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## **Exploratory co-management interventions in Kuiburi National Park, Central Thailand, including human-elephant conflict mitigation**

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**Abstract:** Co-management is a developing field of protected area management. Increasingly, the practice is to involve local communities and other stakeholders in protected area planning and management. In many countries, management boards, co-management structures and other participatory mechanisms are being created. This paper reports on promoting co-management involving participatory management planning at Kuiburi National Park, Central Thailand, through the establishment of two working groups, namely a core management planning team comprising park personnel (charged with plan implementation), operating in parallel with a park management board working group (local people and other stakeholders). These institutional bodies participated in a park management planning process, which was fuelled by socio-economic data focusing on the high profile human-elephant conflict in the buffer zone. The initiative led to a major rethink on participatory management planning by the Department of National Parks, Wildlife and Plant Conservation. The process also led to some valuable recommendations for elephant-wildlife mitigation, both at Kuiburi and the international context.

**Keywords:** co-management; elephant; human-wildlife conflict; management planning; park management board.

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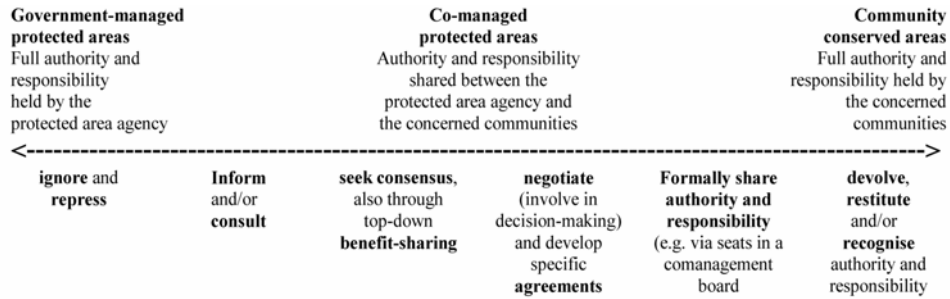
## **1 Introduction**

### *1.1 Co-management issues in national parks*

Over the past decade or so, a paradigm shift in conservation has refocused resource management strategies on restricting human involvement towards encouraging the involvement of local people (Borrini-Feyerabend, 1997, 1996; Kiss, 1990). In both developed and developing countries, incorporating local participation is seen as an essential component of a successful conservation model. Despite the widespread promotion, most participatory strategies have not yielded long-term successes (Fisher, 1998). The poor results have been blamed upon the failure to incorporate meaningful local involvement in decision-making (Ghimere and Pimbert, 1997; Pimbert and Pretty, 1995).

In Thailand, the developing shift in the relationship between the national park authorities and other stakeholders similarly represents an uncertain management direction, with uncertain conservation end-points. The dilemma for conservationists – in Thailand anyway – with respect to co-management in national parks and the role of the emerging park management boards may best be captured by the continuum for protected area management depicted in Figure 1, adapted from Borrini-Feyerabend (1996), and after Arnstein (1969). The national parks in Thailand are currently government managed protected areas, largely in the realm of 'ignore and repress', but with a recent, slight shift towards 'inform and consult'.

**Figure 1** Shows the continuum for protected area management



*1.2 Co-management of national parks and co-management of protected area systems*

Despite the philosophical shift in thinking on co-management, legal frameworks embracing co-management are exceedingly scarce, particularly in Asia (Fisher, 1998; Parr, 2000). In Australia, some interesting examples of co-management have been developed in three of the nations’ Commonwealth Parks following the adoption of the Aboriginal Land Rights (Northern Territory) Act 1976, and the Aboriginal Land Grant (Jervis Bay Territory) Act 1986, which were subsequently incorporated into the protected area legislation – the Environment Protection and Biodiversity Conservation Act 1999. As a consequence, three of the six Commonwealth national parks, namely Kakadu National Park and Uluru-Kata Tjuta National Park in the Northern Territory and Booderee National Park in the Jervis Bay Territory are managed jointly with their Aboriginal traditional owners. In all three reserves a local management committee has been established to supervise the management of the parks, namely the Kakadu Board of Management, the Uluru-Kata Tjuta Board of Management and the Boodeeree Board of Management. Parks Australia and the Aboriginal traditional owners of Kakadu are committed to the principle of joint management of the park and arrangements to help this happen are highlighted throughout the Kakadu National Park Management Plan 2007–2014, the seven-year Uluru-Kata Tjuta National Park Plan of Management (2000) and the seven-year Booderee Management Plan (2002).

The Philippines provides one interesting and relatively advanced model of co-management, with designated protected area management boards: a model for protected area governance, according to Barber et al. (2004). However, Parr (2007) pointed out that this country lacked a national level protected area committee to promote national interests in biodiversity conservation and to counterbalance the local development agendas of the Park Management Boards. Despite being prescribed in Section 30 of the DENR Administrative Order No. 25 Series (1992), the National Integrated Protected Area System Policy and Programme Steering Committee, was terminated through lack of interest. However, this national level institutional body is almost certainly required, because community development objectives are not necessarily consistent with conservation objectives in any given case (Berkes, 2003).

In Nepal, co-management has been mandated in the national parks and Wildlife Conservation Act (1973), in Sections 3(a) and (b) only in the buffer zone. A more detailed Buffer Zone Management Regulation 2052 (1996) was promulgated,

establishing users committees and mandating their involvement in a management work plan. However, benefit-sharing and shared decision-making have not options in the core zones of the protected areas, where community involvement is restricted to consultation. Moreover, this legal framework on buffer zones has tended to expand the authority of the state by imposing restrictions in populated areas formerly not under control of park officials, and the management authority largely remains top down from the standpoint of local users (Heinen and Mehta, 2000). Moreover, these substitution strategies in the buffer zone may fall well short of meeting livelihood needs (Straede and Treue, 2006).

Co-management approaches have also been undertaken within individual protected areas, using special legal frameworks (literally a form of ‘legal loop-hole’) for co-management. In the Galapagos Islands, the Government of Ecuador passed the Special Law for Galapagos on 6 March 1998 (Heylings and Cruz, 1998) establishing one of the largest marine reserves in the world, but also establishing institutions for participatory management of the reserve. A participatory management plan has been developed, which has been implemented for several years (Heylings and Bravo, 2001–2007).

At Bunaken National Park, in Northern Sulawesi, the governor of the province established a multi-stakeholder management advisory board – the BNP Management Advisory Board (DPTNB) and a 25 year management plan (Erdmann et al., 2004). In Uganda, initiatives include community representation on park management advisory committees, revenue-sharing (e.g. tourism fees) and the licenced harvest of resources from national parks (Infield and Adams, 1999). These examples lend weight to one of the main messages from the 2003 Durban Congress that “the interests and concerns of indigenous, mobile and local communities are likely to be compatible with conservation if and when fair and effective governance mechanisms are in place”.

### *1.3 Weaknesses in management planning in developing countries*

“Management planning is an essential step towards ensuring the proper management of protected areas”, stated Kenton Miller in his foreword in the World Commission on Protected Areas (WCPA) Guidelines for Management Planning of Protected Areas (2003). Management plans bring many benefits to protected areas and to the organisations or individuals charged with their management; serious problems can ensue without them. Young and Young (1993) pointed out that

“If there is no general management plan, preservation, development and use activities in a park will occur on a haphazard basis, often in response to political pressures with little consideration as to the implications for the future. The result is likely to be lost opportunities and irreversible damage to park resources and values.”

Despite this consensus, Clarke (1999) stated that management plans in African national parks have often lain unused or, in many cases, have been unusable. He expressed his concerns about the costs of management plans in Africa, their poor quality and lack of application. Clark (2000) found that management planning experiences in several eastern and southern African countries supported this view; further experiences in the Middle East and in South-east Asia suggested that these scenarios have not been confined to

Africa. Scholte (2000) suggested that it would be more constructive to consider management planning as a process in phases:

1. reaching a consensus on main management issues;
2. formulating the management plan, based upon this consensus and an analysis of less controversial management issues and
3. ensuring the continued commitment of stakeholders during the management plan's application.

#### *1.4 Park management boards and management planning in Thailand*

The National Parks Act (1960) and the Wild Animal Reservation and Protection Act (1961; amended in 1992) of Thailand make no reference to the establishment and functioning of protected area management boards, or to the preparation of management plans. At the time of the Kuiburi project initiation, in May 2005, the protected area system lacked any formal local institutional bodies involving park officials, local community representatives and other stakeholders. However, on 9 February 2006, the Director-General of the Department of National Parks, Wildlife and Plant Conservation (DoNP) issued a departmental order on the establishment of Protected Area Committees (PACs).

The Royal Forest Department – part of which was restructured as the Department of National Parks, Wildlife and Plant Conservation in October 2002 – has formulated management plans for protected areas since 1989. As of January 2004, 31 terrestrial national parks and 16 marine national parks had approved management plans, constituting 46% of the 102 designated national parks in the country. In addition, management plans have been prepared for 22 of the 55 designated wildlife sanctuaries. However, many of them have not been implemented.

Concern for the lack of adherence to management plans and their recommendations led to a technical review on protected area management plan implementation by a protected area management planning expert from the Faculty of Forestry, Kasetsart University in 2004. This assessment, "Monitoring and Evaluation of National Park and Wildlife Sanctuary Management Plan Implementation" was completed in January 2004 (Tanakanjana et al., 2004). This assessment revealed that there were no standardised guidelines or formalised policy statements for protected area management planning, resulting in differences in both the structure and content of management plans. This made plan implementation more difficult. It also revealed that the lack of involvement of the park staff and other stakeholders at the site level in the management planning process resulted in the ineffective implementation of management plans.

Most management plans were the products of academic teams, who emphasised data collection rather than other aspects of the planning process. Furthermore, many management plans lacked clear recommendations for action, indicating the lack of expertise among many academics in practical protected area management. Some management plans also recommended unrealistic management resources (i.e. budget, personnel and equipment), hence constraining implementation of those management plans. The overall result was that most protected area authorities paid less attention to the completed plans and only a few utilised the management plan recommendations in the day-to-day management of their respective areas.

An assessment of institutional arrangements and internal communications at three selected ASEAN Heritage Sites (Parr, 2007), including Khao Yai National Park in Thailand, identified further constraints to effective management planning. Poor organisational structure within the national parks resulted in the protected area staff having a lack of specialisation in management skills. This in turn, contributed to a lack of standardised site monitoring procedures for most key areas of protected area management, severely constraining the amount of vital management data collated. Thirdly, the budgeting formats from the Budget Bureau were followed by the Planning Division of the Department of National Parks, Wildlife and Plant Conservation, resulting in budgeting formats completely at odds with the budgeting lines found in management plans.

### *1.5 Tentative steps in co-management in Thailand*

#### *1.5.1 The six pilot parks project (2001–2006)*

In 2001, the Thai government initiated a five-year initiative under the supervision of the Royal Forest Department, as a result of a direct request from the Prime Minister to address issues of people's participation in national park management. The project aimed to address conflicts between communities and national park staff, taking account of the go's policies on enhancing peoples' participation in natural resource management. The objectives of the project were to

1. support communities in national parks and strengthen the relationship between people and protected area staff;
2. protect and restore the ecology within national parks and
3. strengthen local economies through eco-tourism development.

The initiative aimed to clarify the history of settlement of enclave villages inside protected areas, and villages in the buffer zones, and their traditional harvesting of natural resources (in order to address a Cabinet Resolution on this issue); participatory demarcation of core zones and buffer zones; and the establishment of joint committees for the development of natural resource management regulations.

The project focused on six pilot national parks. Criteria for selection of the sites included

1. the existence of people issues;
2. good potential for success and
3. broad geographical coverage.

Activities in the pilot sites were also provided a 'legal loop-hole', being exempted from the normal legal framework for national park management, and it was envisaged that the pilots would lead to a practical model for continued community residence in national parks, which could be replicated in other national parks. Experiences from the project suggested that although the first steps were positive, there was a need for additional technical assistance to the development of participatory mechanisms, joint management procedures and eco-tourism activities.

### 1.5.2 The joint management of protected areas project (2003–2008)

The six pilot parks project initiative was subsequently absorbed within the Joint Management of Protected Areas Project (JOMPA), funded by Danida, with an initial budget of 53 million DKK. Unfortunately, this co-management initiative quickly expanded the number of target sites for joint management to 28 protected areas, an extremely ambitious agenda given that co-management is a particularly difficult management issue to tackle. Furthermore, this project was being undertaken in circumstances in which the relationship between protected area staff and communities had become highly polarised after 45 years of following the National Parks Act (1960) and the Wild Animals Reservation and Protection Act (1992), where there were no clauses for co-management. Detailed achievements of this extensive ongoing project will be reported elsewhere. However, no participatory management planning process involving the Protected Area advisory Committees (PACs) has been developed in any of the 28 targeted protected areas, as of June 2007.

### 1.5.3 Kuiburi National Park

One of the world's largest populations of Asian elephants *Elephas maximus* survives in the Tenasserim Range along the border between Thailand and Myanmar. On the Thai side, there are two large protected area complexes: the Kaeng Krachan Complex to the south, which includes Kaeng Krachan National Park (2915 sq km), Kuiburi National Park (969 sq km) and Mae Nam Phachi Wildlife Sanctuary (490 sq km); and the Western Forest Complex (WEFCOM) to the north, composed of 17 protected areas (18,000 sq km). These forests constitute one of the largest Elephant Conservation Units (ECU) in Asia. Kuiburi National Park was designated as a target site for the Monitoring the Illegal Killing of Elephants (MIKE) Project under CITES in March 2003 because of the high instances of human-elephant conflict. The site was also designated as an ASEAN Heritage Site within the Kaeng Krachan Forest Complex on 18 December 2003.

### 1.5.4 Fauna

Kuiburi National Park supports a population of 150 Asian elephants (Srikrachang, 2005), which is renowned for raiding of neighbouring pineapple plantations. The site also supports a population of Fea's muntjac *Muntiacus feae* which is endemic to the Tenasserim range. Tigers are thought to persist in at least 50% of the park (Steinmetz, per comms) while other large carnivores include leopard *Panthera pardus* – and clouded leopard *Pardofelis nebulosa*, as well as Asiatic black bear *Ursus thibetanus*, sun bear *Ursus malayanus*, Asiatic jackal *Canis aureus* and dhole *Cuon alpinus*. Notable herbivores include Asian tapir *Tapirus indicus*, gaur *Bos gaurus*, banteng *Bos javanicus*, red muntjac *M. muntjac*, sambar *Cervus unicolor* and southern serow *Capricornis sumatraensis*.

## 2 Methods

### 2.1 Establishing key institutional bodies for management planning

The backbone of the proposed management planning process was having two local working groups holding meetings in tandem. Firstly, a core management planning team

was established comprising representatives from DoNP and officers from Kuiburi National Park including park officers, park rangers and temporary employees – the staff who will be charged with the plan's implementation. Simultaneously, a Kuiburi National Park management planning, stakeholders, working group – mirroring the membership of a park management board found in other countries – was established.

This working group comprised representatives from the 25 local communities around the park, the five subdistrict offices, concerned government agencies and private development organisations involved with projects in and around Kuiburi National Park, as well as representatives from Kuiburi National Park. These two committees reviewed the content of the generated socio-economic and biological data, and had responsibility to develop the management plan. The DoNP wanted the management plan to specifically address the elephant issues. Consequently, the plan had a very strong leaning towards mitigating the human-elephant conflict, and was hence termed an elephant management plan. Of relevance, community leaders were provided training in environmental education to build up their understanding of the importance of the natural resources and provide a foundation for participatory conservation.

## *2.2 Data collection, focusing on human-elephant conflict mitigation*

Data regarding the socio-economic situation in the buffer zone around Kuiburi National Park were extremely scant. Biological data were also scant regarding elephants and their movements out of the protected area, as were data on other large mammals. Consequently, surveys were conducted on the socio-economy of the 25 local communities living within three kilometres of the boundary of Kuiburi National Park. Within each village, interviews were conducted by WWF staff with a sample of at least 30 head of households; this resulted in a total of 758 interviewed households. These interviews produced information regarding the status of land-use in the buffer zone, the utilisation of natural resources inside the national park, as well as an understanding of the views of the local villagers regarding the elephant populations.

Based on these initial findings, additional activities were conducted to better understand the underlying causes of the conflict between the villagers and the wild elephants. This included an assessment of the distribution of pineapple plantations and an assessment of elephant incursions surrounding Kuiburi National Park. Additional in-depth interviews were conducted with 195 farmers affected by these elephant intrusions regarding the economic impacts and the farmers' opinions regarding pineapple crop raiding by elephants. In addition, it was deemed important to assess the capacity, strengths and weaknesses of the protected area staff to assess their ability to improve the management of the park's resources and address the elephant problem.

## **3 Results**

### *3.1 Socio-economic data*

From the sample of 758 villagers interviewed, most villagers were either farmers (54.9%) or general labourers (23.6%). Only 7.4% were in retail or other businesses, while 3.9% engaged in animal husbandry. The average annual income per household was 101,909 baht (about US\$ 2500), while 39.1% of the households earned less than



50,000 baht (US\$ 1250) per annum. The predominant agricultural crop was pineapple, grown as a monoculture (79.9%). A few farmers grew pineapples with other crops, mangos (8.1%), jack-fruits, chillies and rubber.

Based on satellite imagery, it was calculated that there were 268 sq km (167,551 rai) of pineapple plantations located within three kilometres of the Kuiburi National Park boundary. Water was a constraining factor for farming, with the park largely situated in the rain-shadow of the Tenasserim Range; some 35.5% of villagers were dependent upon small catchment reservoirs for irrigation. Regarding land ownership, 74.2% owned less than 3.2 ha (20 rai) with an average of 2.59 ha (16.18 rai). For the pineapple fields located in immediate proximity to the National Park, villagers had land ownership documents for 205 fields covering 661.12 ha (4132 rai); 179 fields encompassing 442.24 ha (2764 rai) had no land title deeds, while 78 fields were rented.

Only 12.2% of the interviewees stated that they collected non-timber forest products, while 12.8% of the villagers stated their entire livelihoods were sustained by utilising non-timber forest products from the National Park. A further 35.8% stated that they both collected forest products as well as bought them from other villagers. Of concern, 83.8% of the villagers interviewed believed that these vital forest resources were in decline. All the above data is summarised from a final report prepared by the WWF management planning unit (WWF Greater Mekong Thailand Programme, 2006b).

### *3.2 Elephant raiding*

Adjacent to the Kuiburi National Park boundary, there were 543 agricultural fields cultivated by a total of 505 farmers. Of these, 217 fields (40%) had been raided by elephants in recent years. A total of 195 farmers who had suffered crop damage from elephant raids were interviewed. Of these, 122 farmers had witnessed wild elephants raiding their fields, while 70 of the affected farmers claimed not to have seen them, as their homesteads were located far from their fields. Figure 2 shows the location and intensity of elephant raids in relation to Kuiburi National Park and the pineapple plantations.

Amongst the farmers who suffered crop damage, 66 farmers reported that elephants came out of the forest more than 50 nights a year, while 22 farmers stated that elephants were in their fields between 200–365 nights per year. The peak months for intrusions were April, followed by February and then May. Most farmers observed elephants between 16.00–18.00 hr (34.3%) – largely indicative of the farmers' working routines—but also suggesting that the elephants were not afraid to exit the forest before darkness falls.

When 34 farmers were interviewed regarding the level of damage incurred, 27 farmers placed the impacted farmland at less than 1.6 ha (10 rai). 15 farmers estimated the damage at less than US\$250 (10,000 baht); 25 farmers estimated the damage between US\$250–1250 (10,000–50,000 baht), 11 estimated damage at US\$1250–2500 (50,000–100,000 baht), while seven farmers estimated damage at over US\$2,500 (100,000 baht). 68 farmers reported that fireworks were the most effective to deter the wild elephants, while others used spot lights and gas lamps. Electric fencing was also erected. Some villagers burned tires. A total of 116 farmers had 'chased' elephants. 28 farmers described the situation as 'very severe'. All the above data is summarised from a final report prepared by the WWF management planning unit (WWF Greater Mekong Thailand Programme, 2006b).

### *3.3 Developing a management planning process at Kuiburi National Park*

#### *3.3.1 Establishing co-management institutional bodies for management planning*

The core management planning team comprised the superintendent, the deputy superintendent, five park rangers and one representative from the DoNP head office, all of whom were supported by WWF management planning staff. This group held

14 regular meetings on an almost monthly basis, with each meeting lasting 3–4 days. Technical advice and monitoring at these meetings were provided by an experts' advisory group, comprising Thailand's foremost expert on protected area management planning from Kasetsart University, Thailand's foremost expert on elephants from the Wildlife Research Division, DoNP and a retired Director of the Wildlife Conservation Office. The membership of this core group was amended by the new park superintendent to include heads of substations and the team leaders of the elephant monitoring team. The meetings were arranged regularly up to the end of the project, with excellent collaboration from the project advisory committee.

The Kuiburi National Park Management Planning Committee comprised five heads of subdistricts, 11 village representatives, three NGO representatives, the park superintendent and deputy superintendent, and one representative from the DoNP head office, all of whom were supported by the WWF management planning team. This group of local stakeholders held eight meetings during the management planning process, reviewing the content of generated socio-economic and biological data, and acting as an advisory body in the management of human-elephant conflicts. They had ultimate responsibility to approve the management plan and forward the document to the DoNP and other involved government agencies.

Two public hearings were held for the 25 local communities living around Kuiburi National Park, the first to explain the management planning process and the second to provide an opportunity for villagers to express their problems and to make suggestions on solving the elephant-human conflict.

### *3.4 The management plan*

The finalised elephant management plan is a 25-page document comprising a management and personnel development component; a natural resources protection component; a natural resources restoration component; a wildlife research component; an elephant population management component (with participation of stakeholders) and a publicity and media plan (WWF Greater Mekong Thailand Programme, 2006a).

Among the 26 main proposed activities prescribed in the management plan, key recommendations included strengthening the capacity of the Kuiburi National Park committee as well as the park staff; participatory demarcation of the park boundary, particularly in areas of ambiguity; further participatory monitoring of elephant movements; establishing a villagers' informants network, focusing on illegal issues and elephant conflict matters; rehabilitation of degraded elephant habitats; developing an ecotourism component linking to the tourism centres; and an assessment of options to translocate two enclave villages, requiring the villagers' own consent.

## **4 Discussion**

### *4.1 The co-management experience at Kuiburi*

The potential relationship between park management boards and management planning is captured in the IUCN Guidelines for Management Planning of Protected Areas (Thomas and Middleton, 2003) by the statement that

“It is increasingly the practice to involve local communities and other stakeholders in protected area planning and management. In many countries, management boards, co-management structures and other participatory mechanisms are being created to facilitate this.”

Examples in national legislation include: New Zealand: the National Parks Act (1980) [Sections 29–39]; the Canada National Parks Act (2000) [Sections 37, 40 and 41]; and the National Parks Act of Scotland 2000) [Section 8–10 and Schedule 2]; as well as the Philippines: National Integrated Protected Areas System Act, 1992 [Section 8]; and the Sarawak: National Parks and Nature Reserves Ordinance, 1998 [Section 8].

The management planning process conducted at Kuiburi National Park represented the first occasion in Thailand that a park management plan has been formulated utilising either

1. a core management planning team of National Park staff and
2. involved the local stakeholders, in the actual drafting of a management plan.

It resulted in a number of positive outcomes within the national park. The superintendent proposed that nine representatives from the management planning working group be appointed to the official Protected Area Committee (PAC) for Kuiburi National Park to the Director-General of DoNP this request was approved.

Over the long-term, it is important that the Kuiburi National Park Protected Area Committee maintains the right membership for effective management of the reserve. Fortunately, the DoNP has drawn up some clear guidelines for the role of a Protected Area Committee. However, further guidance could also be provided by concise National Park policy statements and monitoring by a national level protected area committee to provide advice if the situation goes awry. As a warning, Webber et al. (2007) reported that the involvement of local elites in management in a conflict mitigation project in Uganda, at the expense of those most affected, was a compounding factor in the failure of a conflict mitigation project.

Regarding implementation of the Kuiburi management plan, initial indications are that the plan will not lay unused, as experienced in other parks in Thailand (Tanakanjana et al., 2004), or in other developing countries (Clarke, 1999, 2000). Some sections have already been incorporated into the Provincial Natural Resources Management Plan of Prachuap Khiri Khan for 2008. Some other priority components of the Kuiburi National Park Management Plan will be implemented by the National Parks authority utilising annual budgets allocated by DoNP, given their high sense of ownership in the development of the plan and its recommendations. However, the general lack of formal recognition, in budgetary terms, in the contents of management plans within DoNP means that the implementation of actions prescribed in the Kuiburi Plan will likely take place in a relatively piecemeal fashion. Implementation will be very much dependent upon the interest of the park superintendent in place, until such

time as the management planning for national parks becomes more relevant to the sites and their stakeholders.

The management planning process itself led to a decline in conflict and a rise in trust between the local communities and the park officials at Kuiburi National Park. Indeed, as a result of this trust, local community representatives disclosed corruption by some national park rangers, enabling this to be remedied. The collaborative management planning process also clarified that feeding the wild elephants at feeding stations exacerbated the human elephant conflict; the initiative had been the brainchild of an influential member of Thai society. Finally, all members of the management planning working group had a clearer understanding of the human-elephant conflict and possible approaches to mitigate the problem.

The strong emphasis of this management planning process, focusing on the human-elephant conflict within the pineapple monoculture in the Kuiburi National Park buffer zone, was not ideal to further determine co-management responsibilities. It focused on a relatively non-controversial issue outside the park boundary; this may have contributed towards the build in trust and strengthened working relationship between the national park's authority and the local people, being comparable to the co-management model utilised in Nepal espoused earlier. More sensitive and more complex management issues in core areas of the park, including those relating to natural resource harvesting rights, were not addressed.

Despite these short-comings, the initiative also had influence at the national level. On 18 August 2006, the DoNP issued Departmental Decree 1200/2549 establishing a national management planning committee for national parks, comprising representatives from the Ministry of Natural Resources and Environment, 13 representatives from DoNP the Royal Forest Department, the Department of Marine and Coastal Resources, the Tourism Authority of Thailand, academics from three universities and WWF Thailand. The Kuiburi initiative was catalytic in bringing about this development.

This National Park Management Planning Committee has the following responsibilities:

1. advice on management planning for National Parks;
2. supervise, assist and follow the progress of management planning initiatives including the accuracy of details, as well as provide opinions on each plan;
3. collaborate with other organisations involved with data preparation and provide technical advice where required to the management plans and
4. form subcommittees and working teams, as deemed appropriate, to execute the duties assigned by the Department of National Parks, Wildlife and Plant Conservation.

Unfortunately, a proposed national workshop to espouse the benefits of the Kuiburi experience in participatory management planning to other superintendents was cancelled due to the military coup in Thailand in October 2006 and the subsequent public meetings. However, promotion of this participatory management planning process has been strongly mooted by the three technical advisors, comprising Thailand's foremost expert on management planning, one of Thailand's foremost experts on national park management and a prominent elephant ecologist.

The Kuiburi National Park management planning experience was primarily designed to field test this key aspect of co-management, through participatory management

planning involving a park management board: wild elephants just happened to be the vehicle. To that end, the initiative appears to have been successful in mobilising interest in Thailand in developing more effective management planning approaches, involving local stakeholders. It also has demonstrated one major function of a park management board. Furthermore, it also thrown up an interesting approach for mitigating human-wildlife conflict.

#### *4.2 Participatory management planning as an approach to human-wildlife mitigation*

Internationally, there has been widespread consensus for the need to establish dialogue among stakeholders to mitigate conflicts. Distefano (2004) conducted an assessment of human-wildlife conflicts worldwide, and recommended the promotion of dialogue and cooperation among stakeholders. Decker et al. (2002) suggested that strategies for stakeholder engagement vary by context. However, they promoted a useful framework for stakeholder engagement in wildlife damage management which had first been developed by Hahn (1990). This involves eight steps, namely

1. concerns identified;
2. involvement whereby those concerned seek support;
3. issue requiring attention is defined;
4. alternative actions are proposed to address the issue;
5. consequences in which various alternatives are evaluated;
6. choices whereby decisions are made;
7. implementation and
8. evaluation.

The Human Elephant Conflict Working Group, under the IUCN African Elephant Specialist Group (AfESG), goes a step further in terms of dialogue among stakeholders; in its 'current recommendations', it explores the potential of establishing specific institutional bodies – Conflict Resolution Committees – to mitigate human-elephant conflict. These conflict resolution committees are made up of local stakeholders (affected communities, wildlife management authorities, local NGOs and CBOs, relevant private sector players e.g. tour operators). These structures have sprung up in a number of countries as a result of the fact that the national wildlife authorities on their own are usually unable to take care of the elephant problem in the long-term. Furthermore, such committees can promote dialogue and exchange of ideas between the various stakeholders, thus helping to reduce the tensions between the various players.

However, the Kuiburi experience would indicate that these Conflict Resolution Committees tackling the human-wildlife conflict either need to be legally mandated or need to be nested in relation to one. This is vital in terms of sustainability of the institutional body itself, and of being linked to the management planning process, to ensure adequate budgetary flow for optimal conflict mitigation.

Elsewhere, the establishment of a park management board and their subsequent involvement in a participatory management planning appears to be endorsed by

Recommendation 20 at the World Parks Congress (2003) was on “Preventing and Mitigating Human-Wildlife Conflicts”. Two of the five recommendations it made were:

(2) “Strengthen the capacity of protected areas managers, communities, stakeholders and others to better prevent and mitigate human-wildlife conflict in all regions in which it occurs”;

and

(4) “Encourage governments and conservation authorities at the local, national and international levels to recognize the pressing need to alleviate these conflicts, prioritize management decisions, planning and action to prevent and mitigate human-wildlife conflict, and incorporate global, regional and local mechanisms to ensure proper addressing of these issues.”

Further interesting direction on conflict mitigation has been developed in Ramsar sites, where the main strategy for management of these wetlands has been through participatory management planning (Ramsar Convention Secretariat, 2007a, b), particularly in the absence of a single government agency with management responsibilities; as such it demonstrates a identical management strategy undertaken at Kuiburi. According to Messmer (2000), the success of wildlife conservation and human-wildlife conflict reduction largely depends upon the ability of managers to recognise, embrace and incorporate differing stakeholders’ values, attitudes and beliefs; a participatory management planning approach might not only encompass all these ideals, but it may make management planning more successful in countries where management planning appears to be failing.

### *4.3 Co-management – where next*

Thailand is still struggling with the concept of co-management, even to the extent that participatory management planning is a new field of protected area management. What sort of model does Thailand want – the Australian models, the Nepalese model or the Indian model involving eco-development of the periphery of reserves. Or does she still need to experiment, developing model sites – with their teething problems – like in the Galapagos and Bunaken reserves.

Co-management can appear – to many conservationists – like opening a Pandora’s Box. If Thailand is to promote co-management, park management boards and participatory management planning in the coming years – which is the route it appears to be taking – it is vitally important that National Park policy statements are produced. These policy statements will clarify where on the continuum for protected area management it places itself – as a starting point, and to control any shift in co-management that take place.

It is very conceivable that co-management in developing countries not only needs;

1. the legislative framework for co-management, which inherently legitimizes;
2. co-management institutions – but it also requires clear and univocal;
3. protected area policy statements and
4. technically competent national protected area committee.

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