

Review of protected areas and development in the four countries  
of the Lower Mekong River Region

# Lessons From Global Experience

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The PAD Partnership - 2003

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Department of Fisheries, Ministry of Agriculture, Forestry and Fisheries

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## Introduction

Protected areas are in transition — from being regarded as barriers to development and managed for their conservation values alone to being recognised as productive assets of the economy. Protected areas are becoming an essential and powerful component in local and national development. This volume charts the history of the change and synthesises the key lessons from global experience in the form of achievements and challenges. The chapters stem from lessons papers prepared as a first step in the Protected Areas and Development (PAD) Review. They are intended to bring global lessons and best practice to the region and to help define the agenda for detailed consultation and reform in the four lower Mekong River countries. This introduction highlights some of the important lessons from the chapters that follow.

**PA management is shifting from being inward looking and isolated to promoting protected areas as essential components of wider development landscapes.** Over the past two decades there has been a dramatic change of attitude towards protected areas as reflected in the evolving approach to PA planning and management (Chapter 1). Five linked trends stand out. Protected areas have gone from being managed as islands under siege from surrounding human activities to networks of natural systems providing critical services and products. The emphasis in PA management has shifted from pure conservation to take on social and economic objectives. Both those trends have required a much more people-centred perspective in which conservation can be achieved only if managed with local communities and PA users.

Initially there was an urgency to expand national PA systems to bring in representative samples of a country's biodiversity before it was lost. As coverage within nations was brought to satisfactory levels but natural systems continued to degrade, attention turned to the quality of PA management. Despite growing recognition of their development values, many PAs have little or no active management due in large part to financial constraints. National PA budgets remain extremely low when compared to other key sectors and considering the importance of the resources under management. **Much more attention is now being placed on how to increase and diversify PA revenues.**

Mounting development pressure and small budgets forced governments to begin setting sharper priorities for conservation action. Systems were introduced within international agreements such as the 1992 Biodiversity Convention encouraging countries to identify areas of international importance and to give them special attention. PAs with more common natural assemblages of only national or local significance receive fewer management resources.

Appreciation of the positive role of PAs in economic development has been slow in coming and is by no means complete. Economic benefits of protected areas receiving greatest recognition are those most readily quantified (Chapter 2), for example, marketable timber and fibre products from forest areas, income generated from tourism in National Parks, and increased production from fisheries found adjacent to marine protected areas. There has been less appreciation of the development benefits from PAs which are more difficult to quantify such as the ecosystem services. These services range from water regulation and supply, climate control and carbon sequestration to less tangible but significant benefits associated with community health and education. It has been hard to demonstrate the monetary value of such benefits when compared to alternative uses of the areas such as agriculture, forestry and mining, which bring readily identifiable and direct economic returns. **Consequently, protected areas as a form of tenure have received low priority in national economic development plans and have tended to lose out when competing uses are proposed (Chapter 3).**

The failure of economic development planning to account for protected areas has been an outstanding feature of the process at international, national, regional and local levels. The establishment and maintenance of PAs has been difficult to justify in economic terms. In all countries economic planning has fa-

voured uses of land, natural resources and funds that yield demonstrable financial returns. The narrow mandates of economic sectors and their appropriation of free environmental goods and services remain underlying obstacles to safeguarding protected areas throughout the world. While there has been some progress through the use of environmental impact assessment and regional planning instruments, projects and policies of economic sectors continues to threaten many PAs.

As a first step in overcoming this problem, economists began testing methods to give economic value to ecosystem services and products within PAs and their use spread through the 1990s (Chapters 4 and 5). Techniques for quantifying PA values and expressing them in monetary terms are now becoming important tools for PA planners in countries with the most advanced national PA systems. **Economic valuation has been able to provide strong, and much needed, arguments for PAs as a profitable and economically beneficial use of land, resources and investment funds**, and has increased the priority accorded to PAs in development decision-making (Chapter 5).

An underlying problem remains. No markets or prices exist for many of the economic values attached to PAs. Here too, valuation has identified ways of improving existing and developing new markets and prices for PA goods and services, opening the way to generate new revenue streams for conservation. Also, better defining prices and market measures has proved to be an effective means of regulating the demand for resources and of providing incentives for sustainable management.

Despite the significant economic contribution of PAs, the incentives to invest and fund these areas is only weakly provided by markets. **Gradually, governments have begun introducing economic policies and instruments to reinforce PA management by providing economic incentives for developers and PA users to behave in ways consistent with conservation objectives.** Sometimes this has involved direct payments, for example, to farmers in buffer zones for maintaining forests, or charges, for example, applied to farmers using irrigation services and to protect upper catchments.

A trend promoted through market forces is the establishment of protected areas by the private sector and non-government organizations (NGOs). Some habitats and landscapes have proved so valuable as a tourist attraction, a carbon sink or for pollution treatment, for example, that protected areas have been able to function successfully as businesses. In other cases, communities and individuals have been willing to pay NGOs to establish and manage PAs for their public access and amenity values. These initiatives have led to the establishment of local conservation trusts or the purchase of lands by existing state, regional or national trusts. **Innovative financing mechanisms such as conservation funds linked with systems of user fees and levies have become a growing and vital adjunct to government funding for PAs** (Chapter 4). Many act to transfer revenue raising and its expenditure down to the areas concerned and emphasise the role of affected communities and other PA users.

That localisation of funding initiative is in keeping with the strong trend requiring PA managers to become more involved in a wide range of community development activities as a vehicle for conservation (Chapter 6). PA approaches that take into account the needs and desires of local people as well as conservation goals are being emphasised. Two significant lessons have been learned. **First, local people must benefit from PAs if the areas are to be effectively conserved.** Second, collaborative management approaches are essential to tap traditional knowledge and skills of local people in regimes of self regulation, monitoring and sustainable use of PA resources.

The shift from PA managers being just internally focused to taking on wider responsibilities beyond PA boundaries comes with the realisation that **PAs will succeed only to the extent that the management of the land surrounding them is compatible with conservation objectives.** In an increasing number of countries this has involved protected areas becoming parts of larger regional planning schemes.



In most developed countries protected area legislation now confirms the place of management plans for individual PAs as the primary framework for conservation action. Over time laws have given greater emphasis to public involvement in the planning process. The conventional approach is for PA laws to give management plans precedence over all other land-use plans in the areas concerned. Yet, clarification of the relationship between PA plans and spatial plans for surrounding areas has been slower in coming. National and local biodiversity action plans and other environmental strategies have stressed the importance of the regional context and methods taking a landscape approach to protection such as biosphere reserves are growing in favour and application. They establish zones of various intensities and types of use with a core area being the main concern of PA managers and conservation, and with other zones respecting and reinforcing core values.

This growth in participatory planning and the definition of regimes of conservation and resource use through zoning has been spurred on by the revolution in accessible information technology. **IT has become an essential tool for protected area planning, management and monitoring because of its ability to analyse large quantities of data for decision making quickly and cheaply** (Chapter 7). IT tools, including maps, database management techniques and modelling, geographic information systems (GIS), remote sensing and the internet are now being used for better conservation and to integrate PAs with social and economic development planning processes. Their application is hampered by inadequate IT training and the high cost of software.

**Economic sectors have begun to embrace protected areas as a key strategy for maintaining and boosting productivity.** The experience with PAs and fisheries, water management, agriculture and forestry is reviewed in this book. The Fisheries sector has led the way primarily in response to the widespread collapse of stocks through over fishing (Chapter 8). In recent years, there has been a rapid growth in the establishment of marine protected areas (MPAs) around the world. Fisheries managers have become aware of their value in increasing abundance, size and density of species; reproductive capacity; species richness and genetic diversity; fishery yield in surrounding areas; and economic benefits to the sector. As with terrestrial PAs, a transition in MPA thinking is taking place from simplistic species and ecosystem protection measures to multiple resource use management regimes. The wider ecosystem approach including zoning has provided more benefits, including enhanced target species protection, and reduced resource use conflicts. **Consistent with the changing perspectives on terrestrial PA management, the shift from viewing MPAs in isolation to being integral parts of larger-scale seascapes and regional coastal plans has been accompanied by increasing attention to community involvement and social concerns.**

The water management sector has also embraced regimes of protection as a critical development strategy (Chapter 9). Declaring and managing naturally vegetated watersheds as protected areas has maintained natural water regulation and reduced the potential for periods of heavy water flows interspersed with drought. PAs in catchments have also played a fundamental role in ensuring the consistent supply of clean water for down stream irrigated agriculture, hydropower for industrial development and domestic consumption and as a source of water for aquifer recharge. PA managers still need to better express these services in economic terms so that water resource agencies and development economists invest in PAs for the water management benefits they bring to local and national communities. They must show that in many cases structural engineering solutions are not the best option for the management of water resources. **Giving greater priority to PAs in the water sector will require an integrated and cooperative approach across watersheds and river basins so that one spatial development and conservation plan is prepared for a region which all sectors respect.**

The agriculture sector is a relative latecomer in recognising the benefits of protected areas for productivity. The history of agriculture has been one of simplification of natural ecosystems, culminating in intensive commercial monocultures (Chapter 10). This process has diminished genetic and species diversity and

overall system resilience. Agricultural landscapes are sources of remnant biodiversity and, with farmer understanding and support, opportunities are being taken to strengthen biodiversity conservation measures in ways that also contribute to sustainable development of the sector. **By establishing networks of PAs in remnants and corridors across the agricultural landscape, commercial agriculture can improve resilience and productivity.**

The forest sector gave birth to most of the world's national PA systems, but it did so during a period when forests were valued primarily for their capacity to produce timber. There is growing appreciation of the many other benefits of forests for development. Protected areas and regimes of protection are now central to the move towards a more sustainable use of the world's tropical forests (Chapter 11). Yet, forest PAs face continued threats from illegal exploitation, infrastructure developments, the incursion of roads, clearing by squatters, and other destructive pressures. The role of the Forest Stewardship Council (FSC) in setting up and applying criteria of sustainable forest use in tropical forest regions will be important as its influence over the behaviour of growing international markets for tropical timber increases. **Protected areas in conjunction with the forest management certification process are ways of maintaining the integrity of forest ecosystems and the well-being of the communities dependent on them.**

These and other lessons of the global experience with protected areas over the past one or two decades are reviewed in this book. They emphasise the need for PA managers to join the development community, to begin talking the language of development, and marketing PA services and products in ways that enhance conservation and its financing.