2000).

In 1992, MOAC, responsible for ensuring the sustainable management and conservation of Thailand’s natural resources and protected areas, announced a policy to expand national forest cover from an estimated 26 percent to a total of 40 percent of the kingdom’s land area. Key to accomplishing this goal was the expansion of existing protected areas and gazettal of new national parks and wildlife sanctuaries. A portion of the national forest reserve system, degraded by commercial logging, agriculture and settlement expansion, was to be rehabilitated. Another fraction was transferred to the Agricultural Land Reform Office for re-distribution to landless farmers.

Implementation of the expansion policy has fuelled tensions between government authorities responsible for PA planning and enforcement, and local people who depend on resources in and around protected areas for livelihood. The rights of rural communities to sustainably use local natural resources has been

supported by many NGOs which maintain that forests and people can coexist. At the same time, some government officials and strict conservation NGOs oppose the transfer of control over protected areas to rural communities arguing that the risks are too great given the current degraded and diminished status of the Kingdom's remaining protected areas.

The main question emerging from a decade of experience in PA management in Thailand is how to enable government and the public to cooperate in achieving sustainable resource management which supports economic development and preserves the natural systems on which it is based. Key lessons point to future opportunities and challenges to improving Thailand's ability to achieve its protected area management objectives.

4.2 Lessons from a decade of protected area management

4.2.1 *Thailand's protected area estate prior to the logging ban*

Since the establishment of Thailand's protected areas system in 1962 with the designation of Khao Yai National Park, the national system has expanded rapidly. At the time of the logging ban the protected area system comprised 44 national parks (covering 24,848 sq km), 15 marine national parks (4,922.29 sq km), 29 wildlife sanctuaries (23,437.65 sq km) and 46 non-hunting areas which protect nationally important wetlands.

In 1987, two years prior to the logging ban, the PA network was comprehensively reviewed (Kasetsart University 1987). This "Assessment of National Parks, Wildlife Sanctuaries and other Preserves Development in Thailand" found that the system included a good representation of the major habitats within Thailand. Notable exceptions were lowland evergreen forest, marshes and mangrove/mudflats.

A second review in 1993 undertaken as part of the Thai Forestry Master Plan showed that the terrestrial and aquatic ecosystems were well represented, with the exception of the Malayan mixed dipterocarp forest, south-eastern monsoonal evergreen forest, peat swamp forest and mangrove. Evaluation of the status of mudflats had been largely overlooked, while some terrestrial ecosystems such as heathland had been ignored.

The quality of the protected area system is largely measured by its capacity to protect the nation's biodiversity. Regarding the conservation of mammalian species, Lekagul and McNeely (1988) considered that the "system is a significant conservation achievement". Similarly, focusing on avian conservation, Round (1988) studied resident forest birds in Thailand and concluded that "the wide geographical coverage of nature reserves, the proportion of remaining forest which is protected, and the large areas of many individual sites, forms a promising basis for future conservation efforts." Then in 1991, Santisuk et al. taking a botanical viewpoint, were "impressed by the areas currently legislated for conservation. Overall, they form an adequate basis for conserving the most important botanical resources in the Kingdom". Even prior to the logging ban it was widely believed that the network of conservation areas in Thailand was one of the best in South East Asia (Parr 1996).

4.2.2 *The present national protected areas system*

Following the logging ban, successive governments took actions to enhance protection of the remaining forest resources. A prerequisite to designation of the remaining forest resources as protected areas necessitated land use zoning. Consequently, in March 1992, the Cabinet passed resolutions to conduct land use zoning on forested lands, designated as National Reserve Forest under the National Reserve Forest Act (1964), some of which had already been incorporated in the protected area system.²¹ A system of forest

²¹ The Cabinet approved about 88.23 million *rai* (27.56 percent) of the country for conservation forests, 51.89 million *rai* (16.16 percent) as production forests, and 7.2 million *rai* (2.21 percent) for land reform.

zoning was approved with at least 40 percent of the country under forest cover, of which at least 25 percent is designated conservation forests. These targets were set in the National Forest Policy (1989).

This policy was reaffirmed in the Seventh National Economic and Social Development Plan (1992-1996); requiring that 40 percent of the country be maintained as forest. Twenty-five percent of the country will be preserved as protection forests for nature conservation, recreation and environmental quality protection, and 15 percent designated as production forest, providing timber and other forest products.

In the Agricultural Development Plan, a component of the Ninth National Economic and Social Development Plan (2002-2006), a goal is to conserve and rehabilitate 30 percent of the total area of the country. These lands include areas for biodiversity conservation including national parks, wildlife sanctuaries and watersheds. The Plan aims to promote productive forest plantations, private plantations and community forestry to reach an area covering 32 million *rai*. Furthermore, 1.25 million *rai* of mangrove forest is to be conserved or rehabilitated.

Now there are 81 terrestrial national parks covering 9.07 percent of the country (46,453.29 sq km). These include 33 areas in the north (covering 20,960.32 sq km or 4.09 percent); 20 in the north-east (covering 10,320.42 sq km or 2.01 percent); 12 in the western, central and south-eastern regions (covering 8,535.21 sq km or 1.66 percent); and 16 in the peninsula (covering 6,637.34 sq km or 1.29 percent) (National Parks Division 2002) (Map 3).

There are also 21 designated marine national parks, comprising six archipelagos, a bay dominated by mangroves, ten coastal parks encompassing stretches of beach, another mangrove site, a coastal site protecting a diverse range of wetland ecosystems, and a forested site dominated by Malayan mixed dipterocarp forest. These areas collectively encompass 5,810.23 sq km (or 1.13 percent of the country). There are 55 wildlife sanctuaries (covering 35,476.20 sq km or 6.93 percent), and 55 non-hunting areas protecting 4,409.59 sq km of different habitats.

A further 38 reserves are scheduled to be gazetted as terrestrial national parks in the immediate future, encompassing a total area of 18,992.60 sq km (or 3.71 percent). A further six marine national parks are proposed. The number and size of the protected forest biome including national parks and wildlife sanctuaries has also expanded.

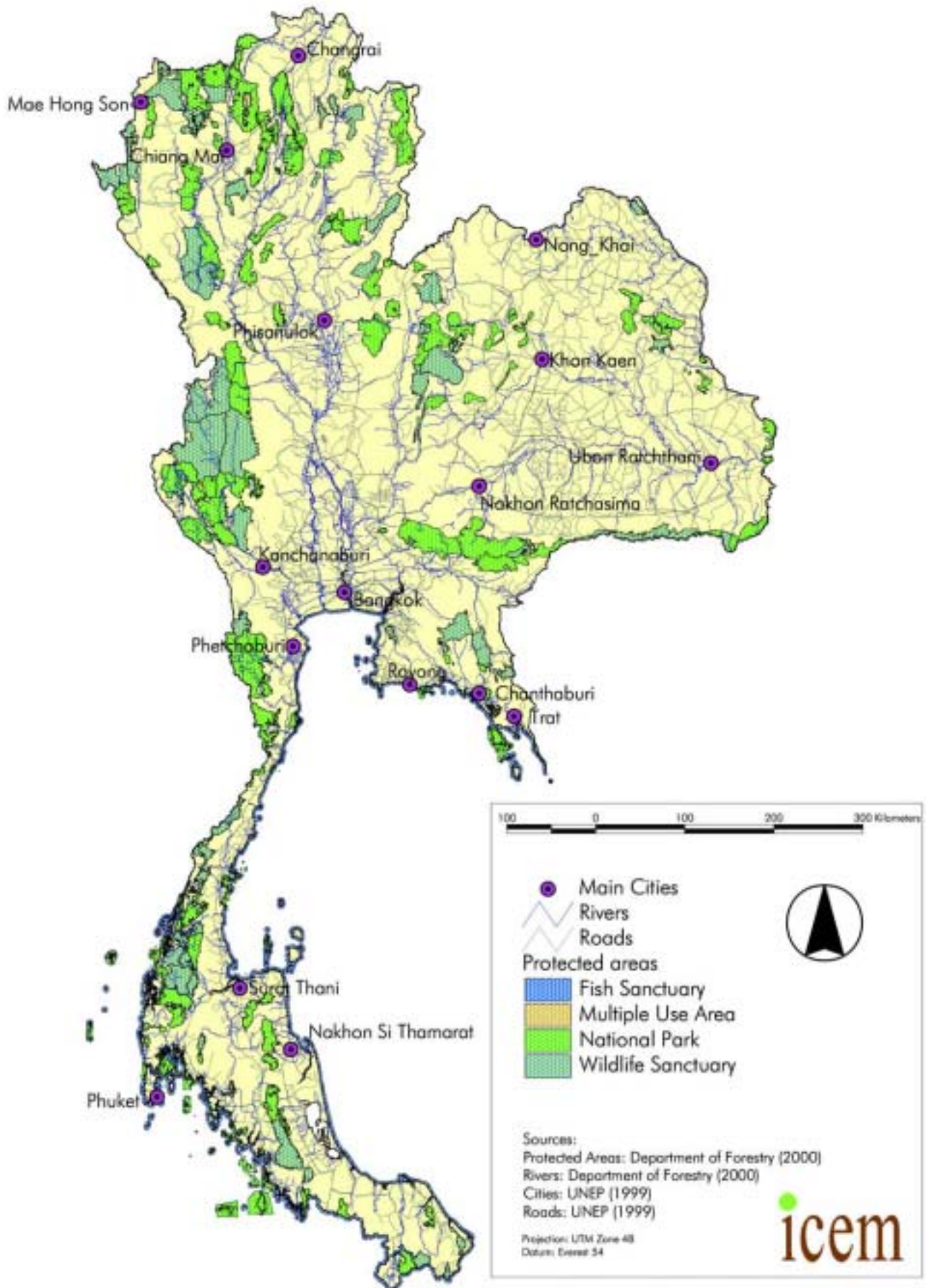
Thailand has invested in rural development and conservation programs reducing the economic pressures on protected areas. Foundations under Royal Patronage have played an important role. Increasing awareness of the importance of protecting watersheds and marine fisheries has greatly increased the number of communities actively engaged in conservation activities. Also, improvements in remote sensing have enabled annexation of regenerating and fertile forests into the protected area system.

Achievements:

- The total area and number of protected areas under legal protection has increased with plans to continue expansion of the national system over the next 4 years. Seventeen percent of the country is designated as protected area. Forest lands have been zoned and 25 percent of the country's land area designated for forest conservation
- Protected area management plans have been written and adopted for many conservation sites.
- A ban on logging and a fishing ban within 3 km of the coast have been enacted.
- There is greater recognition of the importance of wetland conservation. The first wetland areas have been formally incorporated into the national protected area estate.²²

²² In October 1994, a national seminar on wetlands was organised by the Office of Environmental Policy and Planning, Ministry of Science, Technology and Environment. This milestone event was catalytic in triggering interest in wetland conservation. On 13th September 1998 Thailand ratified the Ramsar Convention as the 110th Contracting Party, nominating Thale Noi Non-hunting Area as the country's first Ramsar site. Six further Ramsar sites were designated in July 2001.

Map 3. Thailand's protected area system



- The information base and capacity to apply scientific principles in development and conservation planning has improved markedly.

Challenges:

Despite formal gazettal and adoption of protected area management plans, the areas have continued to degrade. Intact ecosystems have diminished in size as well as ecological quality because of difficulties in implementing agreed management plans effectively (MRCS 1996; Hirsh 1998).

Recently, the policy of gazetting new protected areas has come under closer scrutiny for several reasons. First, management plans are not leading to improved protection. Second, many new areas being absorbed into the national protected area estate had been under the protection of local communities. Community action was responsible for their regeneration yet expropriation of the areas is alienating affected communities and discouraging their involvement in subsequent conservation efforts. Finally, questions are being raised regarding the scientific basis for locating expanded boundaries for newly established and existing protected areas.

Often, the decision to expand the area under protection is sound, based on assessment of the area required to sustain viable species populations. On the other hand, the scientific basis for decisions to expand or gazette new areas has not generally been made public. It should be possible to provide affected local populations with a sound scientific rationale for expansion by presenting GIS data showing, for example, wildlife population and breeding ground locations, migration routes, locations of important floristic communities and so on.

Procedures applied for boundary demarcation and area gazettal vary from site-to-site. In an increasing number of cases, local community participation is involved and several expansion proposals have been withdrawn because of community objections. Yet, centrally-driven and proscriptive procedures continue to create conflict. Application of strict conservation guidelines has tended to over-shadow long enforced indigenous management regulations which permit low-intensity sustainable resource use. The overriding emphasis in area expansion is on biodiversity conservation (and, to a lesser extent, carbon sequestration). Regenerated forests, settlements and cultivation sites are all being absorbed into areas re-zoned for strict protection.

4.2.3 Rehabilitation of protected area estate degraded by prior use

Past efforts to rehabilitate degraded areas have focused on reforestation with exotic tree species.²³ In recent years, the science of restoration ecology has seen significant advances (Box 6). In Thailand, considerably more is now known compared to several years ago regarding how to assist regeneration by reconstructing original species assemblages rather than replacing them with exotic species. This knowledge should be applied to restore ecological integrity to expand protected core zones and migration corridors, particularly where payoffs would be enhanced due to the location of contiguous transboundary conservation sites.

Achievements:

- Considerable knowledge has been gained from research and field experiments in natural and assisted regeneration of degraded forests, as well as marine and coastal areas.
- This knowledge is beginning to be applied at an increasing number of forest, marine and coastal biome sites.
- There is an increasing understanding of the need to zone sites for balanced multiple use. This will enable certain areas to be set aside for strict conservation, while others are appropriately designated for sustainable use.

²³ A notable exception is in mangrove forests where native species comprise the relatively small potential gene pool adapted to a very specific set of environmental parameters.

Challenges:

Greater emphasis on applying newly developed techniques to regenerate the ecological integrity of degraded sites would yield significant payoffs. There is a need to devote more attention to the question of how to rehabilitate degraded areas for the purpose of expanding critical protected area core zones. This might reduce the total area designated for strict protection, enabling intensive conservation efforts to be concentrated more effectively.

Box 6. Thailand's Reforestation campaign

In December 1992 Her Majesty Queen Sirikit expressed concern about deforestation and severe droughts in Thailand, and wished to initiate an extensive reforestation campaign. The National Forestry Policy Committee drafted a proposal, which was approved by the Royal Thai Government in February 1994. A target area was set of 5 million rai or 2 million acres during the period 1994-1996. Cabinet also approved the budget for the Royal Forest Department to produce seedlings.

In June 2002, figures were produced by the Royal Forest Department to summarise the success of the campaign. In protected areas a total of 5,517.20 sq. km were replanted, comprising 2,213.30 sq km planted by the private sector themselves; 116.66 sq. km planted by the Department with donated money from the private sector and a further 114.99 sq km donated in protected areas. The Department also enriched 268.25 sq km inside protected areas. A further 2,213.30 sq km of degraded forest land were regenerated. Outside protected areas a further 74,587 km of roadside were planted with trees and 1,403.45 sq km were planted in temple grounds.

*4.2.4 Sharing responsibility for planning and managing protected areas***Implications of government reform and decentralisation for protected area management**

During the past decade dramatic changes in governance have affected the way natural resources including protected areas are managed (Box 7). Decentralisation of decision-making and budget making authority is proceeding in response to the "people's" Constitution (1998) and the related Government Decentralization Act of 1999 (Box 8). Policies based on these two key pieces of legislation are evolving to enable a significantly restructured government to carry out its mandate. These policies are defining the specific mechanisms under which authority for planning and budgeting will be gradually devolved to the *Tambons* or sub districts. Article 46 of the Constitution requires that local people must be involved directly in, and assume substantial responsibility for sustainably managing and conserving their local natural resources. Along with a host of related constitutional guarantees, these changes will play a decisive role in determining how Thailand's rural resource systems and protected areas will be managed.

Governance reform in Thailand is a direct response to the increasing influence of the non-government community, which has begun to play a much more active role in determining the nation's development directions. While this influence had been growing during the 1980's, its real power became apparent in 1992 with the mass expression of public discontent leading to the overthrow of military rule and reinstallation of a civilian government. The need to replace the military-installed Constitution led to the drafting and adoption of a people's Constitution in which national reform and decentralisation processes are now enshrined.

Box 7. Collaborative management of protected areas

Various stakeholders have an interest in ensuring proper management of protected areas. They include government agencies and departments, as well as non-government conservation and development support organisations. The Doi Sam Muen Project in Chiang Mai Province is an often cited example of effective cooperation and collaboration among local villagers, NGO community organisers, academics and the Royal Forest Department in planning and managing protected areas. Similarly, the *Kaset Sanjorn* community organisation's collaboration with the international NGO, Save the Children, and the Regional Forest Department at Phai Sali, Nakhon Sawan, has resulted in the rehabilitation of over 2,000 hectares of degraded forest. The EU is supporting expansion of collaborative buffer zone management to the entire Western *Isaan* Forest Complex piloted by the Thailand Environment Institutes' project at Phu Kheio Wildlife Sanctuary, Chaiyaphum. The project is cooperating closely with the *Teen Phu Pattana* community organisation. The International Centre for Research in Agroforestry (ICRAF) has been working with the Royal Forest Department to develop systems for applying collaborative planning and management principles in northern watersheds. Feedback from time-span satellite imagery is used to monitor whether local communities are honouring collaborative multipurpose zoning agreements. The success of these projects demonstrates the potential of collaborative management approaches in the national protected areas system in Thailand.

The preparation of management plans appears to be a pivotal process in protected area management. During a review of protected area legislation in 21 countries worldwide, comprising six developed nations and 14 developing nations in Asia, all the developed nations established the management plan as a "legal working document" in their respective protected area legislation (Parr 2002). All these countries incorporated legal articles to describe methodologies to formulate, implement and review the management plans. A review of "Legal Measures for the Conservation of Natural Areas" by the Council of Europe further revealed that in Spain, Italy, the Czech Republic and Poland the protected area management plans took precedence over all other land-use plans (Klemm and Shine 1996).

Achievements:

- In Thailand about 100 management plans have been drafted for 100 protected areas. The drafting of management plans has been undertaken by the Land and Forest Resources Division of the Royal Forest Department, natural resource faculties within Kasetsart University and Mahidol University, the Ecological Research Division of the Thailand Institute for Science, Technology and Research (TISTR), and private companies.
- The role of community involvement in natural resource management has been particularly strengthened by the new Constitution. Specific articles make clear reference to the involvement of communities in natural resource management (Box 8).
- In August 2001, MOAC and the Royal Forest Department initiated the "Community Participation in National Park Management - Pilot Project". Six areas - Thaleban Marine National Park, Laem Son National Park, Chaloeam Rattanakosin National Park, Phu Pha Mun National Park, Obluang National Park, Doi Phu Kha National Park, were selected and site-level committees were established.
- Local discretion and decision making authority for local stakeholders has been legitimised through the formation of the Tambon Administrative Organisations.
- Informal arrangements at local level for sustainable use of buffer zone NTFPs have successfully leveraged local participation in core zone conservation and fire protection.
- Prior shortcomings involving poor inter-agency and inter-organisational collaboration are now acknowledged. The establishment of an inter-agency National Forest Policy Committee is a significant collaborative initiative.

Box 8. Relevant sections from the new constitution of the Kingdom of Thailand on local participation in natural resource management

Section 46. Persons so assembling as to be a traditional community shall have the right to conserve or restore their custom, local knowledge, arts or good culture of their community and of the nation and participate in the management, maintenance, preservation and exploitation of natural resources and the environment in a balanced fashion and persistently as provided by law.

Section 56. The right of a person to give to the State and communities participation in the preservation and exploitation of natural resources and biological diversity and in the protection, promotion and preservation of the quality of the environment for usual and consistent survival in the environment which is not hazardous to his or her health and sanitary condition, welfare or quality of life, shall be protected, as provided by law.

Section 79. The State shall promote and encourage public participation in the preservation, maintenance and balanced exploitation of natural resources and biological diversity and in the promotion, maintenance and protection of the quality of the environment in accordance with the persistent development principle as well as the control and elimination of pollution affecting public health, sanitary conditions, welfare and quality of life.

PA management plans and approaches in Thailand still remain fairly rigid, with little change having occurred during the past decade.²⁴ Plans continue to be based on conventional consultant-driven planning procedures and on conservation area planning models derived from the United States. These plans largely under-represent the significant social and economic impacts that PA management has on local populations. On-the-ground capacity to put the plans into practice is highly variable. Stipulated reporting systems focus on quantitative indicators. Little attention is given to problem analysis, or to learning from experience to derive recommendations for improvement.

PA management plans are often drawn without attention to on-the-ground realities in which local people depend on forest resources to supplement their livelihoods. Efforts to enforce associated rules provoke confrontations with local people, leading to a sense of injustice, and potentially, to even greater local disregard for conservation area policies and regulations. Collaborative planning for multipurpose zoning can defuse potentially confrontational situations and enable win-win arrangements in which local people are permitted to use resources sustainably in less sensitive ecological areas, cultivate valuable forest products on-farm, and participate actively in forest protection and regeneration. Such compromises can accomplish long term protection of core conservation zones.

Challenges:

- Government planning procedures continue to be driven by top down approaches, although Tambon Administrative Organizations are being given greater decision making authority and responsibility.
- Capacity building for TAOs, local communities and community leaders in participatory planning for sustainable resource management and conservation is vitally needed. Capacity building for local community organisations is essential if the vision of decentralised governance through the TAOs is to be realised.
- More site level committees must be established with their management role clarified. Site level management committees must be established at all nationally significant, protected areas. The composition and numbers of committee members must be reviewed regularly. The working relationship between this group and the management planning process must be clarified.

²⁴ The exception being extra-legal local agreements between protected area conservators and local populations, for example, regarding permission to harvest non-timber forest products from within protected area boundaries.

- Legal instruments to legitimise such activities are lacking, however, and existing laws are incompatible with the envisioned roles of local communities in PA management.
- Doubt remains in some circles regarding local community capacity to play a responsible role in PA management. More pilot projects are needed to enable learning-by-doing, and enhance confidence in community capacity.
- Monitoring and evaluation need to become more “process oriented” with results applied to forge appropriate plan and implementation enhancements. There is a need to move toward a more agile and “adaptive” PA management process.

Mobilising local community involvement in protected area management and planning

Experience indicates that direct or indirect economic incentives are a required to mobilise community involvement in conservation. A number of innovative watershed management projects including those supported by the Royal Project Foundation, bilateral donors and NGOs in conjunction with the Royal Forest Department, now demonstrate the effectiveness of integrated conservation and development approaches for watershed management. Community watershed protection agreements designed to maintain irrigation system integrity and careful community husbandry of protected areas to ensure sustainable production of non-timber forest products (NTFP) are common. A large number of “model villages” demonstrate traditional participation in community forest management to exceptionally high standards, particularly in critical watersheds of Northern Thailand.

Historically, local community participation in protected areas has been exceptionally poor. The situation has been particularly inhibited by the emphasis in the National Parks Act (1961) and the Wild Animals Reservation and Protection Act (1960) on strict protection of the nationally significant protected areas. Outside these areas, community involvement in forest management has been demonstrated in regions of the country, particularly Northern Thailand, where a tradition in community forestry has been maintained for centuries.

Sustainable coastal resource and fisheries management projects in the Gulf of Thailand and Andaman Sea have also begun to demonstrate potential for local fishing communities to contribute to integrated coastal and marine resource rehabilitation, sustainable management and conservation.

Achievements:

- Public environmental awareness throughout Thailand has increased markedly during the past decade, and public environmental organisations have become increasingly active. The Buddhist clergy have also become more active in conservation.
- Several innovative forest buffer zone and community-based coastal and marine management projects demonstrate progress toward the development of participatory resource management models involving local communities. These projects show that the “sense of ownership” provided to communities through direct involvement in project design and implementation helps to ensure their ongoing participation in PA conservation.
- The provision of economic incentives has been key to the success of these projects. The *Hak Muang Nan* Project is among a number of good examples. The lessons and human resource capacities built up during the implementation of these projects can be used to replicate similar positive results elsewhere.
- If successful, the ongoing government decentralisation process and intensive focus on Tambon Administrative Organizations as representatives of local people may help to alleviate shortcomings associated with lack of participatory processes for PA planning and management. PA planning could then be tailored to a range of local conditions.
- Informal local policy variances have enabled community-based NTFP management in exchange for commitments by communities to patrol PA boundaries and prevent as well as extinguish forest fires.

Despite considerable progress, the problem of “people vs. parks” is still widespread in Thailand and underscores a serious predicament stemming from the current legal mandate to exclude people from nationally-gazetted protected areas. Hundreds of thousands and possibly millions of rural people currently reside within the boundaries of designated conservation zones. Karen ethnic communities living in the World Heritage Site Thung Yai Naresuan Wildlife Sanctuary are world renowned for their centuries old sustainable forest and resource management systems. They highlight the dilemma of facing any effort to exclude people from protected areas. On a number of occasions during the past decade, such efforts have led to violent confrontations. A more selective and socially sensitive legal framework is needed to accommodate the situation. There is an urgent need to balance the right to livelihood among the rural poor, while enlisting the cooperation of local people in efforts to conserve the nation’s remaining critical protected area resources. A more inclusive protected area decision making and planning process is required.

Curricula at the national forestry school (Kasetsart University), do not currently include courses to develop facilitation skills which are necessary for staff to carry out more inclusive PA management planning process. Increasingly, foresters require a range of social and negotiating skills to serve as effective conservation planning facilitators. Assistance from professional rural facilitators to support forestry staff in conducting participatory planning and project management activities is going to be essential at first.

Challenges:

- The Thai Forestry Master Plan provided some useful policies for forging a new partnership between the PA authorities and local communities. Yet, the plan was never formally endorsed.
- Greater inter-departmental and inter-ministerial cooperation is needed to effectively integrate government support for protected area conservation and rural economic development.
- Tambon Administrative Organizations need outside assistance to better understand conservation and sustainable management issues, move toward more participatory forms of decision making, and become knowledgeable regarding approaches for reconciling local economic needs with protected area conservation goals.
- Formal and informal mechanisms as well as skills for engaging and carrying on a dialogue with rural communities are essential to tap the potential of these communities to contribute to PA conservation.
- There is a need build facilitation capacity for multi-stakeholder participatory conservation and development planning. This is a relatively new but necessary skill for forest managers and should be introduced to the curriculum at the national forestry college. Such skills are not well learned without practice, implying the need to integrate practical experience into forestry training, both academic and on-the-job.

Conservation and sustainable livelihoods for local communities

To mobilise the involvement of local people in conserving and rehabilitating protected areas, attendant efforts are needed to enable them to improve their living standards based on more efficient farm or non-farm production.

Local people’s interest in protected areas is generally economic. Environmental awareness raising and prohibitions on resource use have been insufficient at reforming local patterns of resource use. Economic dependence on products from within protected areas must either be made sustainable or substituted with economic alternatives. Such alternatives include assistance with the cultivation of NTFPs on farm, alternative sustainable agriculture and market linkages, ecotourism and other initiatives.

Compromises are required in which local communities are supporting in developing and implementing sustainable management plans for products located within PAs, in exchange for agreements to adhere to sustainable use commitments and to join forces with government to protect local areas from unsustainable use and incursion by outsiders.

In 1993, a national inventory conducted by the Royal Forest Department documented the activities of more than 12,000 rural communities groups protecting forest areas of up to 40 km² for a variety of religious, ecological, and economic purposes (Poffenberger and Mcgean 1993). In 2001, Royal Forest Department research found that 462,450 community groups were resident in a total forest area of 16,000 km² and actively engaged in their management (Makarabhirom 2002).

Achievements:

- There is now acceptance of the idea of community involvement in forest management. The concept and practice of community forestry have begun to be introduced in areas adjacent to protected forests and watersheds.
- Previously, development and conservation projects tended to be distinct initiatives. The two issues have now been drawn together in a more integrated conceptual as well as action framework. For example, construction of multiple check dams by the Royal Forest Department's Watershed Management Division has increased dry season water flows improving agricultural productivity and leading to a reduction of forest encroachment.
- The draft Community Forestry Law currently before parliament envisions a role for local people in sustainable management of protected area resources.
- Local communities have been empowered in some cases to play an active role in assisting government law enforcement. This has been accomplished by providing local people a stronger voice in PA management, and obtaining their support by conceding rights to benefit from sustainable resource use in PA buffer zones.
- The Royally-sponsored development projects have become well known for balancing the needs of local economic development and responsible environmental husbandry. H.R.H. the Queen's Forests Love Water Project has promoted the idea that forests and people can coexist.

However, PA management laws and policies in Thailand do not facilitate agreements in which sustainable use of PA resources can be used to leverage local involvement in conservation. The importance of integrating conservation and development objectives, while much better understood today than a decade ago, remains poorly supported in terms of coordination among government agencies. Environmental degradation and the loss of biodiversity conservation areas to competing alternative uses have been widespread. However, a great deal has been learned regarding how to reconcile the apparent conflicts between conservation and development. This know-how needs to be consolidated, providing a basis for comprehensive integrated strategies which apply state-of-the-art practices to improve both conservation and development results.

Challenges:

- Laws and policies for managing the interface between local populations and adjacent protected areas continue to focus on prohibition and exclusion. There is a need for a better mix of economic development incentives for conservation, and strict prohibition based on enforcement of mutually satisfactory agreements. NTFP management in PAs remains strictly illegal, but should be permitted as an incentive leveraging community commitments to help protect conservation core zones. Rural indebtedness leading to loss of land continues to be a cause of encroachment on PAs.
- The rapid growth of the PA system over the last decade has tended to polarise opinion, with conservation interests overriding traditional management practices. While the designation of forested areas has proved relatively straightforward, the management strategies have proven elusive. There still is no legal framework for the establishment of local level committees, no management plans being prepared using a transparent, participatory process, and most significantly, no review being planned of the protected area system to identify the truly important areas for biodiversity conservation

Zoning of protected areas for conservation and use

Protected areas often encompass large areas with a mosaic of habitats. Their conservation values vary. The distinguishing features of PAs relate to their conservation and biodiversity values, their degree of disturbance and accessibility, and to their compatibility with certain development actions. Recognition of these spatially differing values by both PA managers and other stakeholders is reflected in zoning schemes, which in turn are highlighted in PA management plans.

There is now an increasing recognition that PAs can serve multiple uses including recreation, tourism, and livelihood products for local communities through sustainable management. A number of projects including, for example, the artisanal fisher's project in Pattani Bay, and Royally-supported conservation and development projects throughout the country, illustrate the viability of applying multiple use PA zoning approaches. The Ministry of Science, Technology and Environment is applying this principle in its pilot program on integrated river basin management. Tambon Administrative Organisations are now constitutionally empowered to participate in local planning for natural resource management and conservation. This creates significant potential for enlisting the active involvement of local populations in the process of multiple use protected area zoning and management.

Achievements:

- There is new legal legitimacy for multiple use PA zoning and management in several articles of Thailand's new constitution. TAOs are expected to play a key role in this process.
- Experience from pilot projects in forest, coastal and marine areas has contributed to experience in participatory boundary demarcation and multiple use PA zoning providing demonstration and lessons. Past and ongoing projects have brought together local community representatives, PA personnel and other key stakeholders to design integrated sustainable management and conservation systems.

CARE Thailand's activities in Mae Chaem, Chiang Mai, in conjunction with local communities, the Royal Forest Department, Social Science Faculty of Chiang Mai University, and the International Centre for Research in Agroforestry are exemplary. Community involvement in forest boundary demarcation, multiple use and conservation zoning at Mae Wong National Park in Nakhon Sawan has alleviated tensions between local people and forestry officials. Similar results have been achieved in rehabilitating degraded fisheries in Pattani Bay based on collaborative management agreements with small-scale fishermen and other key stakeholders.

Local communities can be mobilised to help protect conservation core zones from damage either by local people or outsiders. A sense of local ownership and cooperation needs to be instilled, however. A stronger focus on critical 'core zone' protection would enable conservation area management to become more rigorous and effective. Greater detail is required regarding the location of rare and endangered species, breeding grounds, migration corridors, and in general, a more sensitive and detailed ecosystem typology. Mapping these characteristics enables improved understanding of areas where low intensity use by local communities would not compromise conservation objectives.

Inside protected areas the development of zoning schemes has been hindered by a number of factors. These include protected area legislation that prohibits community participation in PA management, a disinterest in drafting PA policy statements for each of the protected area categories and a lack of appreciation of the value of management plans. As a result, zoning in protected areas has been very largely theoretical. Outside protected areas, recognition of buffer zones has been similarly slow. Only at Huai Kha Kaeng have government agencies formally recognised the existence of community development zone.

Challenges:

- The national land classification system needs to be reviewed and revised to allow for appropriate multiple use and conservation zoning.
- More surveys are needed to provide an ecological basis for appropriate boundary demarcations of critical core zones. Most local people do not know where nearby protected area boundaries lie.
- Little is known about the limits of resource use which ensure it is sustainable. There is a need for enhanced knowledge regarding what constitutes sustainable use for various resources and ecosystems. Since these limits often vary from case-to-case, there is a need for extensive on site research. This kind of research will nearly always benefit from survey and application of local technical knowledge.

4.3 Legal framework for environment and protected areas

4.3.1 *Reforestation Act (1992)*

Following the logging ban in Thailand in 1989, attention was firmly focused on how Thailand would get adequate supplies of raw wood materials required for domestic consumption as reflected in a flurry of legislation, policies and cabinet resolutions made in the immediate years after the ban. Perhaps foremost among this legislation is the Reforestation Act 1992, which supports reforestation of restricted tree species such as teak and *dipterocarps* by the private sector on private land. The Act describes the types of land on which forest plantations may be registered and established.

4.3.2 *Draft Community Forestry Bill*

Some 65 percent of the population are rural farmers dependent on agriculture, with most relying on forests resources to supplement their livelihoods. Community forests are therefore an increasing focus of PA managers stimulated by a decade of debate associated with efforts to enact a Community Forestry Law. The Royal Forest Department's earlier interpretation of community forestry focused mainly on community wood lot development. A much broader meaning has evolved including the involvement of rural communities in rehabilitation, sustainable management and conservation of local forest resources. Similar approaches have begun to be applied to the sustainable management and conservation of nationally important wetlands, coastal and marine reserves.

Tensions between rural communities and government agencies responsible for protecting natural resources reflect the divergence between practices associated with strict conservation and sustainable use. This dilemma is a marked feature of the recent protected area management debate in Thailand. It has led to demands for greater public participation, representation and decision making power, rights which are strongly defended in the national Constitution.

Over the years, government has made many concessions in negotiations concerning the Community Forestry Bill, but continues to take seriously its ongoing responsibility to protect what remains of Thailand's diminished protected areas. At the same time, there is increasing support for the contention that rural people have the right and the capability to sustainably manage and conserve local natural resources – and also that people's participation is essential to protecting natural resources from over exploitation by powerful economic interests.

4.3.3 *Draft Protected Area Legislation*

WWF-Thailand has drafted legislation for nationally significant protected areas in Thailand based upon a review of protected area legislation in 21 countries, including 14 countries in Asia. A review group comprising protected area managers, lawyers and protected area specialists from the Faculty of Forestry, Kasetsart University is reviewing and revision the draft for formal submission to government.

4.4 Institutional framework for protected areas

4.4.1 *Restructuring of Royal Forest Department*

In 1992, the Royal Forest Department was completely reorganised with all Divisions being allocated to one of five offices. One of the offices was named the Office of Natural Resources Conservation, comprising the National Parks Division, the Marine Parks Division, the Wildlife Conservation Division, the Watershed Management Division, the Land and Forest Resource Division and the Engineering Division. The Reforestation Office was also established at this time. Of note, the Wildlife Research Division was partitioned off under the Technical Office.

4.4.2 *Formation of a Ministry of Environment²⁵*

In late 2002, the public sector reform process led to the establishment of the Ministry of Natural Resources and Environment (MONRE), with the Department of National Parks, Wildlife and Plant Conservation (DONP) given the mandate to manage the national PA system, replacing the Royal Forest Department. The main institutional stakeholders for management of the PA's are now:

- **The DONP.** At the national level a number of committees including a National Parks Committee and a Wildlife Conservation Committee have been established to define policies related to protected area management.
- **The Local Government Authorities located within or immediately around PAs.** This includes the elected councils under the Tambon Administrative Organisations, who are mandated to undertake local environmental planning and management, as well as developing local infrastructure and spatial planning.
- **Local communities within and adjacent to PAs.** Within communities, the Village Headman structure (*Phu Yai Baan*) plays a significant role in village level decision-making, and links upwards to the District Authorities. Some community members are organised into Community Based Organisations. CBOs have grown considerably in the past decade and today constitute relatively influential stakeholders in and around many protected areas. There is a significant difference in traditional leadership structures among various ethnic groups in the protected areas, but in many PA communities the traditional leadership plays an important role.
- **Private sector stakeholders,** who are currently or potentially engaged in resource use in or surrounding the PAs. They range from fully legalised private tour operators in the National Parks to commercial fishermen around (and sometimes inside) Marine National Parks.
- **A variety of civil society organisations are active in PAs.** They are regarded as direct stakeholders in their function as supporters of CBOs and range from national to international NGO's and from conservation to development NGOs.

DONP consists of 13 divisions/offices at national level and 21 regional offices. The structure of DONP is still new and is likely to undergo further changes and adjustments during 2003. Among the key offices for PA management are: the National Parks Office, which is the office for policy and planning related to National Parks; the Wildlife Conservation Office, which is in charge of policy and planning related to wildlife sanctuaries and the Watershed Conservation and Management Office, responsible for policy and planning related to the different classes of watershed forest. The Training Division is overall in charge of training, but training is carried out by separate offices and divisions. A central GIS capacity is found in the Protected Areas Management and Restoration Office, but a number of other offices and divisions have their own GIS capacity. The structure of DONP reflects the types of PAs managed under the Department. The Director General of DONP has assigned a Deputy Director General to be in charge of a new office – the Joint Management Support Office, to oversee the implementation of joint management approaches to PAs.

²⁵ This section was updated drawing from Danida 2002 and 2003 mission and associated documentation to design a support program for protected areas in Thailand (Danida 2003).

Within DONP there are ongoing efforts to take an ecosystem approach to PA management, where PAs adjacent to or close to each other are managed as one forest complex. The institutional structure for management of forest complexes is still not clear and no permanent decision has so far been taken to accommodate it. The ecosystems approach does not rest easily with the present PA system consisting of smaller individually managed PAs. The Secretariat charged with piloting ecosystem management approaches in the Western Forest Complex (the WEFCOM Secretariat) falls under the Policy and Information Office, but was formerly under the Wildlife Conservation Office.

In line with the government's decentralisation policy, the DONP regional offices are now more directly involved with implementing functions, supervision and backstopping for the individual protected areas. All DONP central offices and divisions are reflected at the regional level. At the individual PA site level, PAs will typically be organised into a headquarters and a number of sub-stations, depending on the budget and size of the PA in question. The main officer in charge is the PA Superintendent, seconded by one or more Deputy Superintendents, who in turn oversee the work of Park Rangers and various logistical staff. PA staff is made up of permanent staff (officers and rangers) and a larger contingent of temporary staff, some of which have had positions for many years. Temporary staff can sometimes be employed on a long-term basis.

At the PA site level, the ratio of staffing is typically 1-3 government officials, 5-20 rangers and 50-100 temporary staff. Due to the increasing number of PAs, actual numbers of allocated staff for each PA have tended to decrease in the individual PAs. Some 10 percent of DONP staff hold BSc or MSc degrees, while another 10 percent hold forestry school certificates. Most Superintendents hold the latter as a minimum.

The following government agencies also have direct responsibility relating to protected areas planning and management:

- Ministry of Agriculture and Cooperatives;
- Office of the Prime Minister;
- Ministry of Tourism;
- Ministry of Science, Technology and Environment;
- Ministry of Foreign Affairs;
- Ministry of Interior.

Other sectors benefiting or effecting protected area values include:

- Ministry of Industry;
- Ministry of Transport;
- Ministry of Health;
- Ministry of Education;
- Ministry of University Affairs;
- Ministry of Defence.

4.5 Mechanisms to reconcile conservation with economic development plans

During the past decade, there has been a considerable increase in the level of national awareness regarding the direct interrelationships between protected area conservation, and the support that it provides for sustainable economic development. This acknowledgement has contributed to a commitment to expand the area of Thailand's protected area system, strengthen the environmental impact assessment process for development projects, and, since 1997, to include protected area management as an integral component of Thailand's National 5-year Economic and Social Development Plan. Thailand's National Energy Strategy contains a significant conservation component which, in part, aims to avoid the need to develop hydropower projects that would further diminish the kingdom's remaining forest area. Coastal zone and marine management plans and programs are increasingly aimed to protect critical ecosystems and thereby rehabilitate the nation's declining marine fisheries.

Stronger recognition of the interrelationships between conservation and development has led to the restructuring of government ministries aimed at enabling improved coordination in natural resource planning, decision making and management for sustainable economic development.

Achievement:

Sectors are becoming increasingly aware of the importance of protected areas in their development strategies. In the long-term, the establishing of strong working links and a sense of responsibility within sectors for protected areas is essential to maintaining and enhancing their contribution to development. This acknowledgement of responsibility brings with it a budgetary commitment to pay for the benefits provided by protected areas and to ensure that sector activities do not restrict or diminish those values. In Thailand, the links between protected areas and the sectors have largely clarified, through a steady and increasing interaction over the past four decades. More sectors are becoming involved in exploring those relationships and in understanding the role protected areas play in meeting their development mandates.

4.5.1 Inter-sectoral collaboration and conflict resolution

Many sectors now have responsibilities relating to the use and conservation of protected areas for development. The government has introduced a range of institutional mechanisms, ranging from the National Environment Board to the National Wetlands Committee, to promote collaboration among sectors in meeting their mandates. This becomes critical at the local level when the conflict between resource users and between development options is most evident. Often, the activities of key sectors are not undertaken with a strategy for optimising and maintaining PA benefits. Also local people and powerful individuals occasionally misuse protected areas. Indeed, all areas suffer some level of exploitation. These conflicts can only be resolved through close and concerted inter-sectoral action.

4.5.2 Forestry

Achievement:

Extensive reforestation initiatives outside protected areas. As a consequence of the Reforestation Act of 1992, an extensive reforestation campaign was initiated during the period 1994-1996. A target area was set of 5 million rai. In June 2002, figures were produced by the Royal Forest Department to summarise the success of the campaign. In protected areas a total of 5,517.20 sq km (3,448,253 rai) were replanted.

Challenge:

The importance of conserving waterways and corridors in rural landscapes. Waterways have historically been areas of high concentrations of human settlement and highly degraded habitats and need special rehabilitation attention. Appropriate species and planting regimes should be selected for long-term economic and conservation benefits. The attention given to forest complexes focuses attention on the possibilities of establishing corridors between reserves.

4.5.3 Fisheries

Challenges:

Sustaining shrimp farm aquaculture. Many mangrove areas have been converted to shrimp aquaculture production, particularly prior to the introduction of zoning schemes. The full extent of their ecological and economic impacts has never been clarified. The zoning scheme should be better enforced. Other sustainable methods of aquaculture should be investigated and promoted.

Challenge:

Many mangrove forests are dominated by unnatural densities of *Rhizophora*. When charcoal production in mangroves was at its peak, the silvicultural system gave a very strong bias to the regeneration of the ecosystem using *Rhizophora* seedlings. This stimulated the growth of monocultures of *Rhizophora apiculata*. The impacts of these monoculture stands on the food web within mangroves have never been assessed with regard to fisheries production.

4.5.4 *Agriculture***Achievements:**

The very significant contribution by protected areas to the supply and regulation of water for agriculture is recognised. Populations have expanded in the last four decades and brought agricultural activities to the edge of most protected areas, ranging from subsistence farming to commercial operations. Every protected area in the country is contributing as a source of clean water to this agriculture production either directly, through streams and rivers, as well as irrigation systems, or indirectly through their influence on local climate. Farmers and commercial operators are the first to acknowledge this contribution, although it is treated as a free service.

Participatory demarcation of forest boundaries. The Royal Forest Department has initiated an extensive boundary demarcation project with support from the Asian Development Bank. By using a participatory approach, this initiative should reduce boundary conflicts with rural communities.

Challenges:

Encroachment into protected areas. Encroachment and illegal selective logging continues in many rural areas in Thailand

Fire impacts through agricultural activities. Fire continues to be a major threat to the integrity of natural forest ecosystems, particularly in regions with prolonged seasonal changes. The regularity with which fire breaks out - almost annually in some reserves - affects ecosystem structure. Fire-sensitive evergreen forests and mixed deciduous forests are very gradually converted to fire resistant dry dipterocarp forests. The biomass of dry dipterocarp forest or mixed deciduous forest is markedly lower, resulting in a diminished watershed capacity of these forest ecosystems. Fire-induced bamboo forests have also expanded.

4.5.5 *Tourism***Achievements:**

Thailand is a major international tourism destination, with nature a key attraction. The number of tourists coming to Thailand has increased steadily from 1.2 million in 1977 to 7.44 million in 1996. By 1996, the collective expenditures of international tourists to Thailand increased to US \$ 11.25 billion, becoming the country's primary source of foreign exchange.

Visits to Thai national parks are substantial. Visits to Thai national parks increased approximately 35 percent between 1995 and 1999, from 11.5 million to 15.5 million persons. Ecotourism has significant profit potential since tourists in natural areas are often prepared to pay high prices for modest accommodation, keeping capital investment and infrastructure requirements low. Thailand, with its diverse natural beauty and extensive PA system is an ideal ecotourism destination. Ecotourism in Thailand is the fastest growing tourism subsector with an estimated annual growth rate of 10 to 15 percent over the past few years. The Tourism Authority of Thailand has designated ecotourism as a core feature of national tourism development policy.

Challenges:

Establishing a competent management committee for protected areas. The newly established National Parks Committee should include representation from the Tourism Authority of Thailand, invited experts in PA management as well as representatives from national conservation non-government organisations. This body should ensure professional monitoring and advice for protected areas, particularly the content of protected area policy statements, management plans and the role and functions of site level management committees.

Effective controls on tourism activities required, with management plans at its core. Promoting tourism in ecologically and socially sensitive areas without effective controls is not an appropriate strategy for sustainable ecotourism. Giving the PA management plans a legal backing, and ensuring that the management planning process leads to a well-balanced document outlining activities and budget lines will greatly assist wise developments relating to tourism in protected areas.

Increasing local participation in tourism related activities in parks. A wide range of tourism activities could be allocated to local communities through well-supervised concessions. This requires transparency in listing the tourism activities available for designating as concessions; the incorporation of concessions into management plans; clearly describing the procurement process; the approval mechanism as well as the termination mechanism. Tight monitoring by the National Parks Committee as well as the site level management committees is essential to ensure beneficial developments.

4.5.6 *Water management*

Achievement:

Critical watershed areas have been incorporated into the national protected area system. The protected area system has grown substantially and now incorporates most nationally important watersheds.

Challenges:

Community participation is vital for forest protection. Community participation must be formally endorsed in the management of watershed areas. Just as site level management committees are being established in the national parks, watershed management committees should be established to resolve issues between local communities and government agencies for maintaining the sustainable integrity of watershed areas.

Thailand may face critical water shortages. Due to watershed and wetlands destruction, as well as agricultural and industrial pollution, the quantity and quality of water resources in Thailand have been deteriorating. In coming decades, Thailand will face serious water shortages, due to projected increasing water demand, and if run-off and storage capacity remain at their current level.

4.5.7 *Energy and industry*

Achievement:

Diversified energy resources with much reduced reliance on fuelwood. A declining number of villagers depend upon forests for fuelwood, with a clear switch of consumers to natural gas. Thailand's domestic energy resources include small oil fields, large lignite deposits, natural gas in the Gulf of Thailand and hydropower. The energy sector is undergoing a period of restructuring and privatisation. Thailand produces only about 20 percent of its energy requirements from domestic fossil fuels and hydropower.

Challenges:

Controlling negative impacts of energy consumption on PAs of neighbouring countries. Thailand prohibited the Nam Choan hydropower scheme in its own Thung Yai Naresuan Wildlife Sanctuary because of potential negative effects on biodiversity. Thailand has international responsibilities for ensuring its power consumption does not degrade protected areas in neighbouring countries. Thailand imports electricity from the Nam Leuk and Nam Ngum hydropower schemes of the Lao Peoples Democratic Republic. It will also import electricity from the Nam Theun II Hydropower scheme, located inside the Nakai Nam Theun National Biodiversity Conservation Area. This site is of international biodiversity importance.

Ensuring sufficient energy supply while protecting the environment. The national energy strategy and conservation program aims to reduce the need for constructing hydropower projects that would further diminish Thailand's remaining forest estate. Project scrutiny during the EIA process is becoming more rigorous and EIA implementation skills have improved steadily so that the likelihood of economic development projects impacting negatively on protected areas has been reduced. Yet, Thailand's energy demand is increasing concurrent with its ongoing economic development. Regional planning and environmental assessment practices need to be strengthened to minimise negative environmental impacts. This includes public consultation on proposed energy developments that would have an impact on natural resources and livelihoods.

4.5.8 *Transport*

Roads and transport play a critical role in the attainment of higher living standards. While roads through protected areas can facilitate efficient transport, they can also place critical natural resource systems in jeopardy by opening access to unsustainable and illegal exploitation.

Achievement:

Sensitivity to protected areas. Thailand has begun to take careful consideration of the potential negative impacts of road construction on protected areas. Plans to construct a road crossing three protected areas in lower northern Thailand, namely Mae Wong National Park, Khong Lan National Park and Umphang Wildlife Sanctuary, were rejected because of the potential negative impacts in the critical buffer zone area of the Huay Kha Khaeng-Thung Yai Naresuan World Heritage Site.

4.6 Financing for nature conservation and decentralisation

New funding opportunities are emerging through donor interest to support the establishment of effective decentralised governance systems. Earlier in the decade, many donors began withdrawing support to conservation/ sustainable resource management in Thailand because the nation attained newly industrialised country (NIC) status. Thailand had become capable of assuming financial responsibility for many of its own programs, even though the Asian financial crisis led to significant government funding cutbacks. Movement in Thailand toward decentralised governance and involvement by civil society in sustainable development and conservation has opened new windows of opportunity under revised bilateral assistance priorities. Many current aid programs formulated under the themes of "good governance" and "decentralisation" can be tapped to support capacity building and involvement by rural communities and civil society in sustainable resource management and protected area conservation.

Achievement:

Proposed conservation initiatives are being reformulated in the context of good governance with a focus on mobilising civil society for protected area conservation and sustainable use. While significant opportunities exist to tap new international funding mechanisms supporting decentralised protected area management, the building of a conceptual framework that serves as an underpinning for potential proposal development is still in its early stages. However, Thailand's government reform and decentralisa-

tion legislation are highly compatible with current donor criteria which should facilitate this building process. Further refinements of policies supporting the new decentralisation legislation are required to facilitate the PA management decentralisation process. Greater knowledge regarding effective methods and approaches for implementing a decentralised PA management strategy successfully are also required. Public organisations are now beginning to appreciate the comparative advantages which improved cooperation and collaboration in PA management would offer. At the same time, government remains a somewhat reluctant partner. While progress is being made, it will take strong political commitment before authority and capacities are sufficiently devolved to facilitate and enable broader public participation in protected area management and to convince donors to invest in the process.

Challenges:

- Constitutional guarantees of substantive local involvement in natural resource management need to be implemented on a larger scale to be more effective.
- Understanding of the conceptual underpinnings as well as practical linkages between the mobilisation of civil society for conservation action, good governance, and sustainable resource management need to be more fully developed.

4.7 Conclusions

During the past decade, Thailand has made new commitments and significant progress toward achieving a balance between sustainable economic development and protected area management. New legislation has been enacted that contributes significantly to reconciling the objectives of improved conservation management and robust economic development. Thailand's National Constitution, Government Reform Act and Decentralization Acts all incorporate provision for a significantly expanded role for communities in managing natural resources

Yet, programs putting into practice the legislative reforms have been slower in coming to fruition. Questions remain about the ability of some rural communities to take effective responsibility for managing the nation's protected area estate. Thailand's Senate, for example, recently struck from the long pending Community Forestry Bill a key provision legitimising the sustainable use and conservation of natural resources by local communities in National Parks and Wildlife Sanctuaries, despite stringent compliance regulations.

While responsibility for natural resource and protected area management have long been shared by the government and local communities, top-down approaches applied for area demarcation, monitoring, regulation and enforcement continue to predominate. At the same time, recognition is increasing of the need to improve protected area management by involving local communities and NGOs.

Given Thailand's Newly Industrialising Country status, most donors have left Thailand to assume financial responsibility for implementing protected area management. New opportunities are emerging, however, to explore funding alternatives which capitalise on donor support for the development of good governance, decentralisation and the strengthening of non government institutions. As with most significant opportunities, there are also significant risks. A great deal of progress has been made during the past decade, while now, a host of new challenges have emerged which require attention.

4.8 References and further reading

- Aquino, Karen. 1997. *Forest farmers and environmental conflict in northern Thailand*. Social Forestry Newsletter #16, Fall 1997.
- Brackman, Lydia. 2000. *Effective facilitation: Why is it so rare?* Asia-Pacific Community Forestry Newsletter 13/2: 2-4.
- Buergin, Reiner. 2000. *Hilltribes and forests. Minority policies and resource conflicts in Thailand*. SEFUT working paper No. 7. Albert-Ludwigs-Universitat, Freiburg, Germany.
- Chettamart, Surachet. 2002. *Experience with coastal and marine protected area planning and management in Thailand*. Unpublished PAD Review Background Paper, ICEM, Bangkok, Thailand.
- Clarke, J.E. 2001. *Biodiversity and protected areas*. Regional report. ADB RETA 5771. Poverty reduction and environmental management in remote greater Mekong subregion watersheds (Phase I). Asian Development Bank. Manila,
- DANIDA. March 2003, *Thai-Danish Country Programme for Co-operation in Environment and Sustainable Development, Sub-component on Joint Management of Protected Areas*, Draft Sub-component description, Danish Ministry of Foreign Affairs, Thailand.
- FAO RAP. 2002. *Experience regarding the effectiveness of logging bans in protecting against deforestation*. Proceedings of a Regional Conference. FAO Regional Office for Asia and the Pacific, Bangkok.
- Geoanalytics. 2001. *Thailand's protected areas*. www.geoanalytics.com/bims/th.htm
- Hongthong, Pennapa. 2001. *Official admits forest dwellers ignored*. The Nation, Monday, 23 July 2001. P. 6A.
- Hirsch, Philip. 1998. *Community forestry revisited: Messages from the periphery*. In: Victor, M., C. Lang and J. Bornemeier (Eds.) *Community forestry at a crossroads: Reflections and future directions in the development of community forestry*. Proceedings of an international seminar held in Bangkok, Thailand. 17-19 July 1997. RECOFTC Report No.16. Regional Community Forestry Training Center. Bangkok, Thailand.
- Jamarik, Saneh, Yos Santsombat, Bawornsak Uwanoo, Jaroen Khanphiraphap and Phaisit Phanichakul. 1994. *Community forestry in Thailand: Pathways for development*. The Local Development Institute. Bangkok (In Thai, 3 volumes).
- Jantakad, Prasong and Stephen Carson. 1998. *Community-based natural resource management: From villages to an inter-village network: A case study from Pang Ma Pha District, Mae Hong Son Province, Northern Thailand*. In: Proceedings of an international workshop on Community-based Resource Management. 10-14 May 1998. The World Bank. Washington, D.C.
- Kanwanich, Supradit. 2001. *Death of a game warden*. Bangkok Post Perspective: Sunday, 22 July 2001, page 2
- Kaiyourawong, Sayamol and Sonja Brodt. 2000. *Networks: Giving the people a voice in forest conservation planning*. FAO-SIDA Forest, Trees and People Newsletter No. 42: pp. 69-75.
- Kasetsart University. 1987. *Assessment of National Parks, Wildlife Sanctuaries and other Preserves Development in Thailand*. Prepared by the Faculty of Forestry, Kasetsart University in collaboration with the Royal Forest Department and the Office of the National Environment Board, supported by USAID, Bangkok, Thailand.

- Klemm and Shine. 1996. *Legal Measures for the Conservation of Natural Areas*. Council of Europe.
- Lekagul, B. and J.A. McNeely 1988. (Second Edition). *Mammals of Thailand*, Bangkok, Thailand
- Makarabhirom, Pearmsak. 2000. *The evolution of the policy making process: Will there ever be a community forestry bill? Asia-Pacific Community Forestry Newsletter* 13/2: 58-62.
- MRCS. 1996. *Mekong River diagnostic study*. Mekong River Commission Secretariat, Phnom Penh, Cambodia.
- Natural Resources and Biodiversity Institute. 2001. *Forest resources, water resources, coastal resources, soil and land use in Thailand*. NAREBI. Bangkok.
- Nontharit, Wut. 2001. *Groups urge action after five deaths: Disputes should go to national panel*. Bangkok Post. Sunday, 22 July 2001. Page 2.
- Nootong, Tawee. 2000. *Protected area management in Thailand*. In: WCPA. Proceedings of the 2nd Southeast Asia Regional Forum held at Pakse, Lao People's Democratic Republic, 6-11 December 1999. pp. 84-88.
- OEPP (Office of Environmental Policy and Planning). 2000. *Policy and prospective plan for enhancement and conservation of national environmental quality*. OEPP. Bangkok.
- Parr, J. 1996. *Evaluating Conservation Areas in Thailand*. Tigerpaper. Vol.23. No.3. 4 pp.
- Parr, J. 2002. *Protected Area Legislation in Asia: Lessons on Strengthening Management from around the World*. Tigerpaper, Vol. 29. No.3. 4 pp.
- Round, P.D. 1988. *Resident Forest Birds in Thailand, their Status and Conservation*. International Council for Bird Preservation, Monograph No.2. Cambridge, U.K. pp 221.
- Royal Forest Department. 1993. *Thai Forestry Master Plan*. Royal Forest Department, Ministry of Agriculture and Cooperatives, Bangkok, Thailand.
- Royal Forest Department. 1999. *Status of protected areas in the Kingdom of Thailand*. Bangkok, Thailand.
- Royal Thai Government. 1998. *The national Constitution of the Kingdom of Thailand*. RTG Publishing House. Bangkok
- SEARCA. 1999. *Watershed in Thailand: Status, issues and prospects. Country review of literature No.1*. In: Adapting and transferring lessons learned from Manupali Watershed to other critical watersheds in Southeast Asia (Year 1). SEARCA, Los Banos, Philippines.
- Srimongkonthip, Somjai. 2000. *Building the capacity of watershed networks to resolve natural resource conflicts: Field experiences from the Care-Thailand project*. Asia-Pacific Community Forestry Newsletter 13/2: 46-50.
- UNEP, WCMC and UNESCO. 2000. *Protected areas programme*, World Heritage Series: Thailand. www.wcmc.org/protected_areas/data/wh/thungyai.html
- Vandergeest, Peter. 1996. *Property rights in protected areas: Obstacles to community involvement as a solution in Thailand*. Environmental Conservation.
- World Commission on Protected Areas. 2000. *Thailand country profile: Status of protected area program*. In: WCPA. Proceedings of the 2nd Southeast Asia Regional Forum held at Pakse, Lao People's Democratic Republic, 6-11 December 1999.