

Management Strategies for Protected Areas

Insights and Recommendations from
Studies on Environmental and
Resource Economics in
Southeast Asia



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MANAGEMENT STRATEGIES FOR PROTECTED AREAS

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on Environmental and Resource Economics
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FOREWORD

The Economy and Environment Program for Southeast Asia (EEPSEA) has been conducting and funding research on environmental resource economics since 1993. This has generated a number of researches, the findings and recommendations of which we wish to make accessible to natural resource managers in the region. This monograph is the first in a series that will extract practical lessons on better management of the environment and natural resources from EEPSEA research findings.

Entitled *Management Strategies for Protected Areas*, this maiden issue features experiences, insights and recommendations that capture the diverse geographical, socio-economic and political settings of the countries where the studies were done. The full text of each study may be accessed at the EEPSEA website (www.eepsea.org) or through email (eepsea@idrc.org.sg).

Six management strategies for natural resources in general and protected areas in particular emerged from a review of eight EEPSEA studies conducted from 1999 to 2007: (a) building up funds for the management of protected areas, (b) managing funds for the preservation of protected areas, (c) rationalizing a national park entrance fee system, (d) enhancing tourism benefits, (e) distributing costs and benefits in protected area management, and (f) rethinking resettlement as a management option.

Similar to other “lessons learned” or “best practices” collections, this monograph is designed to be a companion and easy to-use reference for issues confronting natural resource managers in their work. But more than being a “recipe book,” it should enable the reader to re-use and further re-create knowledge in this area of practice. Natural resource management is a dynamic field and the recommendations in this monograph represent only the realities and experiences prevailing at the time these studies were done. Other developments must have occurred since then. As practitioners, natural resource managers should also contribute to the growth of this body of knowledge. In the process, they become part of a community of practice actively engaged in innovating and sharing knowledge and practices with their colleagues in the field.

This monograph is also our way of celebrating the partnership with our co-workers in natural resource management. We have so many of them in Southeast Asia. While they toil daily to keep up with the challenges of their work, we do our share by capturing and documenting the valuable knowledge they generate. Together, we can contribute valuable knowledge to the dynamic field of protected area management in the region.

Herminia Francisco
Director, EEPSEA

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Lo Go-Xa Mat National Park (Vietnam)

Photo by: Dang Le PHoa

INTRODUCTION

The last 30 to 40 years saw the massive degradation of natural resources due to population pressure, ill-defined property rights, counter-productive policies, and other factors (World Bank, 2005). A considerable portion of the population lives in hinterlands or forested areas that are least nominally under some form of government protection from commercial exploitation. This segment of the population is generally poor; some may even be among the poorest of the poor, as they rely heavily on forest resources for their survival and livelihood. Non-sustainable exploitation of resources by local residents in nominally protected areas is one of the factors leading to rapid loss of biodiversity, a critical component of our life support system.

The International Union for the Conservation of Nature and Resources (IUCN) defines protected areas as "areas of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means." These include science and nature reserves, national parks, wildlife sanctuaries, protected landscapes, wilderness areas, biosphere reserves, and conservation sites (American Association for Advancement of Science, 1995).

Protected areas are at the heart of any strategy or effort to preserve biological diversity. They protect natural habitats and associated flora and fauna as well as maintain the environmental stability of surrounding regions. They can provide opportunities for research, conservation education, recreation, tourism, and rural development particularly through the rational use of marginal lands to generate income and create jobs.

A category of protected areas that has become the focus of development efforts in recent years is the national park. This generally refers to the natural area of land and/or sea designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area, and (c) provide a foundation for spiritual, scientific, educational, recreational, and visitor opportunities, all of which must be environmentally and culturally compatible (IUCN, undated).

Studies of national parks in the region reveal their multiple and sometimes conflicting functions in society. They provide the economic resource base for livelihood and income, render socio-cultural benefits such as recreation, and perform spiritual functions to local communities. The sustainability of such benefits and services are, however, being challenged by issues and problems that now confront protected areas all over the region.

ISSUES AND PROBLEMS IN PROTECTED AREA MANAGEMENT

Funding for natural resource management

As indicated in a number of the EEPSEA studies reviewed, funding has been a perennial problem for government agencies managing protected areas such as national parks (Anda, Jr., 2006). With vast areas to cover and protect, the budget from government is often meager and inadequate. The sight of dilapidated buildings, poorly maintained park facilities such as water sources, toilets and electricity; and grassy and unkempt grounds is common in many national parks in the region.

Entrance fees

Another challenge for natural resource managers involves the mechanisms for setting and collecting reasonable fees. How much is "reasonable" and what should the protected area provide in return?

National park management in Southeast Asia is usually funded by the central or national government and is supplemented by income from entrance fees (Adis Isangkura, 2003). Often, the entrance fees charged to users are too low and do not reflect the true value of the park's recreational benefits. Sometimes, no fees are collected at all. In the long run, the facilities and services deteriorate and end up in a very dismal state. As part of sound management, the fees, therefore, have to be formulated in a rational manner.

The public's willingness to pay

Building up protected area management funds by collecting entrance fees requires answers to the following questions: Are people willing to pay or contribute? If so, how much? Why or why would they not be willing to pay or contribute (Dang Le Hoa and Nguyen Thi Y Ly, 2007)?

Surveys show that some respondents are not willing to pay because they view the preservation of the park as the government's responsibility. They believe that government tax revenues should support the park preservation fund. Others, in addition, do not trust the organization that will handle the fund (Dang Le Hoa and Nguyen Thi Y Ly, 2007).

Distribution of costs and benefits

The issue concerning the distribution of costs and benefits in protected area management could be a critical constraint in the sustainable conservation of natural resources (Yazhen Gong, 2004). When governments conserve protected areas, some opportunity costs are given up. Opportunity costs are what society (or specific





groups) give up in favor of conservation or protection. In many cases, conservation restricts local people's access to natural resources, depriving them of goods or services that could be significant to their livelihood. Affected communities in protected areas believe that they should be compensated because they have the traditional territorial rights over portions of these protected areas. However, they often receive little or no compensation and become increasingly impoverished and marginalized.

On the other hand, other people who do not live in these protected areas enjoy the benefits of biodiversity conservation and yet do not bear any cost at all for the protection or conservation of these areas. Often they do not pay anything, financial or otherwise, but enjoy the benefits anyway.

This inequitable distribution of costs and benefits is one of the problems in protected area management that needs special attention from natural resource managers. Specifically, the challenge is to answer the following questions: To what extent are local communities adversely affected by conservation efforts in protected areas? Are they compensated? How much should the minimum compensation be? Are "off-site" stakeholders or communities willing to pay for biodiversity conservation in protected areas? If so, is their willingness to pay greater than the economic loss of the affected local communities in protected areas?

Settlement management options

Settlements in protected areas are a common occurrence in the poor countries of the Southeast Asian region. Many forested areas, even those on steep slopes, are occupied by subsistence settlers who are either indigenous to the area or migrants. Attempts have been made in the past to treat forest occupancy as a social problem with a social solution (Orapan Nabangchang, 2003). Resettlement has been among the common solutions resorted to.

Resettlement as a management option for communities in protected areas has its costs and benefits. But these are often overlooked by natural managers who fail to consider other workable and less expensive options for managing settlements.

At the forefront of the above challenges are the natural resource managers who for years have been trying to find solutions to the dilemmas that confront them in their work. Effective practices and worthwhile lessons indeed exist but need to be documented for use as a ready guide and reference. In simplified form, they could help enhance the knowledge and practice of protected area management. The following pages highlight lessons from EEPSEA research on protected area management in the last five years.



MANAGEMENT STRATEGIES

Building up funds for the management of protected areas

One major challenge in protected area management is building up a reliable, sufficient and sustainable fund to maintain protected areas at necessary quality standards. Without sustainable financing, many of the new institutional arrangements for protected area management will remain futile (Anda, Jr., 2006). Government subsidies alone will not make them work.

Protected areas have economic values that may be tapped to rationalize their use and generate income that can be plowed back to their management and sustainable development. Among these are ecotourism, timber and non-timber forest products, energy resources, and water for domestic and agricultural use. Using the principle of a market- or incentive-based instrument, fees may be collected from users of the various goods and services derived from protected areas.

The following tips are recommended for establishing a functional trust fund for the sustainable management of protected areas (Anda, Jr., 2006). Managers may use them as a guide and/or further adapt them to their own work settings.



Photo by: Dang Le PHoa

Lo Go-Xa Mat National Park (Vietnam)

Impose lease and rental fees.

Building up the protected area management fund requires the imposition of reasonable lease and rental fees on facilities such as lodging inns, souvenir shops, visitors' center, food stalls, and tourist booths in national parks. The Philippine experience indicates that a mean annual income of about PhP 95,000 per park (USD 1,900) can be generated from lease proceeds or rentals.

Funds for protected area management may be generated from lease and rental fees of national park facilities such as lodging inns, souvenir shops, visitors' center, food stalls, or tourist booths.



Households are usually willing to pay or to contribute to the park preservation fund because they want to protect their environment.

Tap the private sector for investment.

Private investment through a build-operate-transfer scheme could help in creating or improving facilities that the protected areas may lease or rent out in the future. The scheme, however, still needs to be carefully worked out since it will require stronger capabilities in terms of establishing partnerships with the private sector.

Secure donations from water users.

Another way to raise revenue is through donations from water users. Direct beneficiaries, especially heavy water users like water districts, irrigation users, hydropower plants, fishermen, and resort operators may be tapped to contribute to the maintenance of the protected areas that provide them unreported benefits.



Bernardo Carpio (Philippines)

Photo by: Alexander Anda, Jr.

Operate a protected area management system.

A protected area management body such as a protected area management board or PAMB should be set up to take the initiative and oversee the process of generating income for park development and protection. It does not necessarily mean, however, that the board should do the task alone.

Building up the protected area management fund will depend on the public's willingness to pay or to contribute a certain amount.

In general, EEPSEA studies show that residents are willing to pay for the park preservation fund because they want to protect the environment (Dang Le Hoa and Nguyen Thi Y Li, 2007; Adis Isangkura, 2003). Furthermore, residents of higher income and education levels are willing to contribute to the preservation fund. Households with many earning members are more willing to contribute, too, according to the studies.

A study in Vietnam found that if households would pay about USD 0.43 monthly for three years for a park preservation fund, the amount collected will be more than enough to cover the total cost of activities for the preservation of the park (Dang Le Hoa and Nguyen Thi Y Li, 2007). Moreover, the fund would allow compensation for lost-income from forest products of residents near the park. The compensation scheme, however, should be tied to a socio-economic or livelihood project. This, of course, requires careful and participatory planning with the residents.

Managing funds for the preservation of protected areas

Institutional and operational issues often accompany the creation and operation of protected area preservation funds. The following are lessons that may be useful in managing the preservation fund (Anda, Jr., 2006):

Allocate budget appropriately for earning and non-earning protected areas.

In the Philippines, more funds should be allocated to earning protected areas. To deprive them of central government revenue would be a disincentive to local income generation. But many parks have limited potential to raise funds because of isolation, limited recreational endowments or other factors. These areas may have important environmental assets that merit conservation and, thus, central funding. Budget allocation strategies need to be designed to provide the proper balance between incentives for local revenue generation and the provision of public goods that cannot be financed without government support.

The highest governing body administering the protected area preservation fund should prioritize activities that will increase the fund and the money generated should be used to finance conservation activities. Agencies involved in protected area management should be active in formulating management directives for budget allocation of the preservation fund.

Provide capability strengthening for those managing the fund.

To improve fund generation, budget allocation, and staff commitment and performance, protected area management staff should undergo capability building and training. The areas of training may include resource assessment and valuation, fee rating or price setting, billing, collection, budgeting and utilization of the protected area preservation fund, and protected area financing and accounting. Capability building will help the management staff make sound decisions regarding budget allocation, formulate income-generating schemes and craft conservation strategies for the protected areas.

Adopt a transparent and systematic recording system for revenue collection and disbursement of the protected area preservation fund.

Transparency is the pillar of good natural resource governance. Hence, to improve the financial feasibility of the protected area preservation fund, specific implementing guidelines on how revenues from different sources could be collected should be issued. These include operational procedures to create an adequate and transparent revenue collection system as well as a faster process of releasing funds.

To manage protected area funds properly, guidelines for an adequate and transparent revenue collection system as well as for fast release of funds should be developed and implemented.

Rationalizing a national park entrance fee system

A study by Adis Isangkura (2003) in Thailand provides practical advice for collecting entrance fees in national parks.

Determine systematically the entrance fees of national parks.

As a guiding principle, national parks that have more recreational offerings should charge higher entrance fees than those with less.

Impose extra user charges for fragile recreation sites.

Visitors to special and fragile recreation sites may be charged extra fees. This mechanism performs a dual function: it can reduce the number of visitors in these ecologically-sensitive recreational sites, in effect reducing negative pressure on the environment, and transfer such charges to high-end consumers who can afford to pay for such extra fees.

Adopt a similar pricing scheme for local and foreign visitors.

Charging foreign visitors higher fees can be justified on the grounds that they do not pay income tax to the local government and that they tend to be more willing to pay when visiting a park. However, this may create resentment among foreigners and can adversely affect the image of the tourism industry of the country in the long run. If such is the case, other strategies for tapping those with higher incomes and perhaps the higher willingness of foreigners to pay should be explored. These may include offering of package tours inside the park and operating souvenir shops.

Charge a minimal or discounted fee to selected low-income visitors.

While new entrance fees increase park revenues, they should not become a burden for low-income visitors. While a higher entrance fee may be charged to visitors of the main section of the national park, recreational sites at the foot of a mountain, for instance, might charge a lower entrance fee, just enough to cover the operating costs (e.g., garbage collection and toilet clean up).

Children below 16 years old and senior citizens might be offered discounts. Exemptions from the entrance fees could be considered for school field trips or during special holidays. This will allow continued patronage from low-income visitors despite an increase in the entrance fee.

Do not charge fees for sites that perform a spiritual function.

In countries like Thailand, visitors regard a temple with more spiritual than recreational value. In such cases, no fees should be charged. It is also worth considering if temples should at all be included in national parks as they do not present recreational value. It may not be appropriate to put a price for their spiritual value.

Involving local communities in ecotourism can create the incentive for proper care and management of protected areas.

Involve local communities in ecotourism.

By engaging local communities in the management of these sensitive ecological areas, it is hoped that incidences of encroachment in the forest areas will be minimized. This will provide community members an added incentive in taking care of the environment since preserving nature would mean more visitors and higher income for them.

Enhancing tourism benefits

The value of a national park rests not only on its tourism and recreational benefits. Its added value can be derived from its biodiversity and socio-cultural and historical features (Nguyen Thi Hai and Tran Duc Thanh, 1999). A look on these other public benefits and making them a "come on" for a park visit can help enhance the total value of the park and its revenue collection.

Nonetheless, being able to collect entrance fees for the operation and maintenance of national parks is not the end of the story for protected area management. To be able to maintain patronage and sustain revenue collection, the services and benefits derived from the park need to be progressively improved.

A study from Vietnam by Nguyen Thi Hai and Tran Duc Thanh (1999) suggests the following measures to enhance tourism benefits:

Improve facilities to increase tourism benefits.

Improved facilities such as roads, foot trails and confined animal areas increase tourism benefits which in turn increase consumers' demand and their willingness to pay. Those with higher education and income levels are usually willing to pay higher fees but they also expect better facilities and service.

Provide public transport to enhance the park's accessibility.

As an alternative to private cars, public transport can lessen the travel cost for visitors and reduce the environmental impacts from parking lots, roads and congestion. It would also help make the benefits of tourism more accessible to low-income families.

Step up protection and conservation efforts.

Along with facilities improvement, efforts to protect and conserve resources in the area should be pursued. Activities like illegal cutting of trees and hunting of birds and wild animals should be banned. Villagers should be made aware of the concept of environmental protection. Hence, park and government authorities should coordinate with each other to come up with environmental awareness and protection programs. Communication strategies should also be reviewed to ensure that the approaches that will be and are currently used are appropriate for intended audiences.

Improving park facilities and transport, along with increasing awareness and implementation of protection and conservation policies, can yield benefits to both tourists and national parks.



Livelihood intervention programs should be made an integral part of protected area management.

Install social safeguards for affected local communities.

Some safeguards or measures should be taken to devise a compensation scheme for local villagers who lose part of their economic base from the park's use as a tourism site. This is an important but often neglected aspect. This can be done in a participatory manner involving the affected individuals or communities. It pays to remember that an economically displaced or socially disturbed community would always be a threat to tourism efforts.



Photo by: Alexander Anda, Jr.

White beach of Aliguay Island Protected Landscape and Seascape (Philippines)

Distributing costs and benefits in protected area management

The issue of the costs and benefits distribution in protected area management could be a critical constraint in the sustainable conservation of natural resources (Yazhen Gong, 2004; Nguyen The Lan, 2007; Thanakvaro Thyl de Lopez, et al., 2001). When governments conserve protected areas, some opportunity costs are given up in favor of conservation. Communities in protected areas usually lose their access to economic and livelihood activities due to the imposed restriction.

On the other hand, people who do not live in these protected areas enjoy the benefits of biodiversity and yet often do not bear any cost for its protection. This inequitable distribution of costs and benefits poses another challenge in protected area management and needs the special attention of natural resource managers.

The following principles are drawn from the study of Nguyen The Lan (2003) in Vietnam to help guide protected area authorities in managing the distribution of costs and benefits:

Provide relevant livelihood interventions.

Establishment of protected areas should not undermine people's livelihoods. Often, conservation programs are planned without considering the welfare of local communities. To offset the cost of forest conservation on the part of local communities, livelihood interventions should be an integral part of protected area management.

Interventions may include production activities and construction of infrastructure for forest-dependent communities. These would enable local residents to earn more income from other sources and eventually reduce their dependence on the forest. In this way, the forest and protected areas will be conserved more efficiently.

Provide inputs for production training.

Intervention activities should ensure an adequate supply of inputs for starting up a livelihood, for instance credit, seedlings and animal breeds. These should be accompanied by training to enable the beneficiaries to use the inputs efficiently and effectively.

Compensate communities for their losses.

Conservation can cause social and economic dislocation of local communities residing in the park. Proper compensation should be given to affected local communities because local support for conservation is important. Without it, it will be hard for the government and park management to implement conservation programs. If the local people are not compensated, conflicts are likely to arise.

Explore eco-compensation as an option.

Eco-compensation schemes should look into redistributing the costs and benefits to stakeholders. This could be done through payment by the public, who usually pay little or nothing at all for natural resource conservation, of an eco-value-added tax for biodiversity conservation programs. The tax collected could then be used to implement conservation programs.

Additional recommendations come from the study by Thanakvaro Thyl de Lopez, et al. (2001) in Cambodia:

Involve villagers.

Community programs must be extended to villages. Villagers' involvement is essential to the successful control and monitoring of conservation activities.

Intensify fund build-up and mobilization.

Marketing efforts for the park must be intensified. Visitors provide essential revenues for park operations. Entrance fees should be increased and an environmental trust fund should be set up to collect donations.

Provide incentives to rangers.

Rangers must continue to develop their skills and should receive salary incentives to encourage them to stay at their jobs. Training seminars would improve staff expertise. Rangers should also be allowed to cultivate deforested land around their stations to supplement their wages.

Village involvement is essential to the successful control and monitoring of commercial activities in protected areas.



Stop all commercial activities.

All large-scale commercial activities must be stopped. Existing park regulations must be enforced to their full extent with the cooperation of local authorities and other government agencies.

Conduct communication, social mobilization and environmental education activities.

It takes a long time to reap the benefits from a production forest since trees take years to mature and become harvestable. Communication, advocacy and social mobilization activities are needed to encourage affected residents to continue growing crops in production forests while also identifying the most effective model of forest production (Nguyen The Lan, 2007).

Likewise, awareness and appreciation of benefits derived from protected areas should be enhanced among the local authority and the community. Protected area management regulations should also be discussed with the community to elicit support and compliance.

Reconsider resettlement as an option.

Many of the people living in a reserve are unwilling to be resettled, even if they are given government support. They feel a greater sense of security in the protected area in terms of food and livelihood. They fear that if they are resettled, they would neither get farmland nor employment. Those who are willing to resettle usually do so because of the prospect of better education, basic amenities such as roads and electricity and more employment opportunities.

Rethinking resettlement as a management option

Decisions about resettlement usually relate to areas that have been converted from natural forests for alternative uses (Orapan Nabangchang, 2003). Generally, these are lands brought into production by marginal, small or landless farmers. They are usually areas where (1) marginal lands are open to access, (2) property rights of the people are ill-defined and marginal farmers claim *de facto* occupancy right over the land by virtue of having labored to clear and convert the forest for productive uses, and (3) the economic hardship of the occupants compels decision makers to put equity before economic concerns. These areas are ecologically fragile; continuous agricultural practices can lead to soil erosion and compromise environmental concerns.

The resettlement of communities is much more than an administrative matter, as illustrated by Orapan Nabangchang's (2003) study in Thailand. There are winners and losers in its application and it has accompanying costs and gains to society. Its costs could even outweigh its benefits. Options other than resettlement should be considered. Other aspects of protected area management need to be factored in, as follows (Orapan Nabangchang, 2003):

CONCLUSION

Protected area management is a dynamic task. While natural managers may be preoccupied with tackling the issues of the day, they can benefit from the results of scientific studies to carry out more effective long-term strategies. In the same vein, lessons derived from their field experiences should be fed into the scientific sphere to create a more dynamic and responsive management ethos for protected areas.



Photo by: Alexander Anda, Jr.

Rugged coastline of Batanes Protected Landscape and Seascape (Philippines)

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PRODUCTION TEAM

College of Development Communication, UP Los Baños

Cleofe S. Torres, **Associate Professor** | Ma. Theresa H. Velasco, **Professor**

Ma. Stella C. Tirol, **Assistant Professor** | Joclarisse Albia, **Instructor** |

Madeline M. Suva, **Associate Professor** | Marie Cyddyqa Jaya Rogel, **Former Instructor**

Office of Public Relations, UP Los Baños

Eisen Bernard V. Bernardo, **University Extension Associate**

Maria Leah J. Baroña-Cruz, **University Research Associate**

