

**WORKING PAPER**

# ***Policy, Legal and Institutional Studies***

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## ***Management of Fisheries, Coastal Resources and Coastal Environment in Thailand: Institutional, Legal and Policy Perspectives***

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***Policy Research and Impact Assessment Program***



International Center for Living Aquatic  
Resources Management



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MANAGEMENT OF FISHERIES, COASTAL  
RESOURCES AND COASTAL ENVIRONMENT IN  
THAILAND: INSTITUTIONAL, LEGAL AND  
POLICY PERSPECTIVES

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**August 1999**

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# Editor's Preface

An essential part in the management of coastal and marine resources is how the legal and institutional framework adequately provides for the effective management of these resources. The right regulatory and policy environment needs to be in place—and enforced—to ensure that the interests and participation of local communities and other stakeholders are upheld. The government should, hence, work in dialogue with the people so that appropriate laws, policies and institutions are crafted. The conditions needed for this is not yet (fully) in place among the countries in Southeast Asia. Management of coastal and marine resources based on a sound working relation between (local) users and (local) authorities remains a concept waiting to be implemented. In 1996 to 1998, ICLARM conducted case studies on the institutional, legal and policy perspectives of managing fisheries, coastal resources and the coastal environment in Indonesia, Philippines, Thailand, Cambodia and Bangladesh to address this issue. The aim of the study was to look into the elements at local, national and regional levels which sets the rights and rules (laws, customs, traditions, etc.) that provides the legal, institutional and policy framework to effectively implement different types of locally-based (resources) management in marine and coastal areas, such as schemes for "co-management", "community-based management", and "integrated coastal resources management". The case studies were carried out in collaboration with local partners. Funds for the case studies were provided by Sida, and in the cases of the Philippines and Indonesia by the World Resources Institute.

In order to disseminate the results of the various case studies to a wider audience, this series of working papers is conceived. This case study will be the first in the series. However, a synthesis of the findings of all the case studies will also be made and will be published separately by ICLARM.

In this working paper, Drs. Ayut Nissapa, Awae Masae, Vichot Junrungrot and Somsak Boromthanasarat of CORIN have made a good study on the institutional, legal and policy framework for managing the fisheries, coastal resources and coastal environment in Thailand and proffered solutions to the management of these resources. The authors adapted various methodologies to carry out the study. They provided a description of the Thai political economic system. They have also identified four case studies to explore various resource management issues in Thailand and recommended strategies on how these can be addressed considering the peculiarity of each management issue. Vital laws, policies, plans and institutions are also reviewed. The authors also offer means on how the local communities can be involved in managing their coastal and fishery resources.

As shown in this paper, important fishery and coastal resources in Thailand are already being degraded or threatened by various anthropogenic factors. These factors include a rapidly growing coastal population, bureaucratic or administrative problems, overexploitation and pollution. The paper also shows how the government at the national

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and local levels addresses the problem. Laws, policies and plans are laid out both to counter resource degradation and to manage the resources. Yet, the problems are still around and success appears hard to come by due to problems of implementation, lack of necessary financial resources to implement programs and projects, and inherent weakness of the laws, policies and plans, to name a few.

While the situation appears to be bleak, significant inroads in certain areas are made by local communities and their local authorities to manage the resources within the local context. Various laws and policies also provided opportunities for the involvement of local communities and the local authorities in resources management. For example, significant recognition of the role of local communities in the management of resources and the environment is found in the 1997 Constitution. On local administration, there are, among others, the Public Administration Act of 1991, Sub-district Council and Sub-district Administration Organization Act of 1994 and the Provincial Administration Organization Act of 1997.

The intricate linkage and cyclical relationship of policies and plans at the three different levels of administration—local, national and regional—in Thailand are also showed in this working paper. It is hoped that by showing this understanding of the issues relating to appropriate laws, policies and plans and their important role in fishery and coastal resources management are made.

The views expressed in this paper reflect those of the authors and do not necessarily represent ICLARM or Sida.

Dr. Magnus Torell  
*Project Leader*

# Preface

This research was made possible by many people and institutions. A great cooperation was provided by the local people, private business persons and government officials in Chantaburi, Songkhla, Nakhon Si Thammarat, Trang Satun and Bangkok. Their opinions, discussions and mutual works are highly beneficial.

Support obtained from the International Centre for Living Aquatic Resources Management (ICLARM) in the Philippines and Coastal Resources Institute (CORIN), Prince of Songkla University in Thailand was enormous.

We would also like to thank Dr. Magnus Torell for his encouragement and understanding which was very helpful in all stages of the research.

Appreciation is hereby expressed to all who has been involved in this research.

*Ayut Nissapa  
Awaee Masae  
Vichot Jungnangrot  
Somsak Boromthananarat*



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# Chapter 1

## Introduction

### 1.1 BACKGROUND AND OBJECTIVES

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**W**ith more than 2 600 km of coastlines, about 70% of Thais are concentrated in and around the coastal area or in areas not far from the coast. Out of 76 provinces, 24 provinces (including Bangkok) are considered coastal provinces or highly dependent on the coastal area. This has made Thailand heavily dependent on the coast. The interference of human activities has resulted in the mismanagement of common resources such as mangrove forests, swamps, intertidal zone or the sea.

At present, there are no formal and direct fisheries and coastal resources management laws in Thailand, despite their importance. However, there exists informal forms of fisheries and coastal area management at local levels where traditional practices are common. The recent decentralization process of the Thai public administration system supported by the New Constitution (approved by the parliament by the end of 1997) and its subsequent organic laws has opened a high expectation for effective and participatory management of fisheries and coastal resources. In addition, international involvements have played increasing roles as Thailand has committed itself to the world community in terms of legal, social, economic and environmental cooperation. These local and international involvements can have enormous influence on the national policies and plans for the effective management of fisheries, coastal resources and coastal environment in Thailand in the future.

#### REASEARCH OBJECTIVES

- to investigate management processes;
- to present a picture of interwoven relationships; and
- to suggest a desirable management practice.

In light of the unstable current status of fisheries and coastal resources, existing national policies, plans and institutions equipped with laws and regulations, local initiatives and traditional management practices and increasing international involvement, this research has been carried out with following specific objectives:

- (1) to investigate the management processes related to the historical evolution of public administration, laws and policies;

- (2) to present a picture of the interwoven relationships of local, national and international involvement in designing an effective fisheries and coastal resources management; and
- (3) to suggest a desirable management practice that takes into consideration synthesized findings on the institutional, legal and policy framework.

## 1.2 METHODOLOGICAL FRAMEWORK

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This research employed various qualitative and quantitative methodologies for the collection of data/information, data analysis and synthesis of the research findings. This methodological framework provides a working model for the data collection and analysis so that research objectives could be fulfilled, and consequently solutions could be suggested.

### 1.2.1 A Demand-Supply Paradigm

A simple economic paradigm of demand and supply could be adapted for resource management purposes when all resources are classified into demand and supply sides. Even though the demand and supply sides of fisheries and coastal resources cannot be entirely distinguished from each other, it is an assumption made here. However, such clear distinction can be assumed for analytical conveniences. In addition, the resources have their own values when analyzed in the demand-supply framework. But the prices of these resources may not be evaluated with precision, especially when the resources involve social and environmental values.

**Demand-sided Resources**

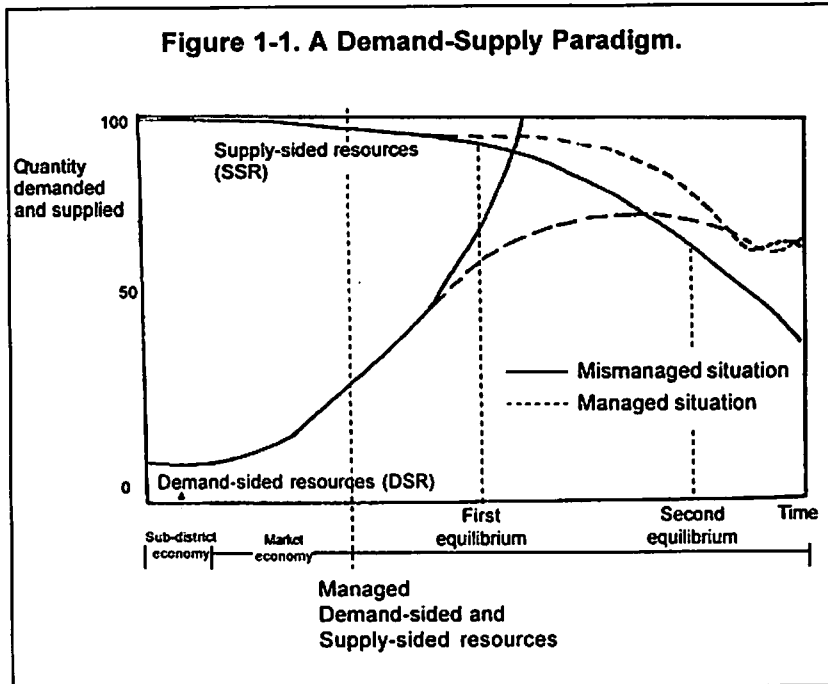
- resource components that require SSR for their livelihoods or pleasures

**Supply-sided Resources**

- resources which exist for several uses to fulfill requirements of the DSR.

(1) Demand-sided Resources (DSR). The classification of DSR made here is based on resource components that require supply-sided resources (SSR) for their livelihoods or pleasures. At a point when these supply-sided resources are exhausted, they may turn into the DSR. Therefore, both DSR and SSR are exchangeable. Examples of the DSR are several groups of human activities that demand fisheries and coastal resources for the fulfillment of their objectives, and the natural resources that require rehabilitation and inputs for their recovery after being exploited by the DSR.

(2) Supply-sided Resources (SSR). The SSR are resources which exist for several uses to fulfill requirements of the DSR. Examples of the SSR are those of fishery products, mangrove resources, seabed and coastal minerals, tourism resources such as water, beaches, coral reefs, ports and infrastructures, and cultural heritage. As mentioned above, these SSR are exchangeable with the



DSR, and at one point in time when the SSR are used exceeding their maximum point, they can turn out to be the DSR.

As shown in Figure 1-1, there is a dynamic property between DSR and SSR evolving through time, depending on several factors that affect their levels of existence. Under a mismanaged situation, the DSR remain constant at the initial period of a subsistent economy and they are expected to rise exponentially in the market economy period as they are influenced by several factors involving population growth, changes in social values, changes

in consumption habits and modern technologies. On the other hand, SSR are increasingly exploited as the DSR change forms from the subsistent to market environments, and the quantity supplied decreases as the DSR increases. At the first equilibrium point, the DSR and SSR are equalized. However, this point does not remain at that position for a long time as the DSR are exponentially increased. The gap between DSR and SSR is getting wider and wider, and at one point in time some SSR exchange their forms to become DSR which further widen the gap.

Under the managed situation, the management arrangements are expected to change both DSR and SSR forms so that the DSR and SSR increase at a slower rate and in the long-run should be able to adjust themselves to converge toward a more sustained equilibrium state.

In conclusion, the ultimate objective of the fisheries and coastal resources management using the demand-supply paradigm is that desirable management strategies are able to bring together the demand and supply to the point where demand and supply are approaching an equilibrium position, and remain fluctuating around that position as long as possible. However, the dynamism of the concept generates the required management strategies that such movements of the equilibrium position over time take a convergence, so that the equilibrium could be sustained.

### 1.2.2 A Thai Political Economic System

The historical development of the Thai economy after the decline of the absolute monarchy to constitutional monarchy has brought considerable impacts on the social and economic structures of the country. The social and economic production pattern is a result of the changing relationships from a patron-client relationship to a capitalist system. The patron-client relationship indicates status of individuals in society where one is a patron and the other is a client. The patron has absolute ownership of production produced by its clients while its clients are governed and its well-being is assured by the former. This patron-client relationship created extensive group divisions which formed a basis for Thai politics.

On the other hand, the capitalist system believes in human productive capability regardless of state interference. Competitiveness in production of goods and services is the main driving force that leads to maximum social welfare. Inevitably, such competitiveness generates an individualistic culture in which wisdom and private property rights are greatly respected.

The democratic revolution in 1932 has created a mixture of the Thai political economic system (see Table 1-1).

Table 1-1. Thai Political Economic System.

	Authoritarian	Democracy
Patron-Client Relationship	Authoritarian-patron-client system	Democracy-patron-client system
Capitalism	Authoritarian-capitalism system	Democracy-capitalism system

Source: Tanapornpun, R. (1995).

In general, the political economic system of a country evolves through time. With increasing international involvement, Thailand's political and economic system has evolved to a democratic-capitalistic system. However, its quick or slow movement depends largely on its historical background.

The authoritarian-patron-client system is moving toward the democracy-capitalism system, while the authoritarian-capitalism system and the democracy-patron-client system acted as the transitional systems. However, the time period of these movements is still uncertain (Thanapornpun 1995). The democratic revolution in 1932 has changed the faces of Thailand through several blood/bloodless revolutions in order to attain the desirable democracy with the King as the symbolic representation of unity. Along the path to the full democracy-capitalism system, the Thai political economy is still in a stage of confusion, which if it is not managed well, would result in the dramatic exploitation of resources including the fisheries and coastal resources.



Therefore, the management strategies of fisheries and coastal resources have to identify which position Thailand is currently undertaking. Some evidence reveals that the Thai political economic system is still in the transitional period. This claim may be in the form of encroachment of politically influential investors into the commons such as mangrove and terrestrial forest reserves or marine national parks to extract benefits to support the patronage of political parties, with the expectation to get more votes and seats in the next election, and finally more wealth and power.

### 1.2.3 *A Matrix Approach*

The matrix approach is used to analyze the data and information based on the idea that fisheries and coastal resource management are multidisciplinary in nature. There are several issues of conflicting and immeasurable uses of fisheries and coastal resources that the matrix method is able to handle such complex nature of interactions. The main features of the matrix method is that it is able to relate the effects of the fisheries and coastal resources sectors on themselves and on other sectors. Such effects are explained by the use of multipliers if the quantitative data are available. Otherwise, some explanations in terms of effect descriptions could be done.

### 1.2.4 *Logical Framework Approach (LFA)*

The LFA can be used to organize and analyze fisheries and coastal resources management problems in a systematic way so that the problems could be arranged in terms of cause-effect relationship. An analysis of the relationship results in the identification of problems, issues, priorities and precise causes of problems, in relation to fisheries and coastal resources management.

This research has applied the above methodologies wherever appropriate as well as to analyze data/information gathered from several data/information techniques. These techniques are common and widely used in similar research works in this field.

## 13 DATA COLLECTION TECHNIQUES

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Several data/information collection techniques are used in the present research. These are as follows:

### 1.3.1 *Desk Study*

The desk study involves compilation of relevant laws and regulations, administrative arrangements and policies and plans on fisheries, coastal resources and coastal environment protection. It also includes a review of literature and resource profile and status which is further classified, analyzed and synthesized.

### *1.3.2 Consultative Meetings*

The consultative meetings involve coordination with other relevant organizations and stakeholders of the resources in the form of group discussion and small participatory workshops which employed the Logical Framework Approach to build problem relationships and analysis of problem trees.

### *1.3.3 Personal and Group Interviews*

The research team meet with the key informants and stakeholders. Question guidelines were made beforehand. With an open-ended questionnaire, the respondents are able to express themselves in which information is better collected. Personal interviews are used in situations where the group interview resulted in false or distorted information. These two interview techniques produce good outcomes.

### *1.3.4 Sample Survey*

A structured questionnaire has been used in some cases to study the characteristics of the population. The survey and sampling techniques follow standard statistical procedures.

### *1.3.5 Case Study*

Several case studies representing different key problem issues are analyzed based on the DSR and SSR matrix analysis. Four case studies with different analytical themes are selected to reflect the overall framework of the research.

- ❖ Case study 1 represents the enforcement of laws, policies and plan - Laem Talumpuk in Pak Phanang district, Nakhon Si Thammarat province.
- ❖ Case study 2 represents wastewater management from shrimp aquaculture - Kwean Hak in Khlung district, Chantaburi province.
- ❖ Case study 3 represents local initiatives - Ban Leam Makhham in Sikao district, Trang province.
- ❖ Case study 4 represents international involvement - Tarutao Marine National Park in Muang Satun district, Satun province.

These case studies were analyzed with the theme in mind.

#### 1.4 IMPORTANCE OF THE RESEARCH

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With increasing uses of fisheries and coastal resources, which often lead to conflicts and riots (as reported in several incidents), the proper and balance management strategies for these resources are urgently needed. Such desirable management schemes are to take into account many demand- and supply-sided resources with several stakeholders and existing local and formal laws and regulations. In addition, policies and plans designed by all levels of administration perform as tools to facilitate the management strategies.

This research involves a variety of methodological approaches and data/information techniques which when analyzed are expected to produce a synthesis that indicates what management strategies are needed in an order of priority. In addition, the analysis is done in such a way that each coastal area needs different and specific management strategies.

It is hopefully expected that this research will be used as guidelines for policy decisionmaking and plan formulation by existing institutions responsible for these tasks. It should also be used as a leaping platform for other similar studies for a better management of fisheries and coastal resources of Thailand.

#### 1.5 OUTLINE OF THIS SYNTHESIS REPORT

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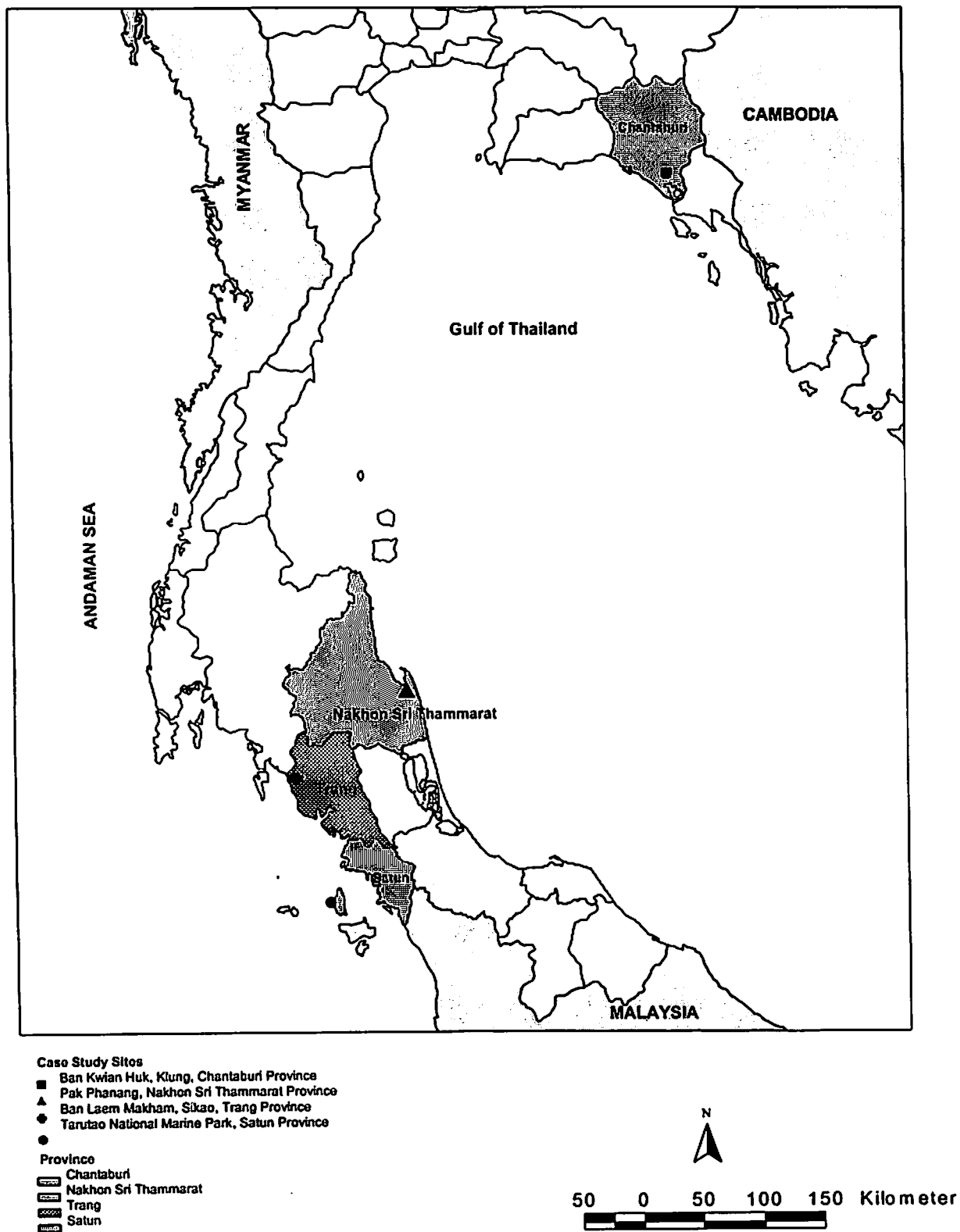
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This synthesis report is arranged as follows:

- ❖ Chapter 1, Introduction;
- ❖ Chapter 2, Brief background on the status of coastal resources;
- ❖ Chapter 3, Highlights existing formal laws and regulations, policies and plans and institutions responsible for these management instruments;
- ❖ Chapter 4, Synthesis of local management and what drives these initiatives;
- ❖ Chapter 5, International interventions;
- ❖ Chapter 6, Overall synthesis result of the research findings.

The case studies selected represents selected dominant themes of fisheries and coastal resources management and are presented at the end of each chapter. Figure 1-2 shows the location of each case study site.

Figure 1-2. Map of Thailand and Case Study Sites.



# Chapter 2

## Fisheries and Coastal Resources Status and Issues

### 2.1 INTRODUCTION

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Thailand has about 2 641 km of coastlines ranging from the central plain and the east coasts to southern coasts of both the Gulf of Thailand and the Andaman sea. These long coastlines and vast coastal areas have generated benefits for Thailand's developing economy for many centuries. The reliance of the Thai people on their coastal zone can be seen through the daily lives of Thais. Also, marine fisheries for domestic consumption and export earnings have been important sources of income and employment. Thailand's fishery exports, both from marine capture fisheries and aquaculture have accounted for Thailand's status as among the top producer of fishery products in the world such as shrimps.

This chapter aims to present the status of fisheries and coastal resources. Using the demand and supply paradigm, the fisheries and coastal resources are categorized into two distinct (and unexchangeable) sides, i.e., Demand-Sided and Supply-Sided Fisheries and Coastal Resources (DSFCR and SSFCR).

### 2.2 DEMAND-SIDED FISHERIES AND COASTAL RESOURCES (DSFCR)

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The Demand-Sided Fisheries and Coastal Resources (DSFCR) are resources that demand the supply-sided resources for their growths and livelihoods. Human activities and natural resources and their functions are major examples of DSFCR. With respect to human activities, the demands are highly influenced by population growth, changes in social and economic values, changes in consumption pattern and commitments to regional and international forces. These various types of human demands to utilize fisheries and coastal resources have made the management of DSFCR a truly difficult task. Despite some attempts through formal rules (legislation), the fisheries and coastal resources are still being degraded at an alarming rate.

With respect to natural resources, the demands are influenced by conditions of the resources. If the resources are used exceeding their maximum carrying capacity levels, then they can turn out to be highly aggressive DSFCR. Therefore, human's intensity to use the natural resources, and the ability of these resources to support and assimilate charges on their conditions are the major influential factors.

### 2.2.1 Human Demand

#### THAILAND'S HUMAN DEMANDS

- 46 851 marine fishery households;
- 16 501 coastal aquaculture households; and
- 1 552 households doing both marine fishery and coastal aquaculture .

There are about 46 851 marine fishery households; 16 501 coastal aquaculture households; and 1 552 households doing both marine fishery and coastal aquaculture in Thailand. Most of these households are considered small scale whose main livelihoods depend largely on the abundance of fish and coastal resources. Therefore, legislation to control the use of these resources can have enormous effects on their livelihoods. On the other hand, if the resources are degraded by these households or other large scale investors, this can have similar impacts on their way of life. Even though some supply-sided fisheries and coastal resources such as tourism can be other alternative sources of their economic income, level of management intensity of the tourism resources is yet to be determined.

In many instances, local initiatives for fisheries and coastal resources management have shown some favorable signs which are expected to be a role model for other communities. However, external forces together with changes in social values, conspicuous consumption, loopholes in laws and regulations, insufficient knowledge and information, and insufficient law enforcement have been major threats to such local management.

An example of the above argument is the Ko Samet National Park in Rayong province of the east coast where the local people would like to expand its tourism industry as it was able to generate employment and income opportunity for them. This initiative, if managed properly, should be supported as it was for the people's interest. However, the state saw it in a different way and refused the requested expansion citing environmental damages already done by existing establishments. The new tourism service operation would worsen the already-degraded environment in the National Park. From the other perspectives, if this local initiative has sufficient scientific and engineering backups and enough consultation with the park officials supported by the consultation and public participation then the Ko Samet National Park would have been a role model for economic-cum-environment coastal tourism.

The DSFCR management strategies in Thailand are mostly not implemented in such a way that resource owners are guaranteed with their ownership rights. Further analysis suggests that the national legislation system has focused its attention toward the exploitation of fisheries and coastal resources for the macroeconomic growth rather than for the improved well-being of the unfortunate individuals. This type of management using formal rules is believed to be found throughout Thai history back to the recorded scripts of the Sukhothai and Ayutthaya periods.



The 1997 figures showed that a number of tourists visiting coastal provinces generated high income. However, more than 70 percent of tourism income were distributed to big cities like Bangkok, Phuket and Chantaburi. The largest share of income fell into the hands of a few large entrepreneurs while individuals who live and spend their livelihoods on those tourism resources get an unbelievably small share. In addition, the aesthetic value of the unspoiled islands and towns that the local residence used to enjoy has been degraded as a result of quick and not-well-planned construction.

Similarly, as in the case of coastal aquaculture, the export demands from wealthier countries have high influences on the extraction of coastal resources while social and environmental costs are left for the small and insignificant locals to pay. The beautiful and attractive figures of export values do not truly show the real losses that the community and the environment have to absorb.

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*"Thailand has to try very hard to manage its own demand-sided resources and to control and monitor the supply-sided resources and external forces so that the fisheries and coastal resources management strategies could be brought to the point near the desired and well-balanced existence between DSFCR and SSFCR."*

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The positive side of these DSFCR is in the quality of human resources. The attempts to be well-behaved demands through formal legislation and informal (local or tradition or customary) rules have been put into effect. These may be the reason why Thailand is Thailand as it is. There is no way that Thailand is going to be what it was or that it is going to be like other well-managed countries in the near future. Thailand has to try very hard to manage its own demand-sided resources and to control and monitor the supply-sided resources

and external forces so that the fisheries and coastal resources management strategies could be brought to the point near the desired and well-balanced existence between DSFCR and SSFCR.

Several issues identified in relation to human demands can be presented as follows:

- ❖ While human demands and pressures on natural resources continue to increase, Thailand's effort to control population growth are making some impacts.
- ❖ Changes in consumption patterns have tremendous effects on natural resources exploitation offsetting the human demands as a result of population growth.

### 2.2.2 *Natural Resources Demand*

Natural resources provide for human demands. However, as human demands increase and consume a large amount of supplies, the natural resources will be exhausted. At this point, the natural resources supplies turn out to be greater natural resources demands. Expenditure to bring the degraded natural resources back to its original conditions would mean greater proportion than the revenues generated. The demand-supply paradigm in Chapter 1 explains clearly the management and mismanagement scenarios.

There are issues relevant to the natural resources demand as follows:

- ❖ Though equilibrium position is ideal, there are ways to manage the natural resources to fluctuate around the ideal equilibrium point.
- ❖ Monitoring of fisheries and coastal resources conditions is necessary.

### 2.2.3 *Coastal Aquaculture*

Coastal aquaculture, which includes fish, crab, prawn and shellfish, are increasingly important alternatives to seafood production to supplement the declining trend of marine capture fisheries. Among all species cultured, tiger prawn (*Penaeus monodon*) is the most popular occupying a large area of coastal zone. Foreign exchange earnings, employment generation and associated in-line industrial development have expanded for the past 10 years. The positive contribution of tiger prawn aquaculture has complemented the impressive economic growth of Thailand. However, negative consequences from tiger prawn aquaculture have also been noted. But the costs involved and expenses to bring environmental quality back to normal are not included in cost accounting. This is misleading but quick cash and high demand from export markets have prompted the Thai government to encourage the establishment of the tiger prawn aquaculture industry.

**THE DECLINE OF THE TIGER PRAWN  
INDUSTRY WAS DUE TO:**

- conflicting uses of unsuitable lands for prawn aquaculture;
- pest infestation and water pollution;
- mangrove deforestation;
- increased prices of inputs; and
- scarcity of tiger prawn stocks.

The present slowdown of the tiger prawn aquaculture is due largely to conflicting uses of unsuitable lands for tiger prawn aquaculture (rice field, fruit orchard, rubber plantation); infestation of pests disease, and water pollution; mangrove deforestation; increased prices of inputs (feed, fingerling, labor, chemicals); and scarcity of tiger prawn parent stocks. It is also believed that the slowdown of this industry is one of the causes of overall macroeconomic downturns and financial crisis that hit Thailand since 1997.

A case study in Khlung district in Chantaburi province using group interviews has revealed that the major problem

facing the tiger prawn aquaculture industry has been the changing coastal environments. This results from pollution, improper wastewater treatment, improper sludge disposal, uncontrolled industry expansion and weak enforcement of laws and regulations.

Apart from environmental problems, the tiger prawn industry is now facing some international interventions such as trade restriction, quality assurance and environmental policies of the importing countries. A discussion on the tiger prawn industry using the Chantaburi case study as presented in section 2.4.

### 2.3 SUPPLY-SIDED FISHERIES AND COASTAL RESOURCES (SSFCR)

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The SSFCR are marine capture fisheries, deepsea fisheries, mangrove resources, seabed and coastal minerals, and sea and coastal tourism resources. These resources are expected to bring about prosperity to the country. The following subsections present analyses of SSFCR status with some identified and predominant issues associated with the SSFCR.

#### 2.3.1 Marine Capture Fisheries

Marine capture fisheries are defined as fishing activities in the sea ranging from mangrove area and intertidal zone to Thailand's 200-m EEZ. Deepsea fisheries in the international waters will be considered in the following subsections.

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*"Even though the sovereign waters of Thailand have increased, fishery abundance is questionable as most of the Thai waters have been heavily exploited."*

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Marine capture fisheries in the 200-m EEZ involve different types of fishing gears used, different boat sizes, different species caught and all other different fishing activities within the national boundary as provided for in the United Nations Convention on the Law of the Sea in 1982. Under the Convention, Thailand gained 60 percent more in sovereign waters but lost about 300 000 square miles on the high seas (international waters) after it was declared part of the neighboring countries' EEZs.

Even though the sovereign waters of Thailand have increased, fishery abundance is questionable as most of the Thai waters have been heavily exploited. There has been visible evidence indicating that the quantity (amount of fish caught) and quality (composition of fish caught) of Thailand's fisheries have been degraded to the point close to or exceeding the estimated maximum carrying

capacities. Also, the catch of high-priced and consumption fish has decreased resulting in increased catch effort so as to compensate for higher fishing costs. Consequently, incidents of Thai fishing boats caught encroaching in the waters of neighboring countries are reported. Within Thailand, trawlers intrude into the prohibited 3 000-m zone which is preserved for smallscale coastal fisherfolks and national parks and other protected areas. An increasing number of Thai fishing boat is also venturing in international waters.

Recently, there was a proposal for an expansion of the conservation zone in Phangnga Bay which would take in waters off Phuket, Krabi and Ranong. Inshore fishermen demanded that the Fisheries Department extend the conservation zone from 259 square miles to 773 square miles to allow a greater area for the rehabilitation of fish stocks. The Phuket Fishery Association representing commercial trawlers initially proposed the conservation area be expanded to 401 square miles but the meeting opted for 649 square miles as suggested by fishery biologists.

An agreement of sorts was reached. A committee is set up to study the appropriate area within 3 months and agreed that the current protected area is the basis for further discussion but enforcement would continue only in the original 259 square miles zone for the time being.

The small trawlers in the inshore grounds cannot operate as they are banned.

There are several issues associated with the marine capture fisheries as follows:

- ❖ The qualitative and quantitative abundance of fishery resources has decreased prominently.
- ❖ Increasing competition to enter into fishery protected zones (marine national parks and 3 000-m offshore zone).
- ❖ Several attempts to reach agreements on fishing joint-venture deals with neighboring countries.
- ❖ Attempts by the government and concerned institutions to enforce the existing laws and regulations, and issue new regulations.
- ❖ Attempts by smallscale fisherfolks to protect fish spawning grounds and to extend current areas under conservation.
- ❖ Research has been conducted and private sector has expressed its initiatives to fish in the international waters.

2.3.2 Deepsea Fisheries

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"The joint fishery ventures have shown to be the best alternative to move Thailand's stagnant fishing industry forward... All parties involved in the joint fishery ventures have to play proper roles to implement the agreements; otherwise, benefits will not accrue to all."

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The deepsea fisheries open a new frontier for the Thai fishery industry as a result of the Chulabhorn research expedition conducted jointly with Burma during November 1989-January 1990. The amount of catch and the costs involved appear to create some attractive benefits for the fishing boat operators. However, the deepsea fisheries in Thailand are still at an initial stage of research on feasibility, preparation for equipments and modern fishing technology, legal and policy perspectives and joint-venture possibility. Countries like Japan, Taiwan and China have had much experiences on the deepsea fisheries which Thai fisherfolks can learn from.

The joint fishery ventures have shown to be the best alternative to move Thailand's stagnant fishing industry forward. However, joint-venture deals sometimes involve unfairness of benefits distribution, breaking of the joint-venture rules and regulations and political reasons. All parties involved in the joint fishery ventures have to play proper roles to implement the agreements; otherwise, benefits will not accrue to all.

There are several issues identified in the present research as follows:

- ❖ There exists deepsea fisheries potential on the western coast of Phuket and around the 90 East ridge. Some attempts by the Department of Fisheries in conjunction with Phuket Fisheries Association and Burma have shown favorable economic returns.
- ❖ There are a few fish species such as yellowfin tuna (*Thunnus albacares*), tuna (*Thunnus tonggol*), eastern little tuna (*Euthynnus affinis*), and skipjack (*Katsuwonus pelamis*) to be caught for commercial purposes.
- ❖ Needs for training to enhance fisherfolks' experiences have been indicated.
- ❖ Modern fishing gears and technologies and supporting storage facilities are needed. These involve high initial investments.
- ❖ Supporting onshore facilities have been developed along with the air transportation of fish catch to markets, mainly to Japan.

- ❖ Joint-venture development is necessary.

### 2.3.3 *Mangrove Resources*

Mangrove timber and wood products are in high demand. Mangroves were cut for charcoal production while hard wood timber from several remote islands has been heavily logged for timber. During the period 1961 to 1993, mangrove forest has been reduced by more than 54 percent. However, in 1996, the mangrove area gained 13% due to the proposed ban on mangrove concession and a 1996 cabinet resolution that ceases all new mangrove concessions. The ban was triggered by the growing infestation of tiger prawns and a relative loss of international competitiveness of Thai prawns to neighboring countries. Other reasons which contributed to this ban are the changing attitudes of the general population toward mangrove conservation, roles of the non-government organizations' mangrove rehabilitation programs and natural generation of mangrove forest.

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*"Many mangrove forest species have been lost forever. Some of the main factors responsible for these reduction in the quality of mangrove forests are the interference of human activities such as direct utilization of mangrove timber, wastewater drainage and sludge from shrimp farming and global climate change."*

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The above statement of increased mangrove cover is a quantitative consideration. The other aspect is quality. Mangrove quality refers to the composition of mangrove tree species, its aquatic life and the human community which it supports. It has been realized, reported and observed that biodiversity of mangrove forest has changed. Many mangrove forest species have been lost forever. Some of the main factors responsible for these reduction in the quality of mangrove forests are the interference of human activities such as direct utilization of mangrove timber, wastewater drainage and sludge from shrimp farming and global climate change. The local communities living in and around the mangrove forest were also affected due to the loss of their means of livelihood. Their economic, social and cultural characteristics have

been altered to the point that some inheritance and indigenous knowledge have quickly disappeared.

Issues concerning the management and utilization of mangroves are:

- ❖ Mangrove resources are highly dependent on domestic and international forces such as government policies to encourage group management of shrimp farms operation in line with mangrove existence and shrimp prices in the international market have dramatic effects on both mangrove quantity and quality.



- ❖ Though positive trend of mangrove management is shown, there are still high uncertainty whether this trend can be maintained.
- ❖ The recovery rate of natural or rehabilitated mangroves is slower than the mangrove utilization rate.
- ❖ Mangrove forests can be educational demonstration sites where educational tourism can be promoted.

#### *2.3.4 Sand, Seabed and Coastal Minerals*

Sand, seabed and minerals found in the coastal zone have been heavily mined. For example, there is no longer any tin deposits which can be commercially mined. Sand mining is another issue which received publicly. There are obvious domestic and regional demands for white sand either for house and road construction or for beach nourishment. Exploration of mineral deposits along the coastline is not as easy as in the past. During the survey and exploration for minerals, it is inevitable that mangrove trees are cut.

Other important minerals from the seabed are petroleum products such as crude oil, condensate and natural gas which are found scattered in the Gulf of Thailand, the Andaman Sea and in some disputed areas near Cambodia and Malaysia. Oil and gas exploration has been well developed in the Gulf of Thailand while the feasibility for similar development in the Andaman Sea is still being studied.

In terms of sand, seabed and coastal minerals, several issues have been identified:

- ❖ Many mineral deposits in Thailand, especially tin, have been mined until they are exhausted.
- ❖ Sand mining is currently being practiced despite its illegality. This is a dangerous practice as several negative consequences followed such as coastal erosion, stained beaches and loss of tourists.
- ❖ Petroleum exploration in the Gulf of Thailand is well-developed, while the Andaman Sea is still at an initial stage of development.
- ❖ Some disputed areas are under joint development areas.
- ❖ The transportation of petroleum products from the sea by pipeline is controversial as the construction of pipelines involves cutting down forest trees and disrupting local communities and ancient or historic sites.

### *2.3.5 Sea and Coastal Tourism Resources*

Sea and coastal tourism resources include 3S-1C (sun, sand and sea, and culture). Thailand is fortunate to have sunshine throughout the year with monsoon affecting both sides of the coast alternately in every 6 months. Tourism has been favorable all year round.

With respect to "sand", clean beaches, white sand and appropriate beach slope are the main attraction. In Thailand, sand mining is quite a new phenomenon. It is sold for beach nourishment and used for landfilling and road construction. Issues related to sand have been presented in subsection 2.3.4.

The "sea" is another important component involving clear and clean water, colorful and unspoiled coral reefs and fish, moderate wave movement, and free from stinging jellyfish. Again, Thailand is considered fortunate to have in its possession these sea qualities on both sides of the coast (i.e., Phuket, Krabi, Trang on the west coast, and Chanthaburi, Prachubkirikhan, Chumphon, Surathani, Songkhla on the east coast).

The above three components of the sea and coastal tourism are the attributes from nature which, if left untouched, are dependent only on natural functions. However, human activities such as marine capture fisheries, coastal aquaculture, tourism activities, infrastructure development, industrial waste and household sewage and other activities are also competing with these resources used for tourism. These human activities can be considered as a form of human culture which can degrade and/or enhance the quality of the sea and coastal tourism resources. The human culture includes tradition, several art forms, architecture, infrastructures, transportation and communication, and laws and regulations. These are major components of human culture that are significant in the existence of tourism resources in the natural system.

There are several issues on the sea and coastal tourism resources:

- ❖ Many sea and coastal tourism sites have been developed following similar development patterns.
- ❖ Several coastal developments have only benefited few large developers while the local people get only a small share.
- ❖ The traditional way of life of communities has been changed and continue to be changed even in remote areas.
- ❖ Fisheries and coastal resources continue to be degraded as a result of overexploitation both from sea-based and land-based activities and wastes.

- ❖ Some coastal tourism sites are now learning from past mistakes. They are moving toward a more local participation and environment friendly approaches.
- ❖ Increasing intrusion and competition to access new tourist attraction sites such as marine national parks.

#### 2.4 CASE STUDY: SHRIMP WASTEWATER CO-MANAGEMENT IN BAN KWIAN HUK, KHLUNG DISTRICT, CHANTABURI PROVINCE

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Ban Kwian Huk is managed under the Kwian Huk Sud-district Administration Organization, Khlung District, Chantaburi Province (see map in Figure 1-2). The coastal area involved shrimp aquaculture for some time as Chantaburi was one of the pioneers in the shrimp farming industry.

Coastal resource problems occurred. Farmed shrimps became increasingly susceptible to various diseases. The infestation resulted in the collapse of the shrimp industry in this province. One of the main causes of the problems, as reported in many publications, is the improper management of wastewater and sludge drained from shrimp farms to common waterways. This polluted wastewater and sludge contaminate the water which are later pumped into the ponds unintentionally or unknowingly.

The implementation of measures to regulate shrimp production and control wastewater quality issues requires the development of an effective management plan. Techniques such as co-management can be used to overcome environmental problems caused by the contaminated water supplies, shrimp diseases and the open-access nature of the resources used for shrimp aquaculture. The rationale for co-management, employed within the Integrated Coastal Zone Management (ICZM) framework, is that it is a step-wise process for producing effective management plans based on ecosystem approach and local community participation.

The case study approach has focused on identifying the stakeholders in Ban Kwian Huk. The stakeholders in turn identify key issues to be addressed. Through this process the community has focused its effort on the capability building of the shrimp farmers as partners with the local government officials in the development of a local community-based action plan. A need for education was clearly identified and addressed through a series of training events, education/information campaigns, cross-site visits, seminars and workshops led by the shrimp farmers themselves and the local officials.

The steps in the formulation of the co-management approach, using the present wastewater problem and sludge disposal as starting point, are as follows:

**STEPS IN THE FORMULATION OF THE  
CO-MANAGEMENT APPROACH:**

- define problem-opportunity relationship, existing policies and work plans of the government;
- identify and analyze data/information;
- prepare plans and action programs; and
- formulate project proposals and actions for implementation.

**Step 1:** This step is an attempt to define problem-opportunity relationship, existing policies and work plans of the government at both national and provincial levels. The conflicting policies and plans are identified and will be updated. A planning team composed of cross-sectoral organizations, shrimp farmers and the general public is created to work as a team to identify management and sustainable development options and to decide on the planning approach.

**Step 2:** Some necessary data/information are identified and collected by a collaborative team of shrimp farmers and government officials. The team also analyzes current situation and options including draft zoning of land use and water use.

**Step 3:** Plans and options are prepared involving drafted action programs which are presented for public discussions on the management of shrimp farming. The plans and action programs are then revised taking into account integration of the plans into the government administration and budget.

**Step 4:** Formulation of project and actions for implementation is undertaken to include as much cooperation as possible from concerned institutions. Some training for needed institutions may be required with major emphasis on project proposal development. It is important that in many stages of developing the project proposal as identified in Step 3, the Kwian Huk Sub-district Administration Organization has to involve concerned government agencies so that the proposed budget will be approved. The projects and action programs should be monitored and evaluated to be able to adjust to the rapidly changing environments.

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*"...sustainable farm development can be initiated by the process of organized management arrangements at the local community... shrimp farmers, who were once blamed for much of the degradation can be transformed into effective coastal zone managers."*

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The ICAM approach resulted in the formation of local shrimp farmers group called the Shrimp Farmers Group. This was later transformed into the newly decentralized organization, the Kwian Huk Sub-district Administration Organization. This planning process enhances the shrimp farmers capability to identify their own problem issues, explore solutions and formulate their own action plans in order to integrate them into the provincial integrated master plans.

The experiences demonstrated that sustainable farm development can be initiated by the process of organized management arrangements at the local community level under the ICZM framework. It has shown that shrimp farmers, who were once blamed for much of the degradation can be transformed into effective coastal zone managers.

## 2.5 CO-MANAGEMENT APPROACHES FOR THE MANAGEMENT OF SHRIMP WASTES

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Co-management strategies/activities are described in this section to provide opportunities for the shrimp farmer group to improve farm production through minimized self-pollution problems and other poor production factors, including disease outbreaks. The rationale for co-management practices employing the Integrated Coastal Management (ICM) framework for the promotion of shrimp production and wastewater management is a promising model. The model is expected to adjust the demand-sided resources (aquaculture operations) and the supply-sided resources (natural function) close to the desirable stable position by having the stakeholders and supporting institutions working together. Here, the local shrimp farmers express their eagerness to form a group in order to create collective power for the management, seek government support and request external funds for the group's clear purposes. Initially, the group has to encourage the local community to become active participants. The Government officials have the academic knowledge whereas the shrimp farmers have their extensive experiences. Therefore, working together in a multilateral cooperation will eventually generate benefits to all parties involved.

The co-management-based strategies/activities involving improvement of farm water supply in shrimp farming are presented as follows:

**Strategy One:** Prepare procedures to eliminate existing sources of sludge/sediment and other pollution entering the water channels

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**Rationale:** Sludge from shrimp farm operations are a major source of pollution. Elimination of these pollution sources will be the first step in improving water quality conditions in the water channels. This involves procedures to include as many shrimp farmers as possible in the area with an active leadership of the Shrimp Farmer Group. Farmers are strongly recommended to begin considering, for later stages of the activities, innovative ways to utilize portions of their pond area for use as a water supply reservoir and develop separate intakes and outlets.

**Objective:** This strategy aims to identify all existing sources of sludge and sediment entering the water channels; and to plan procedures to deal with pollution sources.

- Action:**
- ❖ Identify all places where sludge/sediment enter the water channels, including members of the Shrimp Farmer Group and other sources.
  - ❖ Identify seasonal times of sludge/sediment entry.
  - ❖ Identify methods to be used to eliminate sludge/sediment sources.
  - ❖ Identify how sludge/sediment from sources other than members of the Shrimp Farmer Group will be prevented from entering the water channels.
  - ❖ Collect baseline water and soil quality data from several locations within the main water channels.

**Strategy Two:** Prepare to prevent sludge/sediment from entering water channels

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**Rationale:** Once the Shrimp Farmer Group is able to eliminate pollution from its own as well as other farms, the group must have established rules to prevent the same sludge/sediment problems in the future. It is also important for non-members to realize the importance of group actions against the common problem. The rules can be formulated using formal laws and regulations as a guideline.

**Objective:** This strategy aims (1) to develop rules to control the sludge/sediment disposal into common water channels; and (2) to seek agreement with the non-members to discuss future protocols.

- Action:**
- ❖ Identify methods to be used directly and control future sludge/sediment sources.
  - ❖ Identify community rules that will be used by the Shrimp Farmer Group to prevent future sludge/sediment entry.
  - ❖ Identify how sludge/sediment from sources other than the members of the group will be prevented from entering the water channels.

- ❖ Identify how the Shrimp Farmer Group rules will be monitored.
- ❖ Identify how the Shrimp Farmer Group rules will be enforced.
- ❖ Prepare protocols to be discussed with the non-members.

**Strategy Three:** Conduct problem/solution workshop to identify long-term solutions based on the information

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**Rationale:** It is important to disseminate the Shrimp Farmer Group findings and activities to a wider audience, so that future cooperation could be sought. Experiences from other stakeholders in the same area or in different areas are beneficial to the Shrimp Farmer Group to learn and design its own management strategies.

**Objective:** The workshop aims to seek other people's knowledge and experiences so that mutual benefits could be extracted. It is also a public relation campaign that is expected to increase the credibility of the group.

- Action:**
- ❖ Prepare relevant documents and resource persons to conduct the workshop.
  - ❖ Identify participants with varied backgrounds.
  - ❖ Review information and development of the group and its activities.
  - ❖ Attempt to formulate solutions based on the results of the workshop brainstorming process.

**Strategy Four:** Plant mangrove along inner edge of the water channels

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**Rationale:** Mangrove tree species play an important role in water quality control. It aids in the reduction of organic materials draining into the water channels and helps remove excess dissolved nutrients from the routine release of water.

**Objective:** This strategy aims to initiate the use of mangrove trees as natural methods of water quality improvement in the canals and water channels.

- Action:**
- ❖ Identify appropriate locations where mangrove tree planting is acceptable.
  - ❖ Undertake the mangrove planting activity as demonstration sites in front of the Shrimp Farmer Group farms.
  - ❖ Include the Shrimp Farmer Group farm locations for water quality sampling and testing.
  - ❖ Ensure right mangrove species for planting and sufficient supply of seedlings.
  - ❖ Design planting locations and encourage participation among neighboring shrimp farmers, students and local scholars, and the general public.

**Strategy Five:** Conduct farm production trials

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**Rationale:** The Shrimp Farmer Group members participate in farm production trials. These farms have to demonstrate current financial viability, agree to using a reservoir for preconditioning water and follow recommended farm management procedures for at least two crop cycles.

**Objective:** This strategy aims to exhibit the implementation of sustainable production measures using improved water supply strategies and renewed operating practices.



- Action:**
- ❖ With some important criteria, select 5-10 Shrimp Farmer Group members who are willing to participate in the farm production trials.
  - ❖ Monitor and evaluate all stages of production trials and their performances.
  - ❖ Through concerned institutions, provide production guidance to each participating farm.

**Strategy Six:** Remove sludge

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**Rationale:** The existing sludge accumulated in the farms or other public areas should be physically removed. There are measures to prevent the sludge entering into the farms or from being transported outside the farms. The physical removal of sludge and its preventive control are beneficial to shrimp farming success.

**Objective:** It aims to prevent pollution from entering into the shrimp ponds and to exhibit one of the important factors for a successful shrimp farming.

- Action:**
- ❖ Through the Shrimp Farmer Group, undertake the development of sludge removal plans and identify what members can contribute.
  - ❖ For some exhibition farms, provide labor and operating costs for sludge removal.
  - ❖ Plan for sludge removal including activities, timing, sludge removal techniques and removal logistic considerations.
  - ❖ Coordinate activities during strategy implementation.
  - ❖ Through concerned institutions, seek assistance and support in terms of equipment, materials and techniques.

# Chapter 3

## National Policies, Plans, Laws and Institutions

**T**hailand has gone through several dramatic changes in its history of political development. The national policies, plans and laws have been developed since the invention of Thai scripts by King Ramkhamhaeng during the Sukhothai era. The development continued through several remarkable progresses and setbacks which help form the present day Thailand. It is expected that some changes are going to happen in the future which will change the ways of thinking of the Thai people. Hopefully, these changes will harmonize of the socio-economic-political development with environmental sustainability.

The national policies, plans, laws and institutions are closely related as the policies and plans are designed and implemented by institutions and the laws and regulations are one of the implementation instruments.

### 3.1 HISTORICAL DEVELOPMENT OF POLICIES, PLANS, LAWS AND INSTITUTIONS

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The recorded history of Thailand's policies, plans, laws and institutions started at the time when Thai scripts were invented. However, it is believed that the policies, plans, laws and institutions existed before that time, presumably through verbal mandates and commands to be memorized and implemented by intellectuals close to the head of states. History helps us understand how the ways of life of the previous generations and their means of livelihoods developed. The policies, plans and laws of the governments evolved through time as opposed to depending on the situation and the environment.

During the Sukhothai period (1235-1350), the so-called paternal government existed. This means that the state was a large family comprised of parents and children. The head of the family, who was often the father, has an absolute authority to govern the family. The family represents the capital city and other inner-ringed cities. The public administration system was decentralized so that the outer-ringed cities have their own paternal governments who were dependent on the government in the capital city. When Thai scripts was invented in 1283 by King Ramkhamhaeng, simple Thai laws were established based on the Hindu scriptures. Important policies of the period included free trade, irrigation system development and water supply system. As the social and economic arrangements were based on the agrarian system, the implemented policies were largely related to agricultural production, as this was the most important means of livelihood. There was no direct policy, plan, law and institution aimed at managing the fisheries and

#### THAILAND HISTORY

- 1235-1350 — Sukhothai period when the so-called paternal government existed.
- 1283 — King Ramkhamhaeng invented the Thai scripts, important policies include free trade, irrigation system development and water supply system.
- 1350-1767 — Ayutthaya period, from paternal government to absolute monarchy.
- 1868-1910 — King Rama V of the Rattanakosin era, the administration aimed at the well-being of the king and his monarchy; the well-being of the people depended on the king's morals in relation to religious beliefs.
- Rattanakosin Year 120 — reign of King Rama V, revised the first laws concerning fisheries and was called Water Revenue Act.
- 1932 — reign of King Rama VII where absolute monarchy was ceased by the democratic movements, and the status of the king was transformed from the presumed god to a symbolic leader.
- 1997 — New Constitution was passed and approved.

coastal resources, and coastal environment. Presumably the abundant supply of resources has been a great contribution to making this unnecessary.

In the Ayutthaya period (1350-1767), the status of the king changed from a father figure to a presumed god. This affected the public administration system changing from paternal government to absolute monarchy. Administration was based on the Four Pillars Ministerial System which were derived from the Khmer and Indian civilizations. These pillars of ministries were the four main ministries necessary for the government to control and promote the prosperity of the state and the people within. These were: interior, palace, finance and agriculture, which deals with governance led by the king, taxation and revenue for the king and government officials, and food production. The structure of the public administration system was not complicated as compared with later developments. However, it was considered sufficient as the sup-

ply of resources was still abundant. This structure of the public administration system was practiced until the reign of the King Rama V of the Rattanakosin era (1868-1910). The laws were classified into three categories: the laws that enable the king to have absolute power and maintain the morals of the king, the laws prescribed the regulations for civil servants, land laws and social status of the governed civilians and other laws that the king prescribed in accordance with current governing problems. It can be seen that prosperity and peace relied heavily on the morals of the king. The administration aimed at the well-being of the king and his monarchy, while the well-being of the people depended on the king's morals in relation to religious beliefs.

During the reign of King Rama V, Thailand went through the stage of international involvement as there were trading affairs with many far-west countries, so the public administration, laws and policy become more internationalized. During this era, the king's power was reduced by the establishment of central administration, provincial administration and local administration. The first laws concerning fisheries appeared in the era of King Rama III in the form of water revenue laws. However, these laws were revised later during the reign of King Rama V and was called Water Revenue Act (Rattanakosin Year 120) which described the revenue that was collected from water usage especially from the fishers who caught fish from the water. The main policies during the King Rama V era stressed on five main aspects:

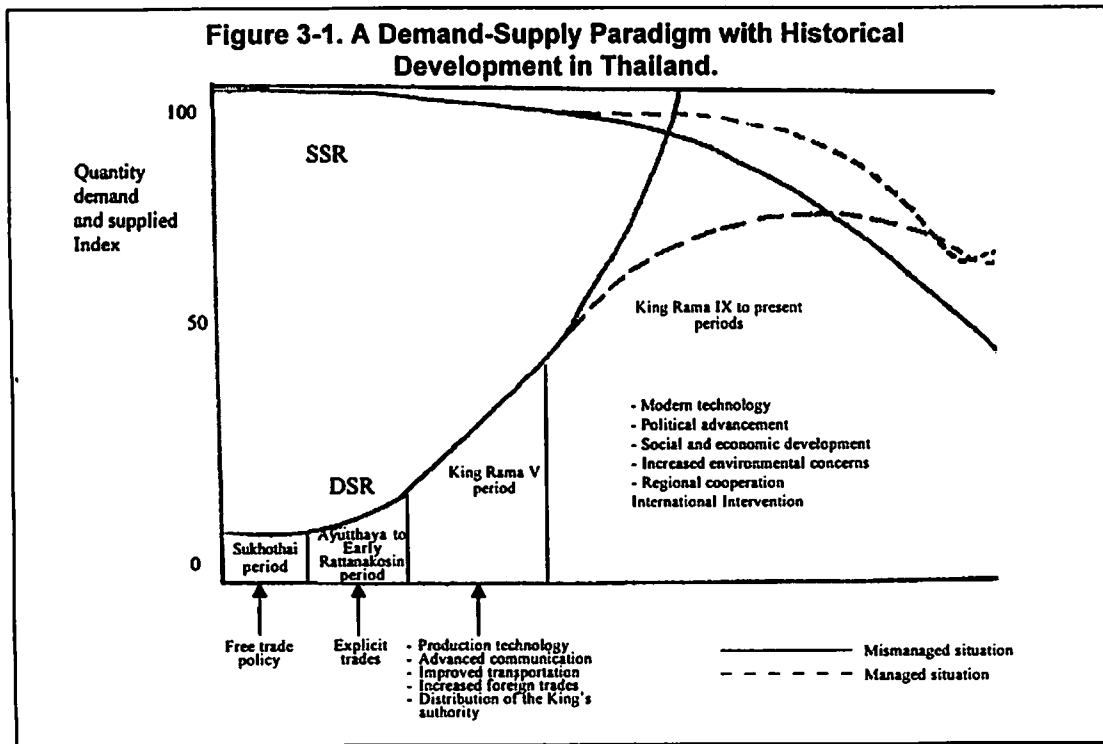
- ❖ Uniting Thailand through control over all states.
- ❖ Strengthening the public administration system to prevent colonization from the west.
- ❖ Facilitating improved livelihood opportunities for civilians so that the tax collected could be used for infrastructure improvement as well as avoid an excuse from western colonization.
- ❖ Central administration which has controls over outer-ring cities.
- ❖ Fair treatment for all under-governed civilians.

A dramatic change of Thailand's political system took place during the reign of King Rama VII (1932) where absolute monarchy was ceased by the democratic movements, and the status of the king was transformed from the presumed god to a symbolic leader. However, the public administration system remained the same as in the reign of the King Rama V. Only some new local organizations were allowed to be established. There still existed a top-down administration which enabled the central administration to pool authorities and resources within its hands.

Maintaining a kingdom has been quite a struggle by the King and his people throughout the long Thai history. Even though the political system has been revolutionized and the first constitution was drafted and implemented, there exists some setbacks in the political and public administration systems that take a long adjustment process to keep pace with the rapidly changing world. Several governments have made serious attempts to decentralize their authorities to the local administration but have proven to be unsuccessful.

The New Constitution (1997) and other organic laws revolutionize how Thailand will be governed especially in resource and environment management.

From the graphical representation of DSR and SSR movements through time as shown in Figure 3-1, the Sukhothai period shows quite a constant demand as subsistent economy prevailed. Increased foreign trades were evidenced during the Ayuttaya to early Rattanakosin periods, and dramatic increases was prevalent during King Rama V when production, communication, transportation and foreign trades were improved. During the reign of King IX, Thailand has opened its economy to more international markets which associated Thailand with the international community.

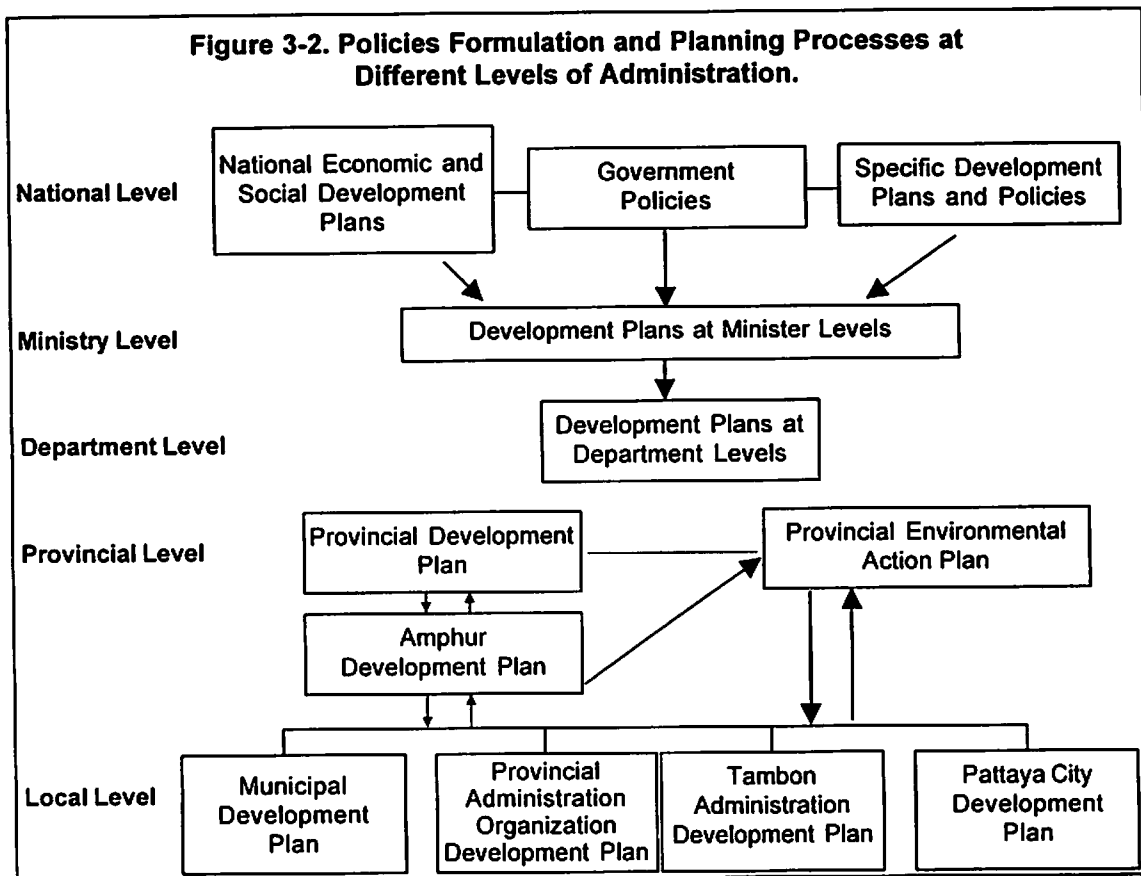


### 3.2 PUBLIC ADMINISTRATION SYSTEMS AND NATIONAL POLICIES AND PLANS

The national policies and plans are usually formulated by the central administration and then handed over to the provincial and local administration for implementation. The public administration structure involving central, provincial and local administration, and its lines of command and control is presented in Figure 3-2. This process has been under heavy criticism as it has created many undesirable consequences which resulted in the degradation of fisheries, coastal resource and coastal environment. However, it is important to understand how the existing system has worked with its successes and failures, and how these achievements have formed the present faces of Thailand.

Under the existing public administration system, patronage politicians hand over their policies and plans to the central, provincial and local administrations for implementation using the bureaucratic lines of command. This represents a form of centralized administration system even though a form of local administration exists which is suppose to represent the decentralized system. The general public do not have any true participation in managing their resources and the governing system as it should have been in a full democratic environment. A majority of benefits generated from this form of administration, therefore, fall into the hands of patronage politicians, their clients, capitalists and high-ranking government officials.

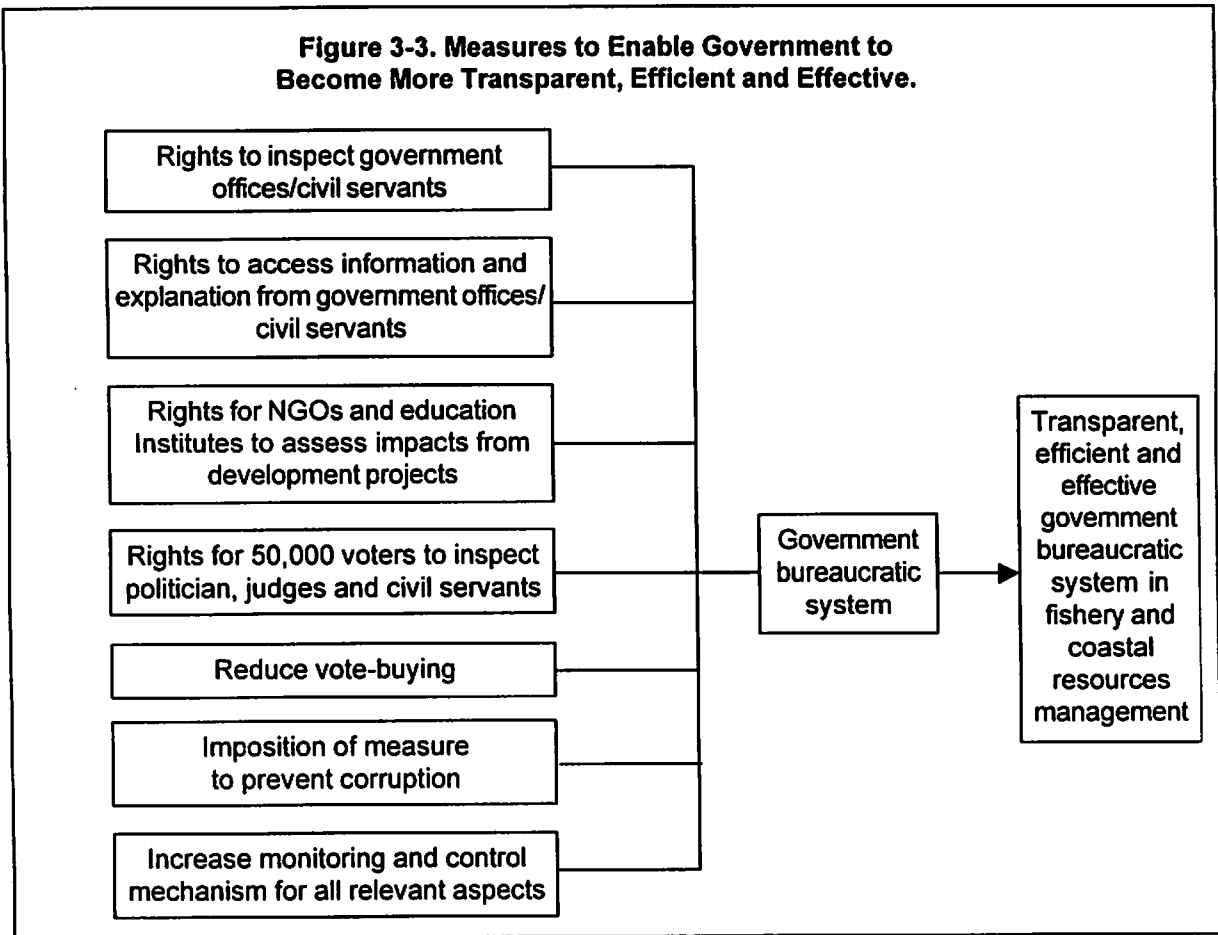
For the past 15-20 years, there were some continuous movements among intellectuals, white-collar workers, nongovernment organizations and grassroots organizations to push for political and bureaucratic revolution towards full democratic and local management.



In addition, streams of globalization have enhanced the ideology to reverse the centralized line of administration to acknowledge roles of local communities and rights to every individual. In the late 1997, the remaining authoritarian and patronage politicians surrendered these movements by approving the New Constitution which has the three main features:

- (1) Revising the concept of politics from politics for the politicians to politics for the people by enhancing political rights, liberty and public participation of the people.
- (2) Enabling the political and bureaucratic systems to become more transparent by handling governing authorities to the people since the people are able to control authorities at all levels with maximum efficiency.
- (3) Stabilizing the government in terms of the quality of the Prime minister and effective parliament.

As shown in Figure 3-3, there are at least seven measures supported by the New Constitution to enable a more transparent, efficient and effective political and bureaucratic systems for the management of fisheries, coastal resources and coastal environments.



### 3.2.1 National Policies

Centralized public administration system prevails in most resource management policies in Thailand. This includes fishery and coastal resources. A majority of national policies shows unclear roles and responsibilities of the concerned institutions. In addition, policies are handed down from the top level.

At present, the government policies emphasize the sustainable use of the fisheries and coastal resources. Some key policies are as follows:

- ❖ National forest reserves policy, since 1964.
- ❖ Non-hunting area policy, since 1984.
- ❖ Fishery Protection zone policies, since 1972.
- ❖ These key policies are considered appropriate for the physical characteristics and sustainable use of the fisheries and coastal resources as:

- ❖ Many coastal zones are covered by mangrove forest which performs its function as buffer protection from strong winds, coastal erosion and nursery grounds for aquatic animals. So the preservation policy is expected to conserve this intricate and interdependent nature of the mangrove forest and its resources. As a result, the fertile mangrove forest supports fisheries, recreation and tourism. Similarly with the non-hunting area, wild animals are protected.
- ❖ Human settlement should be avoided in the coastal zone as this zone is susceptible to natural calamities such as typhoons, depression, coastal erosion and floods. However, as the sea is abundant and fishing involves minimal costs, there has been several cases of human encroachment mangrove forests, beaches and salt-water swamps for settlement. The policy enabling the mangrove forest as national reserves therefore has its own meaning.
- ❖ The objective of the fishing protection zone is to conserve the fertile spawning and nursing grounds of aquatic animals. Also, it protects the small scale fisherfolks from the devastating fishing practices using mechanized trawls and push nets by large scale fishing boats.

Even though these policies have good intentions, in reality they are not fully implemented for so many reasons. Among these are insufficient decentralized administration, unclear boundary of mangrove forest reserves, imposed boundary overlaps with private lands; inefficiency and ineffectiveness of the concerned institutions and flexible approaches in solving conflicts regarding human settlement in protected forest reserves. The last reason has appeared to be most severe and extensive in terms of mangrove forest conservation due partly to the frequent changes of government. Many politicians use the Land Code as a bargaining instrument to maintain their position in office as land right is the most crucial issue in Thai politics.

**REASONS FOR NON-IMPLEMENTATION OF POLICIES**

- insufficient decentralized administration;
- unclear boundary of mangrove forest reserves;
- imposed boundary overlaps with private lands;
- inefficiency and ineffectiveness of the concerned institutions;
- flexible approaches in solving conflicts regarding human settlements; and
- the use of the Land Code as a bargaining instrument of many politicians to maintain their positions in office.

Land increasingly becomes a major factor in government survival because of the previous policies on promoting population growth, agricultural export-oriented policies, and policies on unlimited land holdings. The first two policies have created demand for land holding which is limited. Consequently, people encroach into the national forest reserves converting them into settlements and farms for their livelihood. The last policy has resulted in a few rich landlords a large number of small landholders and many landless people.



At present, the population growth policy has been effectively replaced by population control while the agriculture export-orientation and unlimited land holding policies are still existing. They are expected to be in use for a long time because the influential businessmen are also politically influential in the patron-client relationship. These people are key factors controlling the survival and existence of the forest reserves.

However, there has been a lot of effort to put into effect community forestry policies to solve the problem on encroachment in national forest reserves. The rationale behind the proposed community forestry is that man and forest can live together in a mutual manner. This policy has been well perceived by the general public. It is still in the stage of public hearing and undergoing formal procedures.

### **3.2.2 National Plans**

In Thailand, relevant national plans on fisheries and coastal resources management can be classified into two main groups – the National Economic and Social Development Plans and Specific Development Plans.

- ❖ The National Economic and Social Development Plans. These plans play crucial roles in the development direction of Thailand in terms of economic and social aspects. There had been seven plans so far and at present, the eighth plan is under use. The former plans mainly focused on infrastructure development, export-oriented approach and a rush to become an industrialized country leaving behind environmental protection especially fisheries and other coastal resources. However, the Eighth Plan has been changed. It has now focused on human resource development and public participation in designing the development direction. With regard to fisheries and coastal resources management, the contents of the plan involve: rehabilitation of the fisheries and coastal resources by promoting alternative resources utilization system; participation of coastal communities in planning and implementing the use of these resources and importance of data/information for making proper decisions and plans.
- ❖ Specific Development Plans. These plans aim at developing a specific area, topic or target population. These are extensive and involve many aspects at the same time. Also, there are many committees especially nominated (or elected) to implement the plans. The specific development plans can be the answer to overcome frequent changes of Thai government and its policy instability. However, due to the many plans and committees, problems of overlaps, confused line of command and insufficient coordination among concerned parties are common.

Apart from the national economic and social development plans and specific development plans discussed above, there are still plans at the ministry, department, provincial, district, sub-district and local levels. Most plans deal with the well-being of the people and treats the environment as a separate concern. Many plans continue to focus on construction of facilities which generally involves high capital investment and, in many incidents, they are not fully and efficiently used for the primary purposes.

### 3.3 NATIONAL LAWS AND REGULATIONS, AND INSTITUTIONS

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National laws, regulations and institutions are closely related in a sense that the government's institutions implement and enforce the laws and regulations with the primary purpose of creating a peaceful living atmosphere among the governed citizens. Therefore, laws and regulations act as government instruments for achieving such purpose.

The above statement is an ideal philosophy, which does not often exist in the real world as differences, and conflicts among human beings and between human beings and the environment are common.

In a market economy, the national laws and regulations attempt to control the overexploitation of scarce natural resources so that they are not heavily degraded. The institution, on the other hand, involves people who attempt to implement the laws and regulations and maintain the fertility of the scarce natural resources.

There are no direct laws regarding the coastal resources and coastal environment management. However, there are some indirect laws similar to those which originated during the reigns of King Rama III and King Rama V in the form of the Water Revenue Act. Today, there are at least 38 related laws found. They are, *inter alia*, the Fishery Act (1947 amended in 1985), Forest Act (1941), Forest Reserves Act (1992), Wild Animal Protection and Reserves Act (1992), Land Code, Civil and Commercial Code, Navigation in Thai Waters Act (1913), Enhancement and Conservation of National Environmental Quality Act (1992), Sub-district Council and Sub-district Administration Organization Act (1994), Provincial Administration Organization Act (1997), Local Administration Act (1914), Public Administration Act (1991) and the Constitution of the Kingdom of Thailand. There are also several cabinet resolutions and ministerial notifications allowing sufficient flexibility in the implementation and enforcement of these laws and regulations.

As there are considerably many laws and regulations for natural resource management, there still exist several kinds of problems hindering such activities:

- ❖ Repetition of contents and in some cases conflicting contents;

**Management of Fisheries, Coastal Resources and Coastal Environment in Thailand:  
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- ❖ Light penalty;
- ❖ Centralized and complicated procedures for law enforcement;
- ❖ Loopholes allowing wrong doers to get away; and
- ❖ Difficult to implement and enforce.

The following matrix shows the interrelationship between roles and responsibility of concerned institutions on fisheries and coastal resources management.

**Table 3-1. Interrelationship Matrix Between Roles and Responsibility of Concerned Institutions on Fisheries and Coastal Resources Management.**

	Soil Management	Water Management	Aquaculture	Fishery	Agriculture	Forestry	Transport & Communication	Industrial	Mining	Urban Development	Tourism	Natural Disaster Mgt.	Environmental Management	Land Use and Planning
1. Office of the Prime Minister														
1.1 Office of the National Economic and Social Development Board	RFM	RFM	RFM	RFM	RFM	RFM	RFM	RFM	RFM	RFM	RFM	RFM	RFM	RFM
1.2 The Bureau of Budget	BM	BM	BM	BM	BM	BM	BM	BM	BM	BM	BM	BM	BM	BM
1.3 The Tourism Authority of Thailand	-	-	-	-	-	-	-	-	-	S	RP	-	S	S
2. Ministry of Finance														
2.1 Bank for Agriculture and Agricultural Cooperatives	-	-	B	B	B	B	-	-	-	-	-	-	-	-
3. Ministry of Agriculture and Cooperatives														
3.1 Department of Fisheries	-	RP	RPE	RP	-	S	-	S	-	-	-	-	-	-
3.2 Royal Forest Department	-	-	-	E	-	RPE	-	S	-	-	S	-	S	RPE
3.3 Land Development Department	RP	S	-	-	S	-	-	-	-	-	-	-	S	S
3.4 The Royal Irrigation Department	-	RPE	-	-	S	-	-	-	-	-	-	-	S	-
3.5 Department of Agriculture Extension	-	-	S	-	P	S	-	-	-	-	-	-	S	-
3.6 Agricultural Land Reform Office	PE	S	S	S	S	-	S	-	-	-	-	-	-	PE
3.7 The Cooperatives Promotion Department	S	-	S	-	S	-	-	-	-	-	-	-	-	-
3.8 Department of Agriculture	R	R	-	S	R	-	-	-	-	-	-	-	-	-
3.9 The Forestry Industry Organization	-	-	-	-	-	S	-	RP	-	-	S	-	-	-
3.10 Fishery Marketing Organization	-	-	S	-	-	-	-	S	-	-	-	-	-	-
4. Ministry of Science, Technology and Environment														
4.1. Office of Environmental Policy and Planning	FM	FM	-	-	-	-	-	-	-	-	-	-	FM	-
4.2 Department of Environment Quality Promotion	P	P	-	-	-	-	-	-	-	-	-	-	P	-
4.3 Pollution Control Department	PE	PE	-	-	-	-	-	-	-	-	-	-	PE	-
4.4 The National Research Council of Thailand	R	R	R	R	-	R	R	R	R	R	R	R	R	R
4.5 Wastewater Control Organization	-	-	P	-	R	-	-	-	-	-	-	-	-	-

**Table 3-1. Interrelationship Matrix Between Roles and Responsibility of Concerned Institutions on Fisheries and Coastal Resources Management (continued).**

	Soil Management	Water Management	Aquaculture	Fishery	Agriculture	Forestry	Transport & Communication	Industrial	Mining	Urban Development	Tourism	Natural Disaster Mgt.	Environmental Management	Land Use and Planning
5. Ministry of Public Health														
5.1 Office of the Permanent Secretary for Public Health	.	S	.	.	.	.	.	.	.	.	.	S	S	.
5.2 Department of Health	.	S	.	.	.	.	.	.	.	.	.	S	S	.
5.3 Department of Medical Services	.	S	.	.	.	.	.	.	.	.	.	.	S	.
5.4 The Food and Drug Administration	.	S	.	.	.	.	.	.	.	.	.	.	SE	.
6. Ministry of Interior														
6.1 Department of Land	PE	.	.	.	.	.	.	.	.	.	.	.	.	PE
6.2 Public Works Department	.	P	.	.	.	.	P	S	.	PE	S	P	P	PE
6.3 Department of Town and Country Planning	.	.	.	.	.	.	S	.	.	.	.	.	S	.
6.4. Department of Local Administration	E	P	S	SE	S	SE	.	.	P	S	S	P	E	.
6.5 The Royal Thai Police Department	E	E	E	E	E	E	E	E	E	.	S	S	E	E
6.6 The Community Development Department	.	.	S	S	.	.	.	S	.	.	S	.	S	.
6.7 The Office of Accelerated Rural Development Agricultural Cooperatives	.	P	S	S	.	.	P	.	.	.	S	.	.	.
7. Ministry of Industry														
7.1 Office of the Permanent Secretary for Industry	.	S	.	.	.	.	.	PE	.	.	.	.	E	.
7.2 Department of Industrial Works	.	S	.	.	.	.	.	PE	.	.	.	.	E	.
7.3 Department of Mineral Resources	.	S	.	.	.	.	.	.	PE	.	.	.	E	.
7.4 Offshore Mining Organization	.	.	.	.	.	.	.	.	P	.	.	.	.	.
7.5 Petroleum Authority of Thailand	.	.	.	.	.	S	.	P	.	.	.	.	.	.
8. Ministry of Transport and Communication														
8.1 The Harbor Department	.	.	.	.	.	.	P	S	.	.	S	.	P	.
8.2 The Meteorological Department	.	S	.	S	S	.	S	.	.	.	.	S	.	.
8.3 Port Authority of Thailand	.	.	.	S	.	.	P	.	.	.	.	.	.	.
9. Ministry of Defense														
9.1 Royal Thai Navy	.	S	S	.	S	S	.	S	S	.	S	S	S	.
10. Ministry of University Affairs	R	R	R	R	R	R	R	R	R	R	R	R	R	R

**Legend:** B=Budget; R=Research; F=Plan Formulation; M=Monitoring; I=Implementation; P=F+I+M=Planning; E=Enforcement; S=Supplement

3.4 CASE STUDY : LAW ENFORCEMENT IN FISHERIES AND COASTAL RESOURCES IN LAEM TALUMPUK,  
PAK PHANANG DISTRICT, NAKHON SI THAMMARAT PROVINCE

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Laem Talumpuk (see map in Figure 1-2) is a classic case study of insufficient laws and poor enforcement of regulations. It represents conflicting uses of resources especially common property resources such as marine fisheries and mangrove. In addition, shrimp aquaculture has been developed in vast areas and mostly encroaching into the mangrove forests where local people derive their livelihood. The problems occurring in this area are complex which, today are affecting the local people and responsible institutions.

Geographically, Laem Talumpuk is situated in an elongated hook of Pak Phanang Bay surrounded by mangrove forests. The hook serves as a catchment causing the sediments to deposit. This resulted in the extension of Pak Phanang Bay's shoreline creating shallows which allow mangrove forest to colonize. The newly formed mudplain is a natural phenomenon creating new unowned land where the government's instruments are insufficient to manage. There have been disputes between the local and influential people from urban areas whose interests are conflicting. The local people want the new land to be covered with mangrove forests so that it will protect the village from strong winds, storms and typhoons while the influential people want this land for future development such as shrimp farming.

The main livelihood of the people in Laem Talumpuk is fishing in the sea and mangrove swamp. However, the sea is increasingly being subjected to overexploitation by largescale trawlers encroaching into the legally protected zone. Mangrove forest changes its form either into shrimp ponds or lose its characteristics by sedimentation and dry-out.

The local people are exercising their resource-use rights with limited support of legal instruments and insufficient attention from concerned institutions. However, the establishment of the Sub-district Administration Organization in 1994, with strong local leaders, has encouraged the local people to realize and attempt to protect their rights and to request more attentive local government support. These initiatives appear to work but there are still loopholes wherein the local people and the resources are to be further exploited.

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*"...exercising their resource-use rights with limited support of legal instruments and insufficient attention from concerned institutions.*

*...with strong local leaders, has encouraged the local people to realize and attempt to protect their rights and to request more attentive local government support."*

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Bounded by rich natural resources, relatively weak village cohesion and limited attention from the local government, Laem Talumpuk continues to be an area of conflict and intensive competition on resource utilization among stakeholders. Problem issues identified in the present research are outlined as follows:

- ❖ Trawlers and large scale push netters encroach into the prohibited 3 000-m zone displacing small scale fisherfolks from their traditional fishing grounds.
- ❖ Mangrove forest destruction and illegal claims of mangrove lands brought about by the open-access regime of property rights in mangroves.
- ❖ Susceptibility to natural disasters such as heavy monsoons and tropical typhoons which limits tourism development and capital investment.
- ❖ Insufficient local government attention to help the local people in their rights to use and protect the fisheries and coastal resources.
- ❖ The local people have weak cohesion and attachment to their local organization brought about by the seasonal migration of fishers in search for a better fishing ground.
- ❖ Illegal and ecologically unsustainable activities are increasingly evident in the coastal zone such as sand mining, shrimp wastewater and sludge drained into the mangrove forest, cutting of mangroves, hunting of protected animals and intrusion into the mangrove forest for settlement.

It has been shown that fisheries and coastal resources-use conflict is mainly due to insufficient law enforcement. Such cause is considered the main focus for this research. Hence, the following are suggested steps for effective fisheries and coastal resources management in Laem Talumpuk:

- Step 1: Use of information technology such as Geographical Information System (GIS) to establish a clear boundary of mangrove forest reserves encompassing the newly formed mudplain. This boundary should be marked by permanent marks (non-removable) or in some cases, using water channels as the boundary line. This boundary has to be made known to all stakeholders.
- Step 2: Revision of land right titles in many previous land regulations under the Land Code of Thailand. The main priority for such revision is to ensure that the local people's benefits are protected. It is important to encourage all stakeholders to participate in the revision.
- Step 3: Local government institutions and the Sub-District Administrative Organization should work together to enforce laws and regulations concerning the national forest reserves, fisheries resources and

**SUGGESTED STEPS FOR EFFECTIVE FISHERIES  
AND COASTAL RESOURCES MANAGEMENT:**

- use information technology in establishing mangrove boundaries;
- encourage participation in the revision of land titles;
- establish joint efforts among institutions regarding law enforcement;
- enhance management attitude among stakeholders; and
- establish local surveillance units.

shoreline (sand beaches). Clear roles and responsibilities should be established with the aim of strengthening the Sub-district Administration Organization.

Step 4 : Enhancement of management attitudes of the local people and concerned stakeholders. It is important to enhance awareness of the local people, general public and responsible government officials to wisely use the resources as well as to prohibit overexploitation.

Step 5 : Establishment of local surveillance units to monitor the law. These surveillance units are to be independent and free from political influences. In addition, representatives from all stakeholders are to be included.

### 3.5 LAW ENFORCEMENT STRATEGIES FOR THE FISHERIES AND COASTAL RESOURCE MANAGEMENT

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There are at least 37 laws and regulations regarding fisheries and coastal resources management in Thailand. However, there have been no direct laws specifically designed for the management of fisheries and coastal resources. Enforcement of laws and regulations differs from one locality to another depending on the government policies on local resources, local human activities and their environmental impacts, and local administration structure.

Laws and regulations which regulates the government policies on local fisheries and coastal resources are as follows:

- ❖ Forest Reserves Act 1992
- ❖ Wild Animals Protection and Reserves Act 1992
- ❖ Ministry of Agriculture and Agricultural Cooperative (MAAC) Notification on July 2, 1972 prohibiting the use of push net and trawl within 3 000-m from the coastline.

Laws and regulations which regulates human activities and their environmental impacts are:

- ❖ Fishery Act 1947
- ❖ Navigation in Thai Waters Act 1913

- ❖ Land Code of Thailand
- ❖ Civil and Commercial Code of Thailand
- ❖ Town Cleanliness and Tidiness Act 1992
- ❖ Enhancement and Conservation of National Environmental Quality Act 1992

Laws and regulations on local administration are as follows:

- ❖ Sub-district Council and Sub-district Administration Organization Act 1994
- ❖ Provincial Administration Organization Act 1997
- ❖ Local Administration Act 1914
- ❖ Public Administration Act 1991
- ❖ Constitution of the Kingdom of Thailand 1997

Table 3-2 shows certain human activities which violated laws and regulations in Laem Talumpuk.

In a legal perspective, the human activities presented above violate the existing laws and regulations which are subject to fine and punishment. However, in reality these activities are still existing in Laem Talumpuk. This persistent violations are caused by variety of factors such as:

- ❖ Fine and punishment are relatively less severe compared with returns from the violation.
- ❖ Loopholes in laws and regulations allowing violators to get through.
- ❖ Centralized law enforcement resulting in insufficient horizontal cooperation among law enforcement agencies.
- ❖ Lack of dedicated personnel, budget and equipment.
- ❖ Group cohesion among law violators forcing officials away.
- ❖ Relaxing of government policies to avoid protesters.



**Table 3-2. Violations on Laws and Regulations in Laem Talumpuk  
Arising from Human Activities.**

	Land Code	Civil and Commercial Code	Forest Reserves Act	Wild Animal Protection and Reserves Act	MAAC Notification on 2 July 1972	Enhancement and Conservation Act
1. Drainage of sludge from prawn aquaculture into the non-hunting area				Violation of Article 54 and 57		
2. Prawn farm in the mangrove forest under forest reserves			Violation of Article 14 and 31			
3. Cut of mangrove forest under forest reserves			Violation of Article 14 and 31			
4. Hunting protected animals in mangrove forest				Violation of Article 16 and 47		
5. Digging of sand on the beach-common property	Violation of Article 9108 and 108					
6. Digging of sand in the beach-private property		Violation of Article 1337**				
7. Intruding on the mangrove forest under forest reserves for living			Violation of Article 14 and 31			
8. Trawling within 3 000 m from the coastline						Violation

A recent example of community effort to enforce the law occurred in 26 July 1998 when 300 small scale fisherfolks blocked the Songkhla Bay in order to prevent cargo ships leaving port. The protesting smallscale fisherfolks demanded the authorities to prohibit large anchovy purse seiners from fishing in provincial waters. Local officials were unable to negotiate, which led the Agriculture Minister to intervene. The Minister finally approved the Department of Fisheries' proposal to impose a ban on anchovy boats and those using gill nets from fishing in the Songkhla waters.

This example supports the reasons for law enforcement listed above. This research attempts to provide strategies for long-term effective law enforcement.

**Strategy One:** Support multilateral cooperation among local stakeholders of the fisheries and coastal resources

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**Rationale:** The centralization of Thailand's public administration system has shown its inefficiency in enforcing laws and regulations. It also has created confusion through complicated hierarchy and line of authority which in turn led to insufficient cooperation among local and central institutions. In addition, the local people and institutions are not regarded as sufficient entity to manage their local fisheries and coastal resources.

**Objective:** This strategy aims to encourage local stakeholders and local administration to identify, plan and cooperate in the management of their inherited resources.

- Action:**
- ❖ Identify local fisheries and coastal resources and their status through the use of modern technologies.
  - ❖ Identify local stakeholders who have stakes in resource utilization, conservation and protection.
  - ❖ Drafting of management plans.
  - ❖ Conduct public hearing, obtain consensus and revise plans according to the results of the meetings.
  - ❖ Specify network of roles and responsibilities among all stakeholders emphasizing cooperation.

**Strategy Two:** Provide information on resource status, policies, plans, laws and regulations and make it available for public access

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**Rationale:** The Constitution of the Kingdom of Thailand (1997), has guaranteed rights to the public on access to information held by government institutions. The information can be used for making local management plans and revising the plans when resource status changes.

**Objective:** Information is a necessary component for a publicly accountable decision-making process. Each decision made should be accepted by majority of the people.

- Action:**
- ❖ Enhance the people's knowledge about their constitutional rights through media, printed materials and at the local government offices.
  
  - ❖ Establish local networks for disseminating information and analyze knowledge via existing local administration offices such as Sub-district Councils or Sub-district Administration Organization.

**Strategy Three:** Establish an Appropriate Two-way Feed back System

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**Rationale:** Patron-client relationship is a dominant feature in Thailand's political economic system. This has resulted in a passive local administration which needs to be revised. Even though the decentralization process is taking its form, the movement to have a full decentralization has been slow.

**Objective:** The two-way feedback system enables proper supervisions among government officials, and between the local people and government officials. These mutual supervisions will reduce patron-client relationship. As a result, efficiency and effectiveness of the public administration system are expected to improve.

- Action:**
- ❖ Design a Process of mutual supervisions that is well-accepted by the government officials and the general public.
  
  - ❖ Integrate the process in the daily work by means of reports, group discussions and collective decisions.

**Strategy Four:** Accelerate the Process of Issuing Legislation in Accordance with the New Constitution of the Kingdom of Thailand

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**Rationale:** There are several measures following the New Constitution (1997) that supports local administration such as its administrative independence in terms of roles and responsibility, tax and revenue, personnel arrangement, authority to withdraw local administrators and members of local council. The constitution also provides for the rights of the local administration to issue local legislation. It also encourages the local administration to play roles in conserving its culture and tradition, planning its education system and managing its natural resources and environment.

**Objective:** The legislation issued in accordance with the New Constitution are urgently needed. The local people may lose rights to manage their own resources under the present laws and regulations.

- Action:**
- ❖ Pressure the local government to identify the local resources and their capability to support local prospects.
  - ❖ Draft the local master plan including inter alia socioeconomic, administration, political and environmental plans.
  - ❖ Attempt to integrate the local master plans into the national plan in order to influence national policies and legislation.

# Chapter 4

## Local Utilization and Management of Fisheries and Coastal Resources

### 4.1 INTRODUCTION

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Fundamentally, local communities in Thailand's coastal areas are dependent on fisheries and coastal resources. Their existence is in harmony with these resources until the market economy and state interventions come into effect. There are some counter balancing powers between the state and the local management practices (i.e., the state uses centralized laws and regulations while the locals use their indigenous knowledge and livelihood forces for such utilization and management).

There are beliefs and social cooperation mechanisms which exist among local coastal communities. These factors have played a dominant role in some restricted localities where state interventions are supportive. However, most coastal communities are still in a confusing state of management. There are some positive trends of encouraging these local beliefs and social cooperation to play increasing roles in managing fisheries and coastal resources. These are endorsed in the 1997 New Constitution passed in 1997 and its subsequent laws and regulations. The decentralization process will take some time to be adopted formally by local administrators as the patron-client relationship still exists.

This chapter is an attempt to analyze and later synthesize findings of the existing local utilization and management of fisheries and coastal resources. The second section presents the existence of local ownership and resource-use rights regimes while the local approaches for the management of the fisheries and coastal resources are presented in the third section. In the fourth section, prospects of co-management between the local communities and state interventions are presented. Synthesized strategies for the co-management practices supporting the upcoming decentralization of the Thai administration system are presented in the fifth section while the research findings with regard to this chapter is concluded in section six.

### 4.2 LOCAL OWNERSHIP AND RESOURCE-USE RIGHTS REGIMES

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The relationship between local communities and natural resources forms an important subject in studies related to coastal resources management. This is because, at the local level, the communities have always been interacting with the

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*"This people-resources interaction over time forms the main core in the development of local and indigenous utilization and management regimes which differ between communities."*

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surrounding environment. Such interaction can be viewed in two opposite dimensions. One, people live off the resources and the environment by exploiting them to serve people's needs. Two, people fear that the surrounding resources and the environment will be exploited, and will eventually affect their dependence on the environment in the future. In the absence of state or outside interventions, the conditions of the environment depend largely on the balance between exploitation and protection levels of future uses. This people-re-

sources interaction over time forms the main core in the development of local and indigenous utilization and management regimes which differ between communities. These differences occur as a result of their ability to define ownership rights and utilize customary rules developed by the communities (the state and outside interventions play important roles in a later stage of governance).

The understanding of ownership rights and customary rules of any coastal communities is important in the analysis of access to the fisheries and coastal resources. Various fisheries and coastal resources have different forms of ownership and resource-use rights and are affected by population pressure and changes in patterns of resource-use over time. This implies that the types of ownership and rights to resources changes over time.

The main economically important coastal resources in Thailand are fishery resources and aquaculture, mangrove, land, water, coastal tourism, minerals, and cultural inheritance. Considerable focus are given to these resources in the analysis here. Other equally important resources are considered as subsets of the above mentioned resources.

#### *4.2.1 Fishery Resources and Aquaculture*

Marine flora and fauna are considered open-access resources in early times when population pressure and use patterns were still minimal and subsistent. There was no restriction on access to these fishery resources. The resources were abundant and open to all those who are capable of fishing.

When population pressure together with the market and cash economy entered the fishing communities about 30-40 years ago through the introduction of fishing engine, modern gears and ice storage, the types of ownership and resource-use rights took different forms. High competition over the resources led to the need for resource reserves for each community. Different degrees of restrictions were introduced in order to limit access to fishery resources by other fishing communities. The fisheries have become common property resources

which a community member could access but subject to the community's customary rules. By itself, the nature of common property resources is subject to overexploitation beyond the limits. The situation gets worsen when outsiders start to intrude in the delineated community boundary. These outsiders usually have better fishing gears and technologies which enable them to extract more benefits from these common property resources.

These interactions of local people and outsiders have resulted in the loss of absolute sovereignty of local communities to their common resources, which in turn leads to state intervention. Through the state legislation process, zonation was imposed but it has failed in many fishing communities as the state's hands are unable to enforce the state rules effectively.

Most local communities are confused on how to perform their inherited rights due to the interference of outsiders and the state on their original rights. Identification of rights, acknowledgment of local ownership rights, customary rules, and state's formal rules should be shared simultaneously in order to perform an effective management of these fisheries and coastal resources.

Aquaculture in a marine waterbody around coastal communities (cage, raft, mud plain aquaculture, except prawn aquaculture in pond) are generally localized indicating that this practice is reserved for community members. Since private property rights do not apply to any public water bodies in Thailand, the arrangements for aquaculture activities are based on the customary rules set by the community or acknowledged by the neighbors. This is one case where outsiders are minimally involved as these types of aquaculture activities involve low-priced species and low export demand. State interference is in a form of supporting aquaculture technologies and some inputs.

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*"Mangrove forests are considered state property and are crucial for the coastal ecosystem."*

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#### **4.2.2 Mangrove Forests**

Mangrove forests are considered state property and are crucial for the coastal ecosystem. This is similar to the case of fishery resources that the property rights have changed their forms through time. However, state intervention appears to have a positive impact on the status of mangroves by issuing laws and regulations concerning mangrove forest zonation, cancellation of new charcoal production using mangrove forest, supporting mangrove forest rehabilitation programs and providing information on mangrove situations.

After the boom and bust cycle of prawn aquaculture, the general public have increasingly realized that the overexploitation of mangrove resources for prawn production has resulted in an almost total collapse of the prawn industry.

This has shown that local management practices proved to be more sustainable. This statement, although arguable, is supported by some non-government organizations and local governments.

There have been many studies and reports about causes of mangrove destruction. However, practical solutions are still ambiguous as the management of mangrove resources involves many stakeholders and the complicated nature of the resources itself. Competition for the use of mangrove resources is also stiff as local communities, state and private enterprises are uncertain on the level of compromise.

In actual fact, mangrove resources have been utilized for the local communities in/and adjacent to the forest area for many years before the state imposed formal laws and regulations. However, there should always be prioritization to allow access and use by the local people. However, this generosity may lead to loopholes in laws and regulations (particularly the Land Law Code of Thailand) which would further exploit these resources.

#### 4.2.3 *Coastal Land*

Following the Land Law Code of Thailand, there are evidences of malpractice which allows legal rights of coastal land for tourism, aquaculture or other infrastructure development. The legal status of coastal land is more complicated than other types of land (i.e., farm land).

Many fishing communities are located in mangrove areas and intertidal zone. Within the community, the rights to access these types of land are granted by the local committee, despite the illegal status set by the state. However, there are times the state gives special permits to the local people to build their houses. But this seldom occurs due to the high opportunity cost of the land in certain situations such as when the land has potential for tourism and other industrial development.

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Therefore, the ownership rights of coastal lands are site specific and most often local people refused to access state-owned lands such as beaches situated between private-owned lands.

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Therefore, the ownership rights of coastal lands are site specific and most often local people refused to access state-owned lands such as beaches situated between private-owned lands. In some cases, conflicts emerge between local occupants and influential outsiders as land that have long been settled by local occupants are claimed to be legally owned by outsiders. Resolving this conflict will take a longer time and high costs which local occupants cannot afford.



It appears that the local people settling in mangrove forests and disputed lands are losing their rights based on formal land laws. High costs and lengthy right claims are the main obstacles for the local people whose rights are not protected by the state.

#### **4.2.4 Water Resources**

The water resources problems in the coastal area can be classified into two types: water pollution and water shortage. The first type of problem can be found in saltwater, brackishwater and freshwater, whereas the second type of problems is related to freshwater. Local coastal communities seem to have given up on their rights to live in clean water environment and sufficient freshwater supply.

##### **WATER RESOURCES PROBLEMS**

- Water pollution—found in saltwater, brackishwater and freshwater
- Water shortage—related to freshwater

The use of water resources particularly freshwater is highly competitive in coastal areas. Being an open-access resource, the rights of the local people to control the allocation of the freshwater resource and to prevent the resource from being polluted are limited.

Some coastal communities are reluctant to claim their rights to unpolluted water, as they themselves have contributed to the pollution through their household wastes. However, in the case of industrial wastewater, it is a right and is guaranteed by legislation that the coastal communities should not be affected by these wastes which causes high mortality rate in fish aquaculture. In theory, the legislation to control and prohibit the effluents from industries seems to be sufficient. However, in practice, enforcement is a problem.

In the case of water shortage, the local people have limited control over it as it depends largely on natural climatic conditions and on the policy of the central government (dam or water regulatory management). The normal practice is that the urban people and industries have a higher priority to access the freshwater supply than the local fishing communities.

#### **4.2.5 Coastal Tourism**

Tourism is a big industry in Thailand generating quick foreign exchange earnings and employment. However, tourism generates social and environmental costs. Despite the preponderance of new tourism approaches such as nature or eco-tourism, their

practical applications are still obscure. Coastal tourism in Thailand has inevitably fallen into such jargons without clear understanding of definitions and their practical implementation.

Coastal tourism involves diverse kinds of coastal resources such as coral reefs, clear water, sandy beaches, forests, aquatic organisms, and indigenous people and their inherited culture. These resources should be protected due to their significant contribution to the whole ecosystem. Non-human coastal resources demand protection as much as human beings demand them for their survival and pleasure. However, the equilibrium between demand and supply of these resources is still indeterminate. A reason behind this indeterminate equilibrium is the improper determination of prices. Although several attempts to solve these non-market attributes of the resources have been reported, no satisfactory proposition has been achieved, particularly in Thailand.

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“...local people’s point of view, safeguards for the coastal resources are vital and initiatives have been done through local beliefs and social cooperation.”

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The coastal tourism resource rights classification remains obscure. However, in the local people's point of view, safeguards for the coastal resources are vital and initiatives have been done through local beliefs and social cooperation.

At present, the interference to share the coastal tourism resources comes from outsiders—tourism developers—in different forms. Needless to say, the demand for new tourist sites has been developed with minimal regards to the importance of such

resources to the local people. The former well-defined rights of local people have been altered by means of outside involvement with a supporting hand from the state's legal system. The locals are lured by quick cash income which is relatively small and a lot of associated social, economic and environmental costs.

The rights of the local people are expected to improve hopefully with the implementation of the 1997 New Constitution of Thailand. But it will take time before they would realize what their rights and responsibilities are as provided in the Constitution.

#### 4.2.6 *Coastal Minerals*

Coastal minerals found in the seabed and coastal areas include oil and gas, tin, antimony, manganese, lignite and columbine-tantalite. Mining these minerals is made through concessions granted by the state as mineral resource are owned by the state. Most concessionaires do not come from local communities but are outsiders. Local residents are involved mainly as workers. The complication of concession arrangements limits access of the local people to these resources which gives way to urban-based or foreign-based companies.

#### 4.2.7 Cultural Inheritance

The local cultural heritage is, to a certain extent, promoted through tourism development. In effect, local prices are affected as prices are imposed by the "tourism" connotation rather than as dictated by supply and demand. Ownership rights of local people seems to be insufficiently acknowledged by an attempt to seek new tourist attraction by influential tourism developers. With the New Constitution of Thailand being put in place, justification for these rights need to be guaranteed by the constitution. If necessary, the laws and regulations enabling fair utilization of the local people's cultural resource need to be drafted, so that the proper rights of the locals on their own heritage can be protected, preserved as utilized, with justified shares to the true owners.

It is Thailand's most difficult task to identify, justify and guarantee the coastal cultural heritage as these resources are highly abstract. It depends largely on the cohesion and knowledge of the local people to perform and protect their inherited cultural rights, so that these unique cultural resources could be respected by the state and the outsiders.

### 4.3 LOCAL APPROACHES WITH STATE INVOLVEMENT IN FISHERIES AND COASTAL RESOURCES MANAGEMENT

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The non-permanent (migratory) characteristic of most coastal resources make the rights to access unclear among resource users, especially in terms of boundary. Most coastal resources are shared by individuals, either within a community or between different communities. The attempts of local people to draw resource-use boundaries are limited by their capability to control the resources. In these cases, disputes and conflicts on resource utilization are inevitable both among members of the same communities and between different communities. This has given ways for the state to intervene. But due to the limited capability of the state, influential persons can also take advantage.

#### 4.3.1 Disputes and Conflict Resolution

When disputes occur among local communities, its social institutions play important roles in resolving the problems or requesting involvement of the state. At the village level, two main social institutions which are influential to the social behavior of village members are the village formal and state-influenced committee and the informal village council. The village formal committee is led by an elected village headman and the committee is composed of several members who are elected to take charge of different development activities in the village. Besides this formal institution, there coexists an informal institution which has a looser organizational structure—the village council. This village council is generally composed of a few elders and other influential figures in the village. The village council does not have a fixed council leader as its leadership may change according to its concern.

In 1994, the parliament has passed a new law enabling the establishment of a new sub-district administrative organization, which is a formal intervillage social institution. It is tasked to deal with sub-district development activities. This institution is allowed by law to collect its own taxes and revenue within the sub-district. Along with this new decentralized sub-district administrative institution is an old and highly bureaucratic sub-district council which is expected to dissolve itself in a due time. This institution has the task of helping resolve disputes and conflicts. Resolving disputes and conflicts is mainly undertaken through meetings, wherein representatives of the conflicting parties are called to resolve their differences.

Dealing with disputes emerging among parties from different sub-districts or provinces are more complicated, especially when these conflicting parties do not have close social relations with one another. Local leaders, both formal and informal, may tend to use their personal connections with other leaders or influential figures within their community as their first stage to find solutions. Meeting can also be arranged to resolve the dispute.

Formal ways of resolving disputes are less preferred by local resource users unless their informal attempts fail. This is because there are frequent shortage of officials from concerned government bodies, frequent passive roles of officials, and the long and costly process of involvement leading to the perceptions of ineffectiveness and unreliability towards formal procedures among the local people. Many rural communities in Thailand, especially in the southern part have been left unattended and yet they are highly self-reliant, both in economic and political terms. They tend to struggle on their own more than to seek help from the state. Legal actions against the local people are usually brought by outsiders when they are involved in such disputes and conflicts over the fisheries and coastal resources. The use of formal laws and regulations is selected only when it is unavoidable, and many times the local people do not follow decisions made by the formal judgments.

#### **4.3.2 Local Management**

In terms of local and indigenous knowledge on fisheries and coastal resources management, the local communities are connected with two aspects: belief and social cooperation. The beliefs include both the recognized religion and local beliefs while social cooperation involves culture, tradition and other forms of living-together cooperation.

The life of the local Thai people is generally tied strongly with the belief in supernatural power. This belief is rooted mainly in Buddhism even though their spiritual belief does not always reflect Buddhist thoughts. Much of the Thai belief is local, which is extended from ancient beliefs used to be influential in this region before the arrival of Buddhism, especially Hinduism. The belief in supernatural power forms an important factor behind many customary practices on the relationship between man and nature.

Common types of Thai belief are the belief of moral goodness and merits. These types of belief are observed to remain strong in rural areas including most coastal communities in Thailand. Merit making through monkhood, donation to temples and unfortunate people and saving lives of other beings including animals. In addition, some other types of belief in supernatural power such as holy subjects and lords of the places are also believed to bring good lucks and fortunes. Moslem societies in Thailand do not commonly have the same belief as these kinds of belief are inconsistent with the Islamic spiritual principles. Nevertheless, some Moslems have assimilated these spiritual practices, although uncommon.

The beliefs mentioned above are also meaningful in understanding the relationship between local people and the natural resources. Some practices connected with these types of belief are applicable for enhancing the protection of coastal resources from overexploitation. Among these are: releasing of marine life such as fish and turtles into the natural habitats, ordination of trees, sacred sites, rare, gigantic and strange shaped objects and invoking powerful spirits.

Social cooperation is an important aspect of cultural attributes of the Thai societies, particularly at the community level. The concept of social cooperation is found to apply in various activities concerning community self-reliance and collective actions to solve problems facing natural resource management.

#### 4.4 CASE STUDY: LOCAL INITIATIVES IN FISHERIES AND COASTAL RESOURCE MANAGEMENT IN LAEM MAKHAM, SIKAO DISTRICT, TRANG PROVINCE

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Ban Laem Makham is a fishing village in Khao Mai Kaew sub-district, Sikao district, Trang province (refer to map in Figure 1-2). The local management initiatives is being supported by a local nongovernment organization—the Yadfon Association—and local government agencies. These initiatives have successfully manage fisheries and coastal resources.

The people in Ban Laem Makham have faced several resources management problems as outlined below:

- ❖ Intrusion of big and modern commercial trawlers and push netters whose interest is making profit whereas the smallscale fisherfolks aim for basic livelihoods.
- ❖ Overexploitation of mangrove forests for commercial charcoal production by outside concessionaires (at a larger extent) and by the local people (at a smaller extent).
- ❖ Negligence of local government in protecting the rights of the local people.

It was the local people who initiated the project to protect and utilize their resources, as they have the customary ownership rights over these resources.

It is an important factor that the local resource owners are able to identify and perform their own rights to utilize and protect the resources vital to their livelihood. Moreover, the other feature of success in resource management is the capability of village leaders (both formal and informal). These two main characteristics of successful fisheries and coastal resources management can be made sustainable by the support of government agencies. In Ban Laem Makham case, the support of non-governmental organization (Yadfon Association) and some concerned private enterprises are necessary. The strategy of the Ban Laem Makham community is to symbolize their unique resources (e.g., turtle) and promote their protection through some powerful media (i.e., TV, newspaper, radio) so that the general population are made to be aware of how important these resources are. The steps of success in Ban Laem Makham are as follows:

Step 1: Local people face problems with resources depletion due to aggressive exploitation by outsiders. The local people asserted their rights of ownership on these resources and the role of the state in protecting them.

Step 2: Local leaders and local people conducted several informal meetings to plan for strategies to protect their resources and exercise their use and ownership rights. The local leaders are farsighted, active and sincere.

Step 3: Involvement of government organizations (GOs) and nongovernment organizations (NGOs) is necessary. The local initiatives can be shared by both organizations but efficiency may be more with NGOs, although the GOs cannot be totally ignored also.

Step 4: By means of trial and error, the local communities, through several formal and informal meetings, brainstorming and stakeholders participation, are able to identify unique, implementable and effective management strategies.

**BAN LAEM MAKHAM SUCCESS  
ARE DUE TO:**

- the locals' assertiveness on their rights of ownership;
- collectively planning for strategies;
- active involvement of GOs and NGOs;
- identification of unique, implementable and efficient management strategies;
- government's involvement in dispute resolution;
- group establishment; and
- public awareness drives.

- Step 5: The government is involved particularly in dispute resolution by virtue of the authority they are vested through laws and regulations.
- Step 6: Establishment of groups associated with occupational interests so that bargaining power could be increased and solidified to counterbalance external forces. Also, the groups are able to set customary rules through meetings of members and other stakeholders involved in a dispute.
- Step 7: Public relations through popular media to share ideas to other communities, as well as open the idea to the general public.

There are several key beliefs and social cooperation that are contributing factors for the successful local management. Religion (Islam) is a major attribute creating a cohesive bond among the Ban Laem Makham people. The religious practices facilitate consultation via meetings and consensus on management strategies. The role of women may be passive in the meeting places but this role becomes dominant when such management affect households and children's well-being. Village women can have enormous voices.

In summary, the experiences learned from Ban Laem Makham exhibit the struggle and attempts of the local people to protect their ownership rights on fisheries and coastal resources. The strategies taken to implement the local initiatives have been through a participatory approach involving many stakeholders. The roles of GOs and NGOs have been active and supportive. They enhances the local people's power to protect their resources for the present and future generations. The local communities also employed their beliefs and social cooperation as tools to strengthen the power within the community while the popular media was enlisted to generate support from the public. The levels of integration of several well-defined resource issues and stakeholders appear to work.

However, it was the hardship and dedication of the local people and other concerned personnel and institutions which were important.

#### **4.5 CO-MANAGEMENT APPROACHES FOR THE MANAGEMENT OF FISHERIES AND RESOURCES UNDER THE PRESENT DECENTRALIZATION PROCESS**

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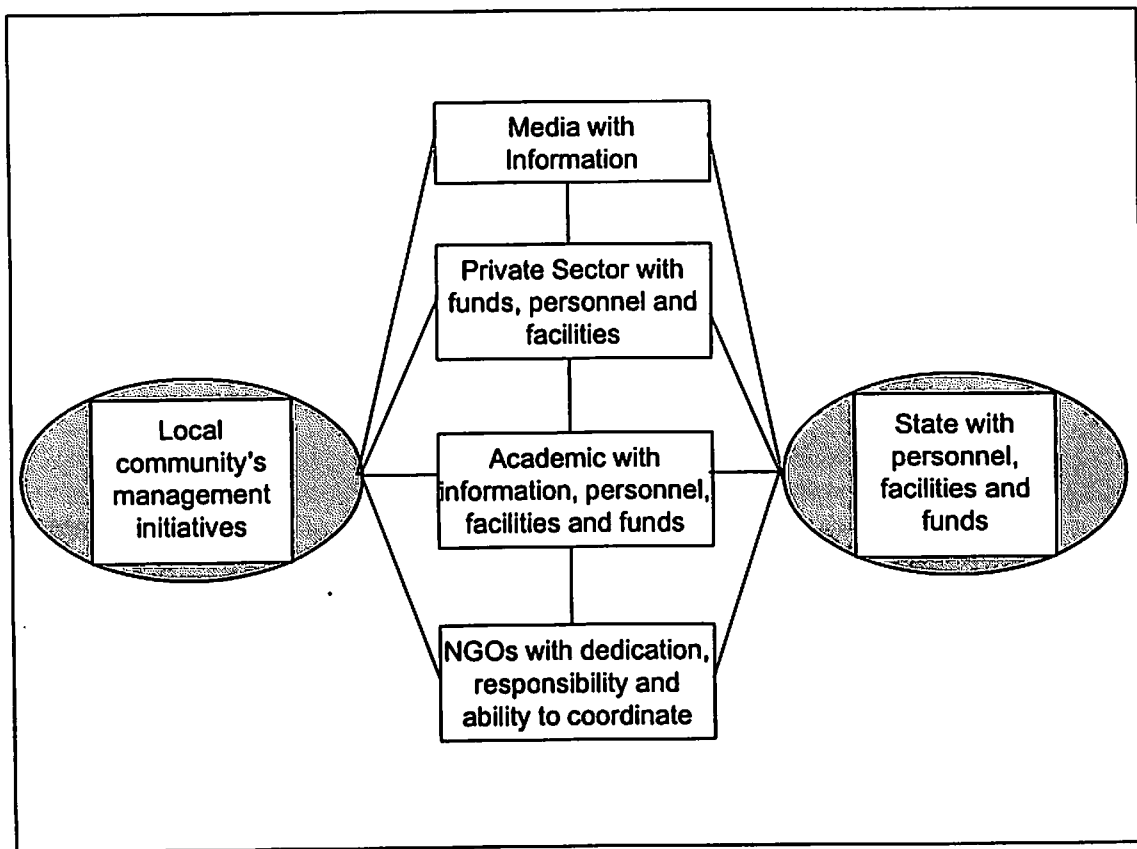
Co-management is the management practice encouraging involvement of all resource stakeholders. There are six groups of these stakeholders: (1) the state; (2) the local community; (3) the nongovernment organizations (NGOs); (4) the private sector; (5) the academe and (6) the media. In Thailand, the recognition of local initiative's has been initiated mainly by the NGOs while the state, private sectors and other stakeholders act as supporters (sometimes prohibitors) in terms of campaigns, personnel, facilities and funds. The strong point of the NGOs is that they are able to cooperate with other stakeholders, especially the community and media. They are also independently administered which allow a quick process of implementation. They are dedicated responsible and down-to-

earth. But they do have weaknesses also such as the lack of financial resources to support long-term projects, sensitive responses on criticism and insufficient attempts to ensure that other stakeholders cooperate.

The co-management approaches are expected to work following the simple diagram below:

One of the purpose of co-management is to coordinate all identified and related parties to work together on an equal rights basis. The ultimate goal of this management approach is to harmoniously utilize and conserve these precious coastal resources in such a way that they are safeguarded for the present and the following generations.

The co-management approach is supported and encouraged by the New Constitution of Thailand through at least two Articles to wit:



*Article 56: An individual's right to cooperate with the state and communities in the following ways is protected: conservation and exploitation of natural resources and bio-diversity, protection and promotion of environmental preservation to enable people to live in an environment that does not damage health, well-being or the quality of the life. The right, however, must be in accordance with the law.*



## Chapter 4: Local Utilization and Management of Fisheries and Coastal Resources

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*Projects or activities that may cause serious, negative impact to the environment are forbidden except studies and assessment that have been approved by independent bodies consisting of private environmental organization. Consultation must also be sought from representatives of related universities before the implementation of such projects.*

*An individual's right to bring charges against governmental organization, state enterprises, local administrations or other state bodies that fail to abide by the law in clauses 1 and 2 is protected.*

*Article 290: Local administrations retain the lawful rights to promote and maintain environmental quality. The measures must include:*

- (1) Management, maintenance and exploitation of natural resources in their own areas.*
- (2) Locals' participation in the conservation of resources and environment outside their areas if the environmental hazard poses any threat to the livelihood of people in their areas.*
- (3) Locals' participation in the deliberation on projects or activities outside their areas that may have an adverse impact on the environmental quality or health of the local people.*

In order to ensure the participation of local communities, as enshrined in the Constitution, several strategies are in order. These are:

**Strategy One:** Encourage adaptation and utilization of local initiatives by means of beliefs and social cooperation mechanisms

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**Rationale:** Local initiatives through beliefs and social cooperation are vital tools for the management of fisheries and coastal resources as these indigenous practices and values have been developed and polished through time. However, they must be adapted to fit with the rapidly changing ways of resource utilization.

**Objectives:** It has been widely accepted that local people are entitled to have access rights to use and manage their resources with support from the state and other components of the country. The objectives of encouraging the local initiatives for the management of fisheries and coastal resources are mainly to:

- ❖ identify several existing forms of these local initiatives,
- ❖ document local initiatives in a practical and readily adaptable form for implementation; and
- ❖ exhibit local people's ways of managing their resources using their inherited initiatives.

**Action:** ❖ Identify local initiatives that have been used as tools for resource use and conservation through participatory action research conducted by educational institutions (i.e., colleges, universities), non-governmental organizations, government offices (i.e., Yadfon Association, Andaman Project for Participatory Restoration of Natural Resources), or local and grassroots administration organizations (i.e., Provincial and sub-district administration organizations) in cooperation with the formal, informal leaders and the community.

- ❖ Identify local leaders (both formal and informal) who can work together for the purpose of upgrading the community's well-being.
- ❖ through the brainstorming process among identified institutions, select one or some few resources in the community as a banner resource for management and conservation.
- ❖ Attempt to demonstrate that local initiatives can lead to improved economic well-beings when the communities are empowered and attain group solidarity.
- ❖ through media (i.e., TV, radio, newspaper, posters, brochure), attempt to spread the message of tool or the symbolic representation and its management across the general population and decisionmakers. The concerned institutions through frequent consultation with the local people will generate funds and maintain cooperation.

**Strategy Two:** Establish a network to share experiences on implementing local initiatives to manage fishery and coastal resources

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**Rationale:** The successful application of local initiatives (or if unsuccessful initiatives, it can be a lesson not to be repeated) should be shared among the local people so that they could be applied in other similar cases. The local community with support from concerned institutions takes a dominant role in the establishment of a local network.

**Objectives:** This strategy aims to share experiences learned from successful and unsuccessful projects. Several strategies to deal with the implementation of local initiatives should be discussed and revised to fit with the socioeconomic characteristics of the communities and adapted to the demands of a globalized market economy.

- Action:**
- ❖ Through grassroots institutions (i.e., Sub-district Administration Organization, local government offices, NGOs), provide opportunity for the local communities to meet via field visits, demonstration projects, agricultural exhibition fairs and other means of communication.
  - ❖ Provide training and education as means for the local people to meet, discuss and adapt lessons learned from different management initiatives.
  - ❖ When the local communities have sufficient cohesion with one another, with government agencies, with local administration organization, with NGOs and with private sectors, encourage the establishment of a network involving a number of local communities working with concerned institutions.

**Strategy Three:** Disseminate information (published data, research documents, policies, plans and local initiatives) in a simple format in order to be readily accessible

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**Rationale:** There have been a lot of information on fisheries and coastal resource management collected by the government and private sectors. This information is useful for the local communities to learn and adapt. Rights to access this information are guaranteed by the New Constitution of Thailand.

**Objectives:** The information is expected to support local initiatives in a sense that the local people are able to know what the government policies and plans are, especially laws and regulations. This knowledge can be a framework for making decision, to invest or start new local projects. In addition, local communities should also know the initiatives of the private sector. Local communities should know the details and negative environmental impacts of proposed development projects in order to carry out actions to prevent or mitigate such impacts.

- Action:**
- ❖ Through local administration organizations, the local people are encouraged and given explicit rights to access the requested information with full support from concerned institutions.
  - ❖ The local people are to be trained to perform their rights in a correct and proper procedure.
  - ❖ Using the information, the local leaders are able to write local project proposals as well as manage their own projects.
  - ❖ Database system should be made available for public access and it should be in both interactive and assisted systems.

# Chapter 5

## International Involvement

### 5.1 INTRODUCTION

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**T**hailand, being part of the global economy, cannot stand alone in managing its fisheries and coastal resources. In a globalize perspective, countries are related in one way or another in terms of economic, financial, political, social and environmental interactions. The recent financial crisis, which hit most Asian countries, has shown the importance of international involvement. Through their international networks, countries in need of financial assistance were able to avail of grants from multilateral funding institutions such as the World Bank and the IMF. The extent of the impact depends to a large degree on the economic development and preparedness of a country. In solving a country's economic crisis or any other disputes such as genetic patents or intellectual property rights, all countries need mutual cooperation. ASEAN can hopefully act as an example of such cooperation in this region.

Fisheries and coastal resources management schemes cannot escape this interwoven relationship among countries, especially countries that share common ocean and sea borders. Thailand shares its ocean and sea borders with Cambodia, Indonesia, Malaysia and Myanmar. A policy to utilize marine resources of one country inevitably affects the others. In addition, there are conventions and agreements created in the international arena that affects countries' behavior in utilizing the world's largest common property—the International waters—and in solving possible maritime conflicts among neighboring countries.

This chapter attempts to present and discuss issues international involvement and through a case study, synthesized strategies will be formulated.

### 5.2 TYPES OF INTERNATIONAL INVOLVEMENT

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Thailand is committed to several international agreements on the conservation and management of fisheries and coastal resources. The most important development in the international scene affecting Thailand's marine fisheries is the proclamation of the 200-mile EEZs by neighboring countries. There are also some projects and joint venture deals that have come into effect as a result from this proclamation. Other types of international involvement that directly or indirectly influences Thailand's fisheries and coastal resources management programs are also discussed in this section.

### 5.2.1 *Convention of the Sea and the Coastal Zone*

The 1982 United Nations Convention on the Law of the Sea (UNCLOS) led Thailand to declare its EEZ and defined its territorial waters. Under the Convention, Thailand gained 60 percent more in sovereign waters but lost about 300 000 square miles of high seas (international waters) to neighboring countries.

Following the depletion of marine resources in the Gulf of Thailand and the enactment of the 200-mile EEZ, Thai fishing fleets were forced to enter the waters of Malaysia, Myanmar, Indonesia, India, Cambodia, Bangladesh and Australia.

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*“Under the Convention, Thailand gained 60 percent more in sovereign waters but lost about 300 000 square miles of high seas (international waters) to neighboring countries.”*

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One of the implications of the pronouncement of the 200-nautical mile Exclusive Economic Zone, which took effect in the early 1970s, is the continued struggle of Thai fishing boats to find more productive fishing grounds. A joint fishing venture arrangement with neighboring countries, where fishing grounds are still productive, is one of the solutions adapted by Thai fishing companies. But, occasionally Thai fishing

companies do not enter into joint venture arrangements with other countries. Instead, they poached in other countries' fishing ground. There were several incidents in the past of the illegal entry of Thai trawlers in the no-fishing zones of Myanmar, Malaysia, Cambodia, Vietnam and other neighboring countries. Many Thai fishing boats and crewmen have been detained in these countries.

While other neighboring countries have ratified the UNCLOS, Thailand is still reluctant to ratify it. Despite this, Thailand is negotiating joint venture arrangements. Several measures have been designed to promote fishery outside the Thai waters such as bilateral cooperation; financial support; fishing technologies; fish handling and storage facilities; public and private investment cooperation; training in terms of technology, partner countries' cultural and legal system knowledge and registration of the Thai crewmen for legal protection of their rights.

Thailand has also other obligations under a number of other conventions on fisheries, biodiversity and pollution. These obligations have existed for some time now. These agreements include inter alia:

- ❖ The Convention on Biological Diversity;
- ❖ The United Nations Framework Convention on Climate Change;

- ❖ The Convention concerning the Protection of the World Culture and Natural Heritage;
- ❖ The Convention of the World Meteorological Organization
- ❖ The International Convention for the Prevention of Pollution from ships (MARPOL 73/78)
- ❖ International Coral Reef Initiative

In addition, other recent international initiatives, including the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities and the UNCED Agenda 21, which establishes non-legally binding principle on the protection and sustainable use of marine resources.

Thailand is also involved in a number of regional initiatives and programs on coastal and marine issues in cooperation with ASEAN members such as:

1. Asia Pacific Economic Cooperation (APEC) Marine Resources Conservation Working Group
2. United Nations Environmental Programme - Regional Seas Programme (COBSEA)
3. ASEAN Cooperation Project under Environmental Programme

### *5.2.2 Joint Ventures*

The Thai-Myanmese joint fishing ventures, in fact, did not begin with the establishment of the EEZ. They began almost a quarter century ago. According to the Fisheries Department, Myanmar granted a fishing concession to Thai companies in 1975 and this ended 5 years later as both parties had insufficient experiences for such operation. In 1989, Myanmar authorities granted a fishing concession to Thailand once again, and by 1990, the Thai Fisheries Department had set up the Thai-Burma Fisheries Co. Ltd. Fifty percent of the total shares was owned by the company, 22.5 percent by fishery businessmen and 22.5 percent by industrialists. Eventually, overseas fishing by the Thai private sector in Myanmar ended in 1993.

In 1995, Myanmar again granted fishing concessions to the Thai fisherfolks. This time it is in the form of joint investments. Each Thai company had to invest in supplementary fishery-related businesses in at least three out of five alternatives: icemaking, fishmeal making, cold storage, fish canning and shrimp farming. Unfortunately, six Myanmar crewmen were killed by Thai crewmen on board a Thai fishing trawler. That prompted the Myanmar authorities to cancel the fishing concessions. At present, an estimate of 500 Thai trawlers are illegally competing for fish in the Myanmar waters, supposedly with unofficial passes from local Myanmar officers or minorities who oppose the Yangon regime.

In January 1998, The Thai Minister of Agriculture and Agricultural Cooperatives and the Army Commander-in-Chief discussed the fishery ventures in Myanmar and other issues involving Thai fishermen detained by Myanmar authorities. Thai requested that Thai fishermen caught poaching in Thai waters be treated in a humane and friendly manner. After a meeting and a visit of the Thai Army Commander-in-Chief, 98 out of more than 100 Thai prisoners were released.

The problems with the fishing ventures in Myanmar were largely due to dishonesty of Thai fishermen, whether intentionally or unintentionally, to fish in no-fishing zones, breaking promises and contracts, using radio communication gear without permission, and committing violence against Myanmar crewmen. According to a Thai businessman, some countries have a different way of handling the business. He said that, "The Myanmar believe in promises. You must do whatever you say or promise..." However, the Thai fishing trawlers are confused by various regulations in Myanmar. Some have been charged for violating Myanmar laws while others have been stopped and their fishing boats and gears confiscated.

Some joint-venture deals with Malaysia suffered similar fate. Deals were ceased, negotiated and restarted and so on. However, private sector stakeholders of the two countries have created some different kinds of fishing deals such as special permits for Thai-Malaysian registered fishing boats to fish in the Thai waters off the coast of Satun province. Also, many small-scale Thai fishing boats prefer to sell their catches to Malaysian markets in Perlis or Langkawi as they offered better prices. Moreover many of them offered contractual support. This type of bilateral agreements has been carried out quite a long time with minimal interference from institutions from the Thai side.

The most successful joint-venture fishery arrangement may be the one with Bangladesh. Nevertheless, there have been reported violations, arrests of the Thai crewmen and other problems but they have been peacefully resolved through the full cooperation of the two countries.



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"...the major factors contributing to the success of these joint-venture arrangements are promises, respect of cultural differences and strict implementation of agreed rules."

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As stated earlier, the major factors contributing to the success of these joint-venture arrangements are promises, respect of cultural differences and strict implementation of agreed rules.

### 5.2.3 *Deepsea Fisheries*

From November 1989 to January 1990, the Chulabhorn research vessel conducted a joint marine survey with Myanmar in the Andaman Sea off the western coast of Thailand. The scientists concluded that a sustainable rate of catch in Myanmar waters would be between 1.39 million and 1.75 million tons per year. The survey also found that the catch would include 0.9 million tons of high-priced shrimp.

Attention has been paid to deepsea fisheries for tuna species in the international waters. Several infrastructure facilities have been built such as port, cold storage, transportation system and air cargo facilities to serve Japanese tuna market. High investments in modern fishing vessels and limited capability for deep sea fishing appear to be the major constraints for Thai fishermen to venture into international waters.

The Thai government and private sectors in Phuket have joined hands to develop the deepsea fisheries in the international waters (900 East Ridge) by establishing commercial cooperatives, conducting research, trainings and conferences to help interested investors.

### 5.2.4 *Regional and International Tourism*

Thailand has gained significant foreign exchange earnings annually through regional and international tourism. Thailand has gained a good tourism reputation throughout the world due to its unique culture, well-developed tourism facilities and beautiful natural resources. However, an important issue that needs to be considered is at what costs Thailand has sacrificed to achieve this reputation.

Fisheries and coastal resources have been depleted to serve the demands of the tourism industry. There are evidences of stained beaches, unplanned hotel and resort construction, coral reefs destruction, pollution and loss of culture and local traditions. These are examples of costs which should be included in national income accounting to reflect the negative impacts of tourism and to show how much compromise should be made to achieve a good tourism product. The Visiting Thailand Year and current Amazing Thailand campaigns may be considered as causes for these undesirable consequences of tourism. But it is quite understandable since Thailand needs quick cash returns to help solve its present economic woes.

However, Thailand's current policy on tourism has been focused on sustainability such as eco-tourism, and nature and cultural tourism. But there has not been a real and extensive practical application of these tourism concepts possibly because these forms of tourism, considered simple and self-sufficient, is contrary to the large capital investment of conventional tourism. A recent discussion facilitated by the National Economic and Social Development Board discussed the development of Phuket as an 'international city'. This so-called 'international city' will inevitably involve a large investment to cater for all sorts of tourists' preferences. With Phuket planned for such large-scale project, neighboring provinces such as Phang-nga, Krabi, Trang and Ranong will be developed to serve tourism and affiliated tourism industries.

#### 5.2.5 *Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) Development Project*

Due to stiff global economic competition and increasing trade protectionism, three of the 10-member countries of ASEAN proposed special cooperation areas encompassing Northern Sumatra province of Indonesia, the four northwestern states of Malaysia (Perak, Penang, Kedah and Perlis) and five provinces of Southern Thailand (Narathiwat, Pattani, Yala, Songkhla and Satun).

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*"The most important forces, which will influence the realization of a regional economic cooperation within the IMT-GT, are a shared common race, religion and culture."*

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Located between Sumatra and Langkawi of Malaysia, Tarutao Marine National Park is likely to become a regional strategic area for an IMT-GT development project, especially in the tourism area of economic cooperation. The project also intends to confer preferential domestic status on any investors from the member countries seeking to invest anywhere in the Triangle. The most important forces, which will influence the realization of a regional economic cooperation within the IMT-GT, are a shared common race, religion and culture.

The objectives of the IMT-GT development projects are to increase trilateral trade cooperation and minimize trade barriers such as tariffs, taxes, and trade regulations. It also emphasizes investment promotion, human resource development, technology transfer and relaxation of labor migration among the member countries. In terms of agriculture and fisheries, it promotes fishery joint ventures, agriculture production and agro-industrial development. Regarding tourism, the joint investment on communication and transportation networks on land, water and air will connect tourist destinations. Another important aspect is the joint protection and management of the environment, especially in the Straits of Malacca where both Tarutao, Langkawi and Northern Sumatra are located.

Recently, Malaysia proposed to have a custom office in Tarutao so that tourists from Malaysia's Lankawi need not undergo customs processing in the mainland of Satun. Tourists need only to 4.5 kms from Langkawi directly to Tarutao instead of some 25 kms to Satun and then 22 kms to Tarutao. The Langkawi Development Authority (LADA) realized that Langkawi is ideally located where it can take advantage of future developments in Tarutao. The building of a new road which links Satun and Bukit Puteh in Kuala Perlis, Malaysia would be the latest gateway to Tarutao and Langkawi. The Satun Provincial Governor has also expressed his eagerness to develop Satun and its tourist attractions (Tarutao, Adang, Rawi and Lepe islands, and other nearby islands and national parks) aiming for an estimated income of 50 million bahts per month during the Amazing Thailand years (1998-1999). The development needed for these tourist destinations is mainly infrastructure development (i.e., port development and road construction). The province, with support of 40 million bahts from the Tourism Authority of Thailand (TAT), will develop a road linking Pantai Melaka to Taloh Wow Bay on the Tarutao island, a distance of 12 kms, which is expected to be completed by the end of 1998. In the long-term tourism development, the province is expected to obtain some 400 million bahts from TAT, Royal Forestry Department and Southern Border Province Administrative Center (Sor-Or-Bor-Tor) for the period of four years until the year 2001.

#### 5.2.6 Joint Development Area (JDA)

Currently, there are some arguments concerning the oil and gas joint-exploration project in Thailand-Malaysia Joint Development Area (JDA). The agreement was reached between the two countries' Prime Ministers in May 1998. Full implementation of the project will be within a few years. On the Thai side, environmental impact assessment of possible pipeline routes is under study. It is expected that disputes over benefit distribution of this project will be on the front pages. However, the project will be carried out and problems partially solved as several sectors realized the importance of oil and gas development for the progress of the Southern Seaboard Program.

On the upper Gulf of Thailand, there is also a Thailand-Cambodia Joint Development Area for oil and gas exploration. The oil and gas will serve primarily the Eastern Seaboard Program. There has been a proposal to explore oil and gas deposits in the Andaman Sea within the Thai waters. It is reported that the exploration and

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*"At this stage, majority of the fisherfolks and the general public have a positive reaction to this development as they expect to share the benefits."*

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development of oil and gas network would affect minimally fisheries and coastal resources. However when the proposal is operational some negative consequences may occur. At this stage, majority of the fisherfolks and the general public have a positive reaction to this development as they expect to share the benefits.

### 5.2.7 *Trade Restriction, World Trade Organization (WTO) and International Monetary Fund (IMF)*

Increasingly, there are several forms of trade restrictions put into effect by most developed nations. For example, Thai prawn export has been restricted by the United States due to environmental reasons. Quotas and General System of Preferences (GSP) of Thai export products have been considered (and reconsidered) for lifting. Many times trade restrictions are imposed based on claims to protect the global environment. The primary purpose of these trade restrictions may be considered a barrier to entry thus discouraging free trade. This type of restriction in one way raises the cost of Thai export products which consequently has an enormous effect on the attempt to extract more on the existing resources. Fisheries and coastal resources are unavoidably being subject to further exploitation.

The establishment of the World Trade Organization (WTO) is expected to play a role in imposing the free trade policy. But there are arguments along the process of this establishment whether or not the WTO is performing a fair play. As Thailand has attempted to bring justice to Thai prawn trade with the United States, long court processes and indecisive judgments appear to be the main discouraging factors. It is believed that the WTO is again just another tool for the developed nations to impose their trade policies on developing countries. Even though most developing countries possess rich fisheries and coastal resources and they are capable of committing themselves to a free trade policy despite the lack of modern technologies, they are still not well accepted. An example of this argument is the non-acceptance of the Turtle Extracting Device developed by Thai scientists.

The International Monetary Fund (IMF) has provided a rescue package during the financial and economic crisis. There are several requirements imposed by the IMF that put pressure on the fisheries and coastal resources. A simple and clear example is on government spending which has an effect on employment. Those who are unemployed would go back to other forms of natural resources exploitation. As a consequence, natural resources are further exploited including land, forest, fisheries, mangrove and tourism.

As already stated, Thailand cannot live alone in this global community. It has to try very hard to formulate policies, plans and strategies to maintain its economic independence, strong social integration, political stability, cultural uniqueness and environmental harmony. This is more easily said than done. But it is believed that realistic and implementable policies, plans and development strategies formulated at all levels of administration would contribute largely to desirable achievements.

There are unexhaustive lists of types of international involvement that directly or indirectly affect fisheries and coastal resources management in Thailand. In summary, some important issues relevant to international involvement are:

- ❖ International involvement continues to force Thailand to limit its capability to manage independently its fisheries and coastal resources
- ❖ Utilization of fisheries and coastal resources is intensified due to a rush to extract these resources to fulfill requirements imposed by international organizations and international markets.
- ❖ Regionalization will be more developed to cater for other regionalization in other parts of the world with the purpose to counterbalance international interventions in the region especially in terms of economic and legal cooperation.
- ❖ Cooperation is sought by neighboring countries requesting a share of Thailand's fisheries and coastal resources such as the National Marine Park needs to relax its rules to facilitate private investments (both domestic and foreign) for regional and international tourists.
- ❖ Some advanced tourist destinations such as Pattaya and Phuket require more comprehensive development plans to deal with increasing environmental problems.
- ❖ Deep sea fisheries are to be promoted to encourage Thai fishing boats to fish in the international waters as fishery stock in Thai waters is depleted beyond the point of maximum sustainable yield.
- ❖ Infrastructures for deep sea fishery have been developed.
- ❖ There are internal and external forces to frame fisheries and coastal resources management policies and plans. In addition, local plans are increasingly accepted.
- ❖ With local domestic and regional self-sufficiency, new concepts of economic development have become a popular approach to solve the current financial and economic crisis.
- ❖ Integrated policies and plans to frame fisheries and coastal resources management at all levels of administration, with interwoven relationship, should be promoted.

5.3 CASE STUDY: INTERNATIONAL INVOLVEMENT OF FISHERIES AND COASTAL RESOURCES – TARUTAO  
MARINE NATIONAL PARK, SATUN PROVINCE

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Tarutao Marine National Park (TMNP) with a water area of 1 264 km<sup>2</sup> is located in the Andaman Sea off the southwest coast of Satun province (see map in Figure 1-2). The park is administered by the Royal Forestry Department in Bangkok. The department is the sole proprietor of the park and has full authority to manage the park in such a way that the park continues to fulfill the department's objectives.

Apart from the Royal Forestry Department offices and stations on the Tarutao and Adang Islands, the TMNP is occupied by the local indigenous people, Chao Ley or Sea Gypsie, on Lepe and Adang islands. The livelihood of Chao Ley depends largely on the marine resources of the TMNP and their contracts with middlemen from the mainlands of Satun and Perlis.

The TMNP is situated near the Langkawi island of Malaysia, about 5 km. There has been an attempt proposed by the Malaysian authority to establish an immigration and custom checks in Tarutao. The request is still pending as the TMNP development is not focused on vast tourism, especially international tourism.

Capture fisheries in TMNP is declared illegal by virtue of fishery and forestry legislation. Thai-Malaysian registered fishing boats fish mainly in the Thai waters of the TMNP. Fish caught is sold mainly in Phuket or Malaysian markets. However, fish caught by small-scale fisherfolks or the Chao Ley is sold mainly in Perlis market as they have special kinds of contracts.

As discussed, there are evidences that TMNP is increasingly subject to exploitation, despite its legal status as a national park. Despite many legal barriers, illegal fishing is still rampant. There is something exceptional in this behavior which might have been inherited in the Thai's political economy system.

Suggested steps for successful management of the TMNP are:

- Step 1: Identification of existing TMNP resources and stakeholders using both ground survey and remote sensing. It is important to properly identify all related parties and their existing problems.

**SUGGESTED STEPS FOR SUCCESSFUL  
TMNP MANAGEMENT:**

- resource identification;
- information dissemination;
- involvement in joint development projects;
- initiatives for multilateral cooperation;
- encouragement for the participatory process.

- Step 2: Through the Royal Forestry Department (national and regional levels) and Provincial and Sub-district Administration Organizations (local level), the information and problems obtained in Step 1 are disseminated. The Logical Framework Approach can be used to organize the meeting.
- Step 3: The private sector (local chamber of commerce, banks and private businesses), in cooperation with Langkawi Development Authority and Perlis government, is encouraged for joint development projects. Similar moves have been made in Northern Sumatra, Indonesia.
- Step 4: Multilateral cooperation among Thailand-Malaysia-Indonesia's and private sectors from these countries is initiated under the umbrella of the IMT-Growth Triangle Development Project. It is expected that some agreements will be reached to a certain extent.
- Step 5: On the Thai side, preparation of infrastructure personnel and budget is initiated in a transparent and participatory process. Special attention should be made for the involvement of the indigenous Chao Ley people.

The above steps are the result of working together with the provincial private sector and local administration organizations. Also, at the national level, several discussions were conducted to obtain comprehensive and insightful information to input to the management of TMNP.

#### 5.4 MANAGEMENT APPROACH FOR TARUTAO MARINE NATIONAL PARK

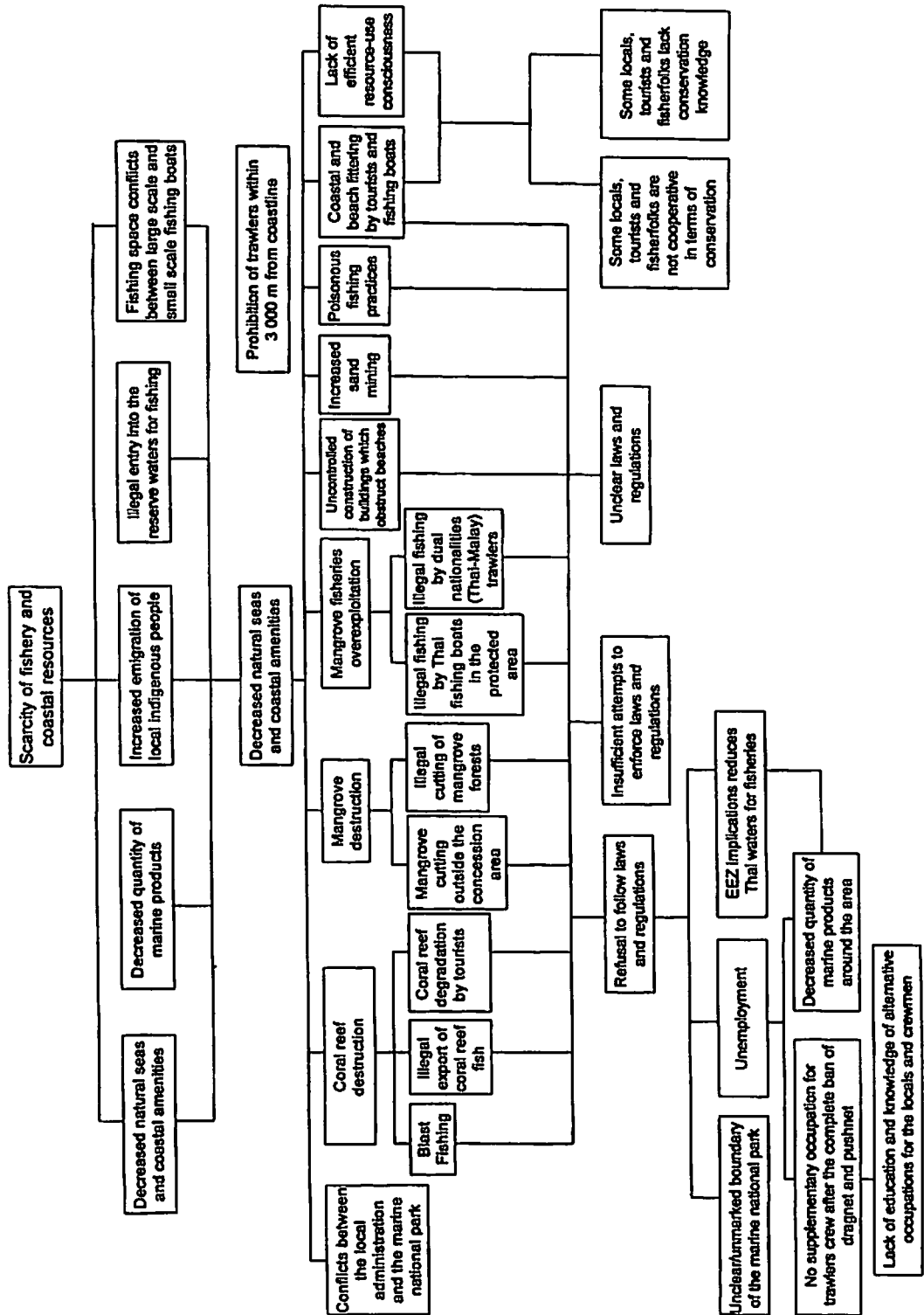
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It is a primary purpose of the synthesis made here not to suggest dramatic changes to the current management schemes of the Royal Forestry Department. The TMNP is under pressure from national, regional, local and international stakeholders. The TMNP may be considered as the last resource-rich area in the west coast of Thailand.

Based on the problem tree (Figure 5-1) developed from the workshop with TMNP stakeholders, several strategies are attempted in this research to suggest a sustainable way of fishery and coastal resources management with international involvement.

Figure 5-1. Problem Tree of the IMNP's Fisheries and Coastal Management.





**Strategy One:** Collect and compile all existing information under several ongoing projects and international cooperation

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**Rationale:** The status of resources, their stakeholders and ongoing resource-use activities are important if the policies and plans are to be implemented in the TMNP. There are many legal and illegal activities happening, therefore a clear understanding of the resources is crucial.

**Objectives:** This strategy aims to understand the resource status of the TMNP and its stakeholders and the ongoing resource-use activities. The stakeholders include all local and domestic individuals or groups and also those from neighboring countries.

**Action:** ❖ Use ground survey, GIS and remote sensing techniques to identify resources status, TMNP stakeholders and resource-use activities.

❖ Compile information, regarding physical, socioeconomic and cultural inheritance (and differences) of the joint counterparts.

**Strategy Two:** Strengthen the local administration to be able to work with central line agencies and the Malaysian local government

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**Rationale:** Thailand is going through the decentralization process. The local administration organizations are to handle all the administration and resource management concerns. The ability of these organizations to deal with the highly competitive world is crucial.

**Objectives:** This strategy aims to handle negotiation techniques and business deals with other organizations both inside and outside Thailand.

**Action:** ❖ Conduct a preliminary study on training needs of the local administration organizations.

- ❖ Through training, coordinate officials from the concerned institutions, especially those from the Royal Forestry Department, to jointly develop good working cooperation.

**Strategy Three:** Design a joint development plan for the short, medium and long terms

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**Rationale:** The TMNP will have to be developed to cater for all needs of its stakeholders. The most important consideration will be the development direction and benefits distribution. Appropriate and well-accepted joint development plans are needed.

**Objectives:** This strategy aims to utilize all public participation to design joint development plans for all timeframe.

- Action:**
- ❖ Through existing joint cooperation (i.e., IMT-GT, JDA, joint-venture deals and others), draft a joint development plan within the framework of this cooperation.
  - ❖ Establish a committee to deal with the joint development plan and possible conflicts.
  - ❖ Member parties sign a memorandum on agreements and implementation of the joint development plan.

# Chapter 6

## Towards Better Management Initiatives of Fisheries and Coastal Resources

### 6.1 INTRODUCTION

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**T**his chapter attempts to organize the results of the research analysis in an integrated form. Fisheries and coastal resources in Thailand have passed through several stages of adjustment and development. Historically, fisheries and coastal resources have supported the country for a long time. Arguably, these resources play crucial roles in supporting the social and economic ways of life of the Thais.

Although the fisheries and coastal resources in Thailand have been heavily utilized by both domestic and international demands, its status can be improved through proper and better management programs. It is important to emphasize that a co-management approach involving all stakeholders will continue to serve human needs.

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*...more decentralized administration...*

*...guarantees resource-use rights...*

*...capacity building..."*

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Under the New Constitution of the Kingdom of Thailand, management policies and plans are going to undertake a more decentralized administration. The constitution guarantees resource-use rights for those who are directly using the resources. Capacity building of the local administration organizations and the local people themselves is an initial and important step on management initiatives.

### 6.2 POLICIES AND PLANS AT ALL LEVELS OF ADMINISTRATION

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In Thailand, there are different levels of administration: national, regional and local. Conventional policy formulation and planning processes are handed down from the national level to be implemented at the regional and local levels. These have been gradually changed since 1994 when the decentralization process took place. At present, the policy formulation and planning process still take both forms. However, the level of compromise is still uncertain.

As shown in Figure 6-1, this policy formulation and planning process consists of three levels of policy and planning cycles. These cycles are related with one another. Within a cycle, there are many cycles circling with its own subjects of interest. The smallest entities in the cycle are the management issues composed of strategies with identified issues, stakeholders, objectives and actions.

Figure 6-2 shows detailed examples of policies and plans of Fisheries and coastal resource management at the local level. The figure exhibits how the strategies formulated using several case studies can be related in the framework of administration. It is important to note, however, that this recommendation is based on selected case studies only.

**Figure 6-1. Diagram of Interwoven Cyclical Relationships of Policies and Plans Concerning Fisheries and Coastal Resources Management at Three Levels of Administration (1998).**

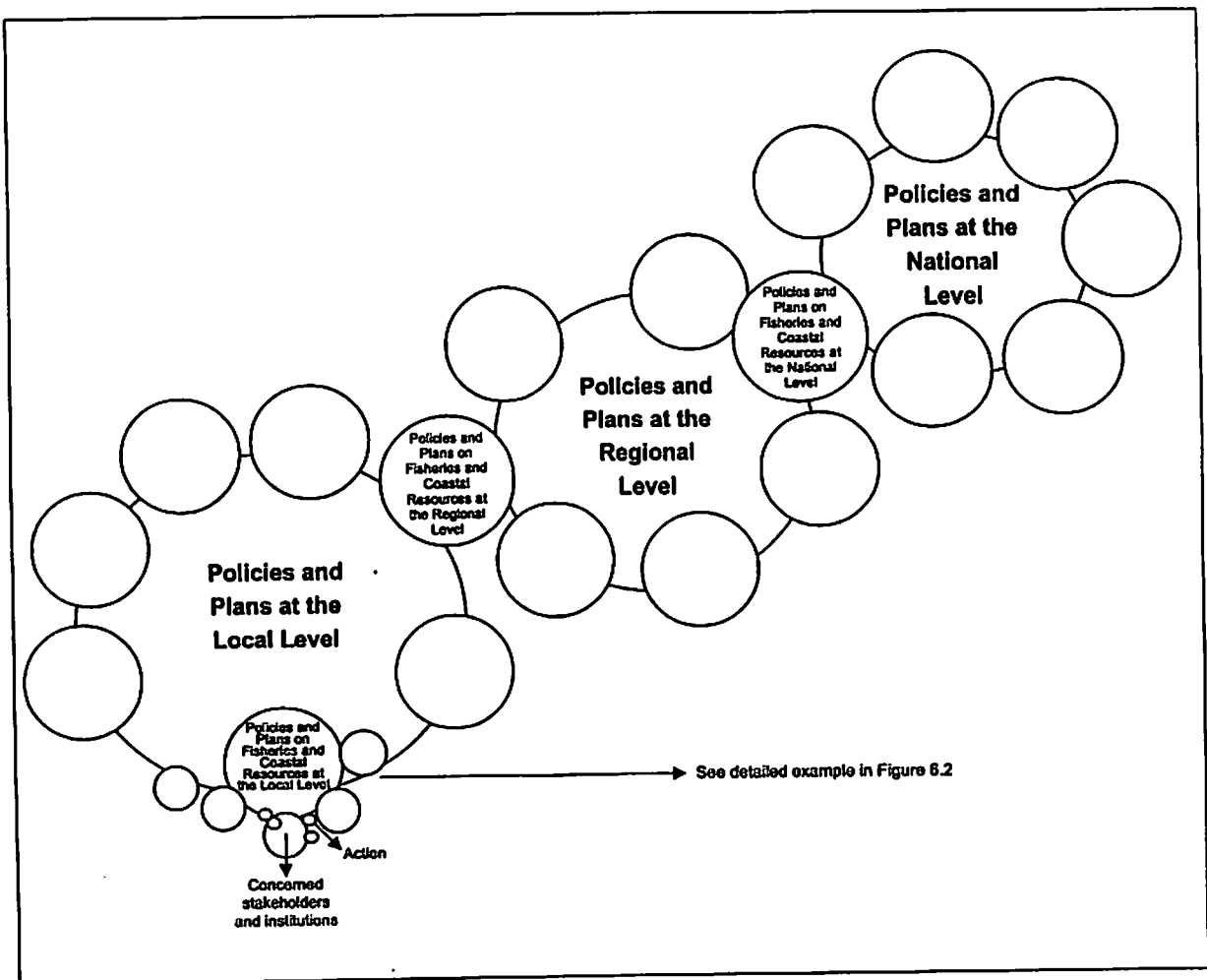
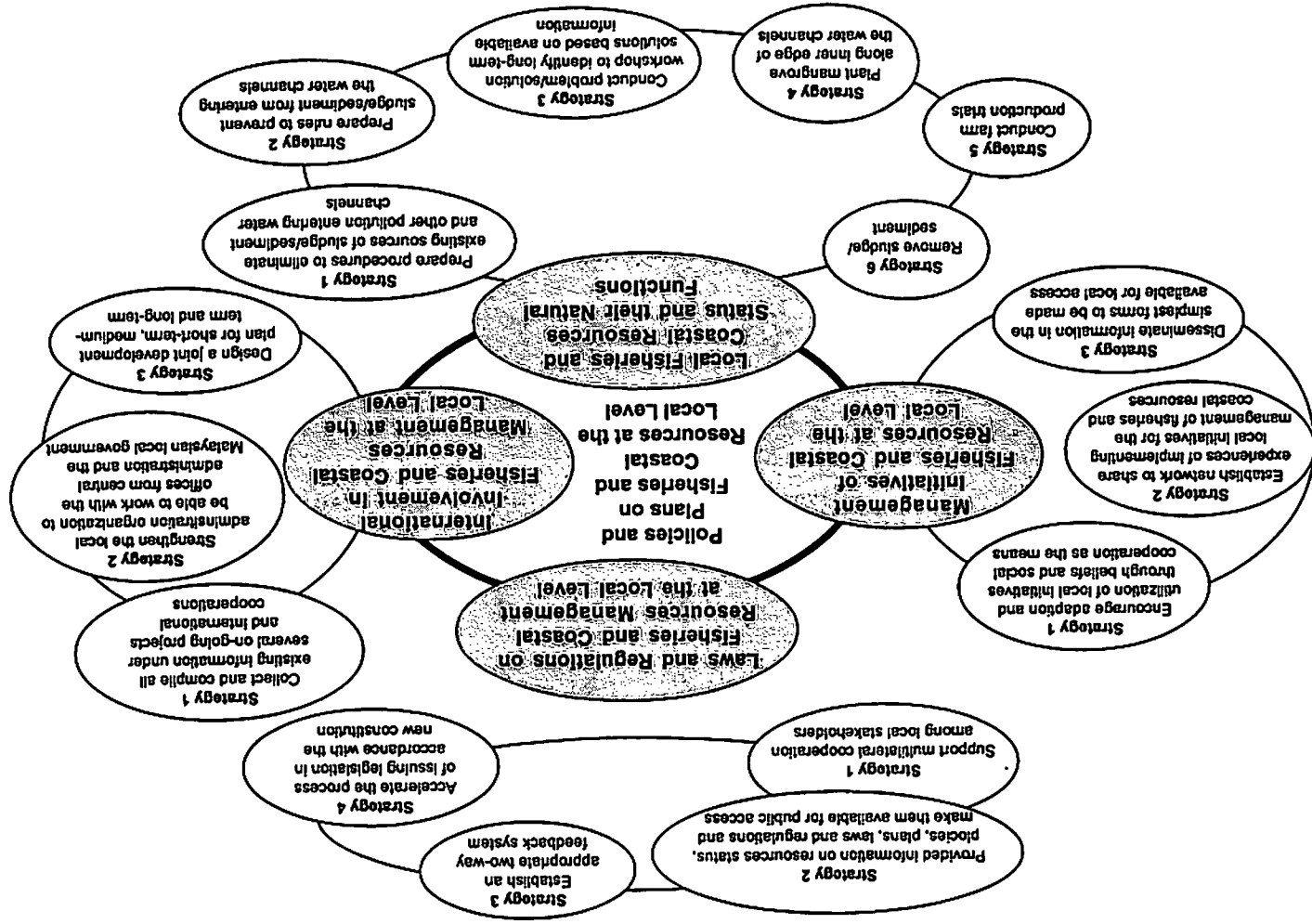


Figure 6-2. Detailed Diagram of Policies and Plans on Fisheries and Coastal Resources at the Local Level (1998).



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