

PREK TOAL BIOSPHERE RESERVE: COMMUNITY INVOLVEMENT IN SUSTAINABLE NATURAL RESOURCE MANAGEMENT IN CAMBODIA

PURPOSE

This case study examines a sustainable development initiative by the Cambodian government and the international donor community to protect critical wetland habitat in Cambodia's Tonle Sap Great Lake. Efforts by these parties to develop and implement an integrated management strategy in support of the establishment of a UNESCO Biosphere Reserve to protect internationally-recognized bird habitat at Prek Toal in the Great Lake will be detailed. Particular attention is given to the promotion of conservation through community participatory management, awareness building and education. Institutional and regulatory barriers to successful project implementation and potential solutions are also examined.

ETP1 COURSE TOPIC COVERAGE:

- ▶ INTEGRATED RESOURCE AND ENVIRONMENTAL MANAGEMENT (IREM) CONCEPTS AND BENEFITS
- ▶ BARRIERS TO IREM
- ▶ IREM POLICY INSTRUMENTS
- ▶ IREM PRACTICAL TOOLS FOR IMPLEMENTATION
- ▶ DEVELOPING EFFECTIVE IREM IN THE MRB
- ▶ SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL AWARENESS

ISSUES

Specific issues highlighted by this case study are:

1. Protection, conservation and management of natural resources to allow their long-term use and preservation for future generations
2. Resource use conflict due to conflicting management objectives for shared resources
3. Grassroots approaches to sustainable development to ensure that natural resources are well-managed at the local level
4. Restructuring of regulatory frameworks and different policy directions in support of sustainable management initiatives
5. Addressing knowledge gaps through research to better understand ecosystem function and stability and to inform resource management strategy

LEARNING OBJECTIVES

On completion of this case study course, participants will be able to:

- Identify threatened species at Prek Toal and explain the nature of the threat
- Recognize specific resource use conflicts and instances of unsustainable resource management in the Great Lake
- Suggest possible policy responses to address resource use conflicts
- Discuss potential roles for local communities in managing natural resources in a sustainable manner
- Provide examples of institutional and regulatory barriers to sustainable resource management
- Discuss limitations on the Cambodian government's efforts to establish Prek Toal and the possible role of the other countries

PROJECT SUMMARY

Introduction and Background

The northwestern area of the Great Lake flooded forest known as Prek Toal is considered to be the most important breeding area for endangered water birds in Southeast Asia. It supports significant populations of ten globally threatened or near-threatened species including the Greater Adjutant, Spot-billed pelican, Oriental darter, Painted stork and Black-headed ibis. In October 1997 the site (Figures 1 and 2) became a core protected area of the Tonle Sap UNESCO Biosphere Reserve.

The rich natural resources of the Great Lake also supports a sizeable human community. Most of the floating villages located in the inundated areas of the lake were established a hundred years ago primarily as a seasonal base for fishing and fishery related activities. Since then, the traditional way of life in these villages has been largely unchanged with fishing remaining the major source of income for the majority of the villagers.

Management of the Tonle Sap Biosphere Reserve is the joint responsibility of the Ministry of Environment (MoE) and Ministry of Agriculture Forestry and Fishery (MoAFF). Of interest is the overlap that exists in the management objectives of these government agencies. The MoE focuses on the protection, conservation and management of the natural resources for long-term use and sustainable development and for use by future generations. In contrast, MoAFF's primary focus is on managing fish harvesting and improving fish production from the fishing lot foreshore leases and sub-leases to individual fishers.

A major initiative by MoE in meeting their management mandate was the establishment in 1995 of its Technical Cooperation Unit (TCU) to create a Biosphere Reserve in the Great Lake. The TCU is supported by UNESCO and the European

Union (EU) countries and has recently become a secretariat under the Cambodia National Mekong Committee (CNHC) umbrella.

The main goals of the TCU are to undertake research to better understand the critical resources contained within the Prek Toal Biosphere reserve and to educate local communities and visitors to the reserve about sustainable management and conservation practices.

Activities which have been undertaken by the TCU to date include:

- Establishment of a research station within the Reserve
- Completion of bird counts
- Outreach education programs to local communities
- Setting up a schedule for tourist visitors and preparation of a guidebook to teach visitors how to avoid disturbing the wildlife
- Drafting an environmental management plan
- Ongoing discussions with related agencies, especially with the fisheries Department and fishing owners to solve the resource use conflicts

Prek Toal Biosphere Reserve Management Approach

The multi-step approach adopted for the Prek Toal Biosphere Reserve is described in detail in this section. Particular attention is given to the linked nature of various tasks being undertaken by the TCU in attempting to ensure the long-term success of the Reserve and to promote increased protection of the Great Lake through World Heritage nomination and Ramsar listing.

Step 1 – Develop an Integrated Management Strategy

Tasks completed in developing an integrated management strategy for the Reserve included:

- Assess ongoing and planned projects of non government organizations (NGOs), international donors, and Cambodian government line agencies around the Great Lake to determine whether their goals and objectives are complimentary
- Compile social, environmental and economic data related to human activities in the Great Lake
- Identifies resource use issues and problems in different zones of the Reserve
- Develop criteria for assessing the social, economic and environmental sustainability, and economic evaluation of critical wetland resources in the Reserve
- Analyze existing institutional arrangements and the legal framework for management of the reserve as a precursor to developing recommendations for institutional sustainability

- Propose an integrated management strategy for the Reserve and corresponding implementation/monitoring mechanisms
- Examine opportunities to increase cooperation among Cambodian government line agency cooperation at a national level and among donors at the international level
- Identify mechanisms for community participation in resource management and decision making
- Awareness building through information and education on issues, rights and responsible governmental agencies involved in the protection of the Tonle Sap

Step 2 – Promote Coordination and Networking

To address issues relating to jurisdictional and management mandate overlap among involved agencies, the following measures were taken:

- Initiate discussions with stakeholders, community representatives, experts and specialists living and working in the Great Lake
- Coordinate collaborative research involving Cambodia government line agencies and other organizations to facilitate information gathering
- Provide forums for public consultation on environmental and economic issues, and review of project proposals
- Develop mechanisms to improve information flow among the private sector, the public sector, and decision makers
- Promote enhanced coordination among donor projects
- Promote linkages among Cambodian government line agencies through inter-ministerial coordination and networking
- Disseminate regular progress reports on achievements to all interested users via Email, Internet, and distribution of hard copies.

Step 3 – Build Database and Information Management System

Activities undertaken related to the development of a database and information management system included:

- Develop a database and geographical information system (GIS) to facilitate data storage and synthesis
- Set up a library center for researchers
- Catalogue existing literature holdings and plan to acquire reports on ongoing research in the Great Lake

Step 4 – Establishing an Eco-Tourism Management Committee

A major activity being undertaken by the TCU is the establishment of an Ecotourism Committee within the MoE. Promoting ecotourism in this manner is

expected to have several benefits including generating income for local communities and researchers to ensure that the Reserve is economically sustainable. The success of this activity will depend in large part on the effectiveness of many of the reforms being undertaken by the TCU as described previously.

Small- to medium-scale ecotourism is tentatively scheduled to begin in the near future. In preparation, a village committee including all interested parties (village chiefs, fishing lot owners, conservation teams, former bird harvesters) will be set up to discuss ecotourism issues such as determining which places tourists should visit (e.g., viewing birds within the reserve and crocodile farms and commercial fishing practices in surrounding villages), entrance fees, availability of guides and vessels for hire, accommodation and restaurants. Attention is also being given to educating villagers to act as local guides for tourists. Because none of the villagers can speak English, the Committee will appoint a teacher to provide free lessons so that villagers can benefit directly from tourist visits to the Reserve.

The TCU ecotourism committee recognizes the importance of advance planning in ensuring that ecotourism activities are sustainable. For example, they have recommended – at least for the first year – not to allow visitors in the observatories, as it may disturb the breeding colonies. Instead, bird watching will be confined to areas along the streams – the most accessible being Prek Da – which are easily accessed by a silent motor boat or rowing boat. If these simple rules are respected, ecotourism impacts on the bird colonies will be minimized. The Committee also plans to produce a document to be sold to visitors which discusses the conservation goals and management strategies in the Reserve and describes the birds commonly viewed in the Reserve with the proceeds helping to cover the conservation project running costs.

In addition to logistical planning, the Committee is also examining how best to utilize the revenues generated by visitor fees. Recognizing that there is no better incentive than an improved livelihood for villagers, the Committee is working to ensure that the revenues from the reserve go to the villagers themselves. In doing so, they are prioritizing development needs in the local communities (e.g., credit, education). In determining how best to distribute income from ecotourism, particular attention is being given to the poorer villagers, former bird harvesters and people living from unsustainable use of forest resources. Distribution of income in this manner in addition to education and awareness building among villagers is crucial to the sustainability of the project – villagers are given a positive incentive not to continue unsustainable practices which are clearly not compatible with the conservation and protection goals of the Reserve. The Committee is also looking at alternative sources of income for villagers and is considering the results of socioeconomic surveys which recommend that villagers invest in agricultural activities such as fish farming or duck raising to improve their living standard.

Promotion of ecotourism is seen as being critical to the Reserve's long-term sustainability. Benefits resulting from steadily increasing visits by tourists attracted by the bird watching opportunities in the Reserve during their stay in Siem Reap to

view the Angkor Wat temples are twofold: (i) local communities can achieve a good standard of living while discontinuing fishing and other unsustainable harvesting practices in the Great Lake; and (ii) increased awareness of the ecological importance of habitat and wildlife found at Prek Toal will bolster efforts of the Cambodian government and international donors to conserve and protect this habitat.

SITE VISIT METHODOLOGY

Course participants will visit Prek Toal to learn more about conservation and protection efforts in the Reserve and the involvement of local communities in its management. Participants will also be able to speak with representatives of the TCU to better understand some of the management challenges faced in promoting sustainable management practices in the Great Lake. The expected duration of the case study site visit is one day.

Participants will be organized into small groups for the visit with each group being assigned a specific interview target and question focus as summarized in the following table.

INTERVIEWEE	FOCUS
Local Fishers	Fishing practices (gear, species, size classes) Fishing areas (open areas, fishing lots) Resource use conflicts with fishing lots Resource allocation Knowledge regarding health of fish populations Income generated
Fire Wood Collectors	Firewood collection practices Location and timing of wood collection Tree species and volume Uses of wood collected Observed impacts to flooded forest Knowledge of impacts to birds using forest habitat
Village or Commune Chief	Quality of life Social issues in village Traditional resource management practices Non-fishing sources of income Availability of micro credit and other sources of funding
TCU Representatives	Institutional and regulatory arrangements for management Management mandates of government agencies Overlap in management goals and objectives Collaborative arrangements with fishing lot operators NGO and international donor involvement
All Interested Parties Related to Ecotourism	Anticipated demand for ecotourism Management strategy to maximize income Suggested measures to ensure sustainability Projected benefits to local community Positive impacts related to tourist interest in biosphere reserve Potential negative impacts from tourist visits

On completion of the site visit, the small groups will be asked to present their findings to the class, with emphasis on the practical lessons learned by course participants which reinforce sustainable management and IREM theory taught in the course.

TAKE HOME MESSAGES

Anticipated lessons learned by course participants in completing the case study and site visit might include:

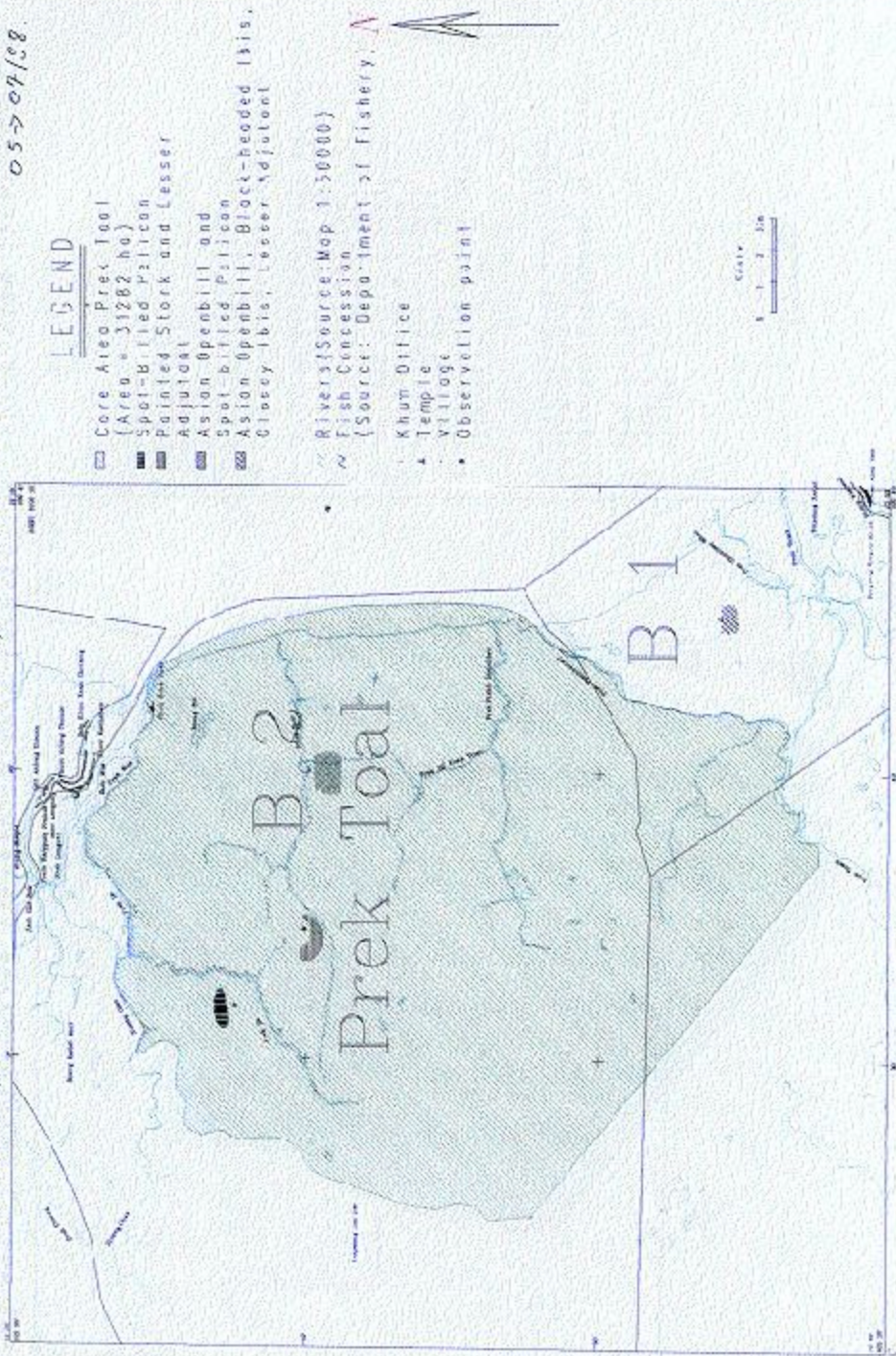
1. Traditional ecological knowledge may provide for sustainable management of natural resources under steady-state conditions but local communities may be forced into unsustainable practices in the face of economic pressures and lack of access to resources.
2. Promotion of sustainable management practices is unlikely to be successful unless the livelihood of local communities is considered and these communities are both involved in planning and management and share economic benefits.
3. Education and awareness building among local communities and other resource users is essential in eliminating unsustainable resource use practices.
4. Additional research is needed to fill knowledge gaps in support of sustainable management.
5. Institutional and regulatory changes are likely to be necessary in support of sustainable management initiatives to eliminate overlap in government agency mandates and to reform management structures which contribute to unsustainable practices (e.g., fishing lot system in the Great Lake).

REFERENCE READING

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- TCU. 1998. Project Proposal for Tonle Sap Biosphere Reserve. Technical Coordination Unit for the Tonle Sap. Cambodian Ministry of Environment.
- TCU. 1996. Strategy and Action Plan for the Protection of the Tonle Sap. The Technical Coordination Unit for the Tonle Sap. Cambodian Ministry of Environment

FIGURES

PREK TOAL CORE AREA (TONLE SAP BIOSPHERE RESERVE) : LOCATION OF WATERBIRD COLONIES 1598
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