

THAILAND

National Strategy and Action

Plan 2011 – 2013



Version December 2011

Acronym

AAR	After Action Review
AFP	Area/Function/Participation
BAR	Before Action Review
CoP's	Community of practice
CSR	Corporate Social Responsibility
DAR	During Action Review
EIA	Environmental Impact Assessment
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization
GSEI	The Good Governance for Social Development and the Environment Foundation
IUCN	International Union for Conservation of Nature
LGF	Large Grant Facility
MFF	Mangroves for the Future
NCB	National Coordinating Body
NORAD	Norwegian Agency for Development Cooperation
NSAP	National Strategy and Action Plan
PES	Payment for Ecosystem Service
RECOFTC	Regional Community Forestry Training Center
REDD+	Reducing emissions from deforestation and degradation
RSC	Regional Steering Committee
SEA	Strategic Environmental Assessment
SEA	Strategic Environmental Assessment
SGF	Small Grant Facility
SIDA	Swedish International Development Cooperation Agency
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
WI	Wetlands International
WWF	World Wildlife Fund

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Chapter I INTRODUCTION

1.1 Background

Mangroves and coastal ecosystems are crucial resources for juvenile form of aquatic animals. They serve as nursery grounds and habitats for numerous organisms. Mangroves also prevent coastal erosion and have the potential to absorb waste from communities and urban activities. However, due to economic expansion and massive land utilization, the deforestation of mangroves occurred in many areas leading to the deterioration of coastal ecosystems especially the reduction of aquatic animals and coastal erosion even at the river mouth areas. Mangrove ecosystem destruction has both direct and indirect effects on these various environmental concerns.

Mangrove ecosystem is not only significant in the aspect of ecology but also in the economic development. In the past, the distribution of mangroves in Thailand was in coastal provinces which primarily supported community's utilization of aquatic resources. But to date, land development intended for economic and social growth of the country, these activities might cause adverse impacts on the ecosystem and the environment if effective land planning, utilization and management are not properly implemented.

Accordingly, Thailand should formulate integrated policies and management plans for mangroves and coastal resources with the participation of all stakeholders, especially community networks. The active participation of the community in the protection of mangrove resources for sustainable use becomes very essential. To achieve a sustainable management of mangrove ecosystem requires the development and the extension of mangrove conservation knowledge to communities and local administrative organizations. Therefore, the recognition of the importance of mangroves could facilitate in the formulation of area/community action plan to become more pragmatic.

1.2 Mangroves for the Future (MFF) Initiatives

Mangroves for the Future (MFF) is a multi-participatory project to promote natural resources conservation for the well-being of coastal communities. There are two levels of project implementation: regional and national levels. At the regional level, country members in the first phase are Maldives, Indonesia, India, Sri Lanka, Seychelles, and Thailand under the supervision of Regional Steering Committee (RSC), selected from each country, and organization partners such as FAO, UNEP, CARE and WI in cooperation with IUCN and UNDP as main focal points.

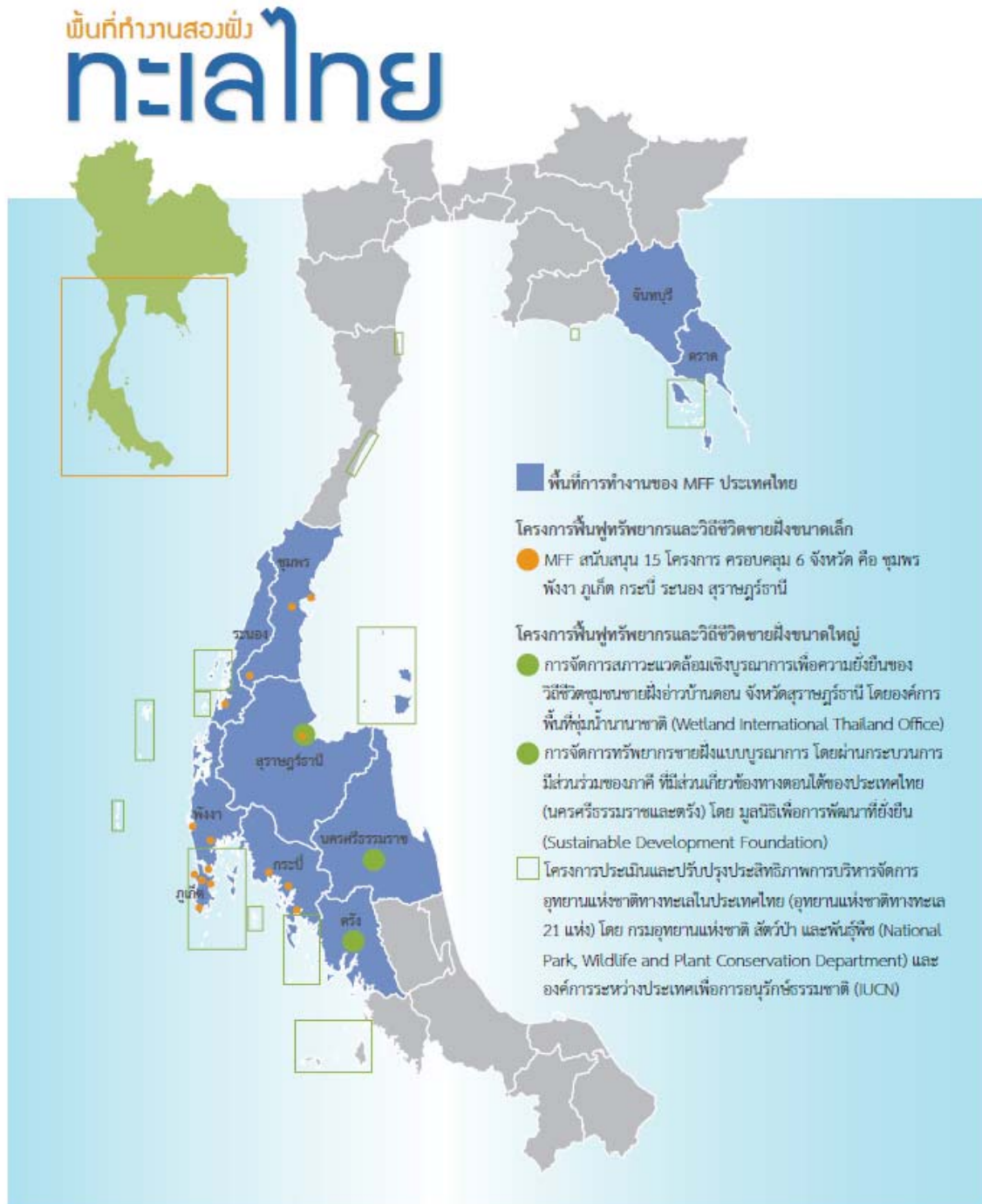
At the national level, implementation is under the supervision of the National Coordination Body (NCB). In Thailand, the Department of Marine and Coastal resources is responsible for this role. It is composed of 26 committee members and director general acts as a chairperson together with IUCN-Thailand as project coordinator.

The Thailand National Coordinating Body (NCB) was approved by the Permanent Secretary of the Ministry of Natural Resources and Environment on the 31st August 2007. The Chair of the Thailand NCB, the Director General of the Department of Marine and Coastal Resources (DMCR).

At present the NCB is comprised of 22 organizations represented by 26 members (including two consultant advisors). Seven of the represented organizations are Government, seven are international non-government, four are national or local NGOs and three are academic institutions. There are no private sector representatives.

During the first three years (2007-2009), MFF designated working groups to select projects complying with the national strategy and action plan. Project support was in two categories: small grants and large projects. The small grant was supported by UNDP-Thailand which also acted as project

manager. In 2008, 15 small grants and three large projects had been selected. Performance of these projects was satisfactory.



However, as MFF moves forward into the second phase (2010-2013), all partners from policymaker level and operational levels including supportive organizations should document their lessons learned and situation analysis of the first phase implementation. The outcome is deemed essential for the formulation of national strategy plan to conform to the situation and social context.



1.3 Objectives

- 1) To study and review the MFF implementation results during the first three years (2007-2009) as well as analyze key success factors;
- 2) To draft MFF strategies and action plans for the implementation in the second phase (2010-2013); and,
- 3) To strengthen capacity building of all partners in the integration and participation for good governance of sustainable mangrove management.

1.4 Conceptual Framework

The conceptual framework and processes involved for drafting MFF strategies and action plans for the implementation in the second phase (2010-2013) is illustrated in Figure 1-1.

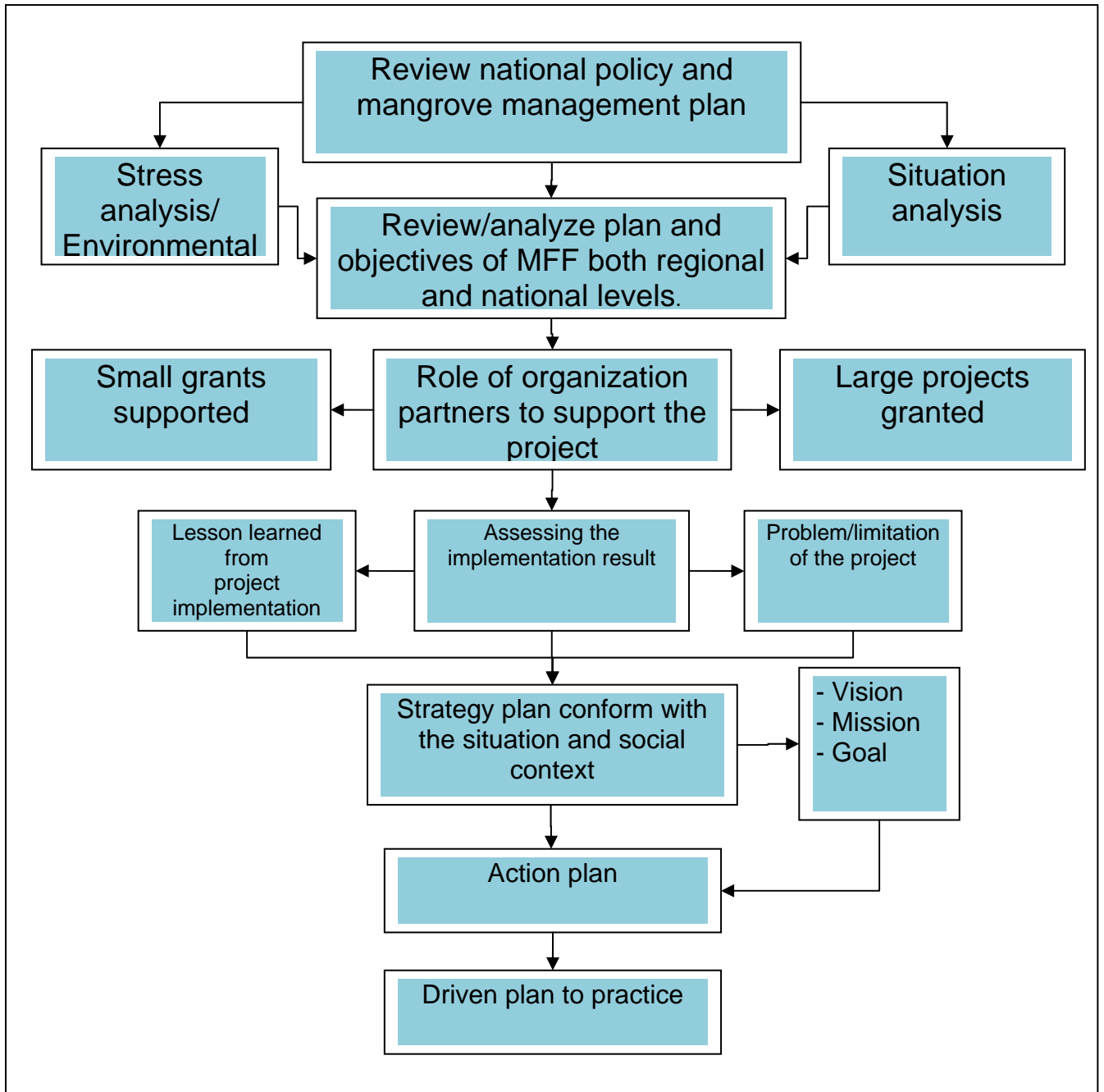


Figure 1-1 The conceptual framework and processes involved for drafting MFF strategies and action plans for the implementation in the second phase (2010-2013)

1.5 Cooperative Partners

Assessment of key success factors during the first phase as well as the preparation for drafting MFF national strategies and action plans to serve as the guideline for the implementation in the second phase (2010-2013), has been actively cooperated from related partners as follow:

- 1) Designated working groups for the project selection complying with the national strategic plan;
- 2) Granted partners of small grants and large projects;
- 3) Technical officer from institutions related to natural resources study;
- 4) FAO, UNEP, CARE and WI including IUCN and UNDP; and,
- 5) Sirindhorn International Environmental Park

1.6 Desirable Goals

The execution under MFF national strategy and action plan to guide the second phase (2010-2013) implementation is intended to strengthen the cooperation of all partners including government policy makers, cooperative partners including local administrative organizations. The integrated approach along with active participation and good governance management policy to protect mangroves and coastal resources is expected.

Desirable goals are intended to achieve the sustainable development based in the development, rehabilitation, conservation and utilization of mangrove areas. Consequently, an economically acceptable and appropriate utilization of natural resources through an integrated approach for a balanced relation among economy, society, natural resources and environment should be achieved for the sustainable well-being of people.

THAILAND'S POLICY ON MANGROVE AND COASTAL ECOSYSTEM MANAGEMENT



Chapter II THAILAND'S POLICY ON MANGROVE AND COASTAL ECOSYSTEM MANAGEMENT

2.1 Fundamental Principles of State Policy on Natural Resources Management

The Constitution of the Kingdom of Thailand, B.E. 2550, consists of 391 articles in 15 chapters and 18 articles in transitory provision. According to Natural Resources and Environmental Management, this Constitution is based on the Constitution of the Kingdom of Thailand, B.E. 2540, but clearly added more details and processes on the protection of natural resources, environment, human health and community right. For example, Health Impact Assessment and Environmental Impact Assessment are required before commencing any project or activity which may seriously affect the environment, natural resources and human health. After the enforcement of the Constitution, there have been considerable changes in the natural resources and environmental management.

Some of the major changes in this Constitution are on governmental approval and promotion of community right significantly involved in natural resources and environmental management. In addition, participation in decision making, public sector performance supervision to comply with community's needs, human right protection along with the support of community participation at all processes have made people and community

on the alert to oversee public sector implementation in any case. Hence, any public activity should be transparent including benefit sharing between proprietor and local community as resource owners. Importantly, these would lead to a participatory decision among stakeholders. Under these conditions, the country has to adjust for a period of time which could result in more sustainable development as a long term achievement. Consequently, local community could gain a potential to manage its own area rather than depending on central government which is conforming to decentralization principles.

According to the Constitution of the Kingdom of Thailand, B.E. 2550, country development direction would lead to a truth-based management. True and accountable database are major key factors for any decision making in project development. The practice of non-transparency, trial and error or imperfect management would decrease dramatically as a result of accountability mechanism and right protection of juristic person. Therefore, the performance of all country developing partners should be based on verified database and concretely control the adverse impacts.

2.2 Policies and Plans for the Enhancement and Conservation of National Environmental Quality (2540-2559)

The formulation of policies and plans for the enhancement and conservation of national environmental quality is in compliance with the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535. In article (1) National Environment Board shall submit policy and plan for the enhancement and conservation of national environmental quality to the Cabinet for approval as guideline and framework for the management of national enhancement and conservation. Afterwards, Cabinet Resolution on 26th November 1996 approved the submitted policy. The related goal for coastal resources was the designation of mangrove conservation areas of no less than 1 million rai (6.25 rai = 1 ha) including the conservation and rehabilitation of all coastal resources. Currently, reported data from the Department of Marine and Coastal Resources showed that there has been protected mangrove areas about 1.1 million rai. Although, the performance showed an acceptable result, effective control and management of environmental impacts on the quality of coastal areas should be practiced.

2.3 Main Principles of the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535

The Enhancement and Conservation of National Environmental Quality Act, B.E. 2535, has considerably changed the pattern of environment and natural resources management in Thailand. It is a foundation for pragmatic resources utilization control as well as the protection and conservation of natural resources and environment. Moreover, action plans are specified including the authority of officers to supervise all developments which are responsive and in conformity to sustainable development principles.

The main principles of the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535, include the appointment of a National

Environmental Board and the emphasized on environmental protection. Some duties of the Board are as follows:

- 1) To submit policies and plans for the enhancement and conservation of national environmental quality to the Cabinet for approval;
- 2) To make recommendations to the Cabinet regarding financial, fiscal, taxation and investment promotion measures for the implementation of the policies and plans for B.E. 2535; and,
- 3) To supervise the management and administration of Environmental Fund.

According to the environmental protection issue, the Act focuses on 4 main parts which are: Part (1) Environmental Quality Standards, Part (2) Environmental Quality Management Planning, Part (3) Conservation and Environmentally Protected Areas, and Part (4) Environmental Impact Assessment Report.

2.4 Global Warming Preparation under the Framework of National Economic and Social Development Plan

The 11th National Economic and Social Development Plan (2012-2016) focuses mainly on Thailand's global warming impact which could be grouped into 4 dimensions as follow:

Natural resources dimension: trends for more frequent and more severe forest fire, coastal/land ecosystem loss, biodiversity depletion, disasters and more frequent and severe floods and droughts.

Physical dimension: changes in sea-level temperature, precipitation fluctuation and more severe coastal erosion.

Economic dimension: decreasing agricultural products, livestock and fishery, increasing cost of production, more intense environment-related trade measures, tourism and infra-structure destruction.

Social dimension: increased migration and career opportunities, decreased health status, high-risk disease situation (increased number of vector reproduction due to appropriate temperature for epidemic disease).

The 11th Plan framework for global warming suggested that, for the survival and more opportunities of the country, Thailand should reform its economic structure toward green economy. This scheme could be adapted to be practical through activities promoting the protection, rehabilitation of degraded natural resources and environment, benefits of conservation measures such as Reducing Emission from Deforestation and Degradation (REDD), Payment for Ecosystem Services (PES), Biodiversity Offsets practices, production sector adaptation toward Green/Low Carbon, and renewable energy consumption along with environmental friendly services including health services.

2.5 The Adaptation of Sufficiency Economy Philosophy for Natural Resources Management

The philosophy of sufficiency economy is based on development concept to strengthen individual, household, community and society by adapting with the changes in society. The philosophy is merely a framework for sustainable management of social assets and natural resources. Basic principles are: (1) Reasonableness - to utilize natural resources with recognition of its value along with reasonable and wise analysis and planning before making decision; (2) Moderation - to utilize natural resources sufficiently and emphasized on real benefit without any loss in harvesting and utilizing processes. Hence, moderation take account of contemplate upon appropriateness; and (3) Self-immunity - to keep track of local, national and global society changes as well as technology progression and information. To gain immunity, one should prove readiness of oneself and community to the change and sensitive environment which might affect lifestyle together with appropriate measures to support occurring impact. These measures might comprise learning enhancement of broad level society, supportive-network establishment, career/income security program, plus a caring system for physical and spiritual well-being.

To drive the philosophy of sufficiency economy in an effective direction corresponding with sustainability of natural ecosystem and community ecology, two supportive factors should be met. First, knowledge based - to collect, research and synthesis knowledge systematically and holistically. Knowledge collection might be tacit, gained from analytical thinking of true experience or explicit, gained from related document and textbook. In addition, knowledge should lead to broader wisdom. Second, virtue - perception of intrinsic value of goodness and maintain to behave in accordance with good culture. Virtue will control the livelihood to relate with the knowledge and the adaptation of sufficient economy philosophy.



2.6 Significant Cabinet Resolutions Related to the Mangrove Resources from the Past to Present

The Thai government has performed several activities emphasizing on mangrove conservation. There have been a number of cabinet resolutions which are currently used as practical guidelines (see Table 2-1).

Table 2-1 Cabinet resolutions related to the mangrove resources from past to present.

Date	Cabinet Resolutions
27 th June 1978	<ol style="list-style-type: none"> 1. Permission for fishery pier construction or future development activities in mangrove area should be allowed only for sufficiency need. Road construction through mangrove areas should be as few as possible. 2. The construction of industries or urban development in mangrove area should not be allowed. 3. Any development project which utilize or change natural resources should involve the National Mangrove Committee and Office of the National Environmental Board.
19 th August 1980	<p>Measures for any development project in mangrove area within national reserved forest are as follows:</p> <ol style="list-style-type: none"> 1. Aerial photo of mangrove area should be examined before the start of the project. 2. Cancellation of forest status in project area is forbidden. However, permission is allowed only for the usage in permission area. 3. Preparation for Sor kor 1, Nor sor 3, title deed or land certificate is forbidden for any person who utilize and inhabit in mangrove area within national reserved forest. 4. Project owner should perform Environmental Impact Assessment specified by the National Mangrove Committee.
29 th June 1982	<p>Approved and consented to the suggestion of the Ministry of Agriculture and Cooperatives to permit Thai Custom Department to establish Satun custom house in mangroves section 5 Muang district, Satun province within national reserved forest. It was the last permission for this area.</p> <ol style="list-style-type: none"> 1. Accelerated Royal Forest Department and the Office of Coastal Development and Management to designate and zoning mangrove area based on adequate information. 2. Appointed Office of the National Environment Board to arrange seminars and short course training about mangrove conservation as well as knowledge distribution to solve the problem correctly with the technical support from universities.

3. Accelerated Royal Forest Department and Office of the Judicial Council to amend and improve regulation related to mangrove conservation.

4. Appointed Office of the National Environmental Board to study and analyze the impact of development projects.

1st May 1984

Approved 3 recommendations from the 4th National Seminar on Mangrove Ecology and appointed the Ministry of Agriculture and Cooperatives to:

1. Designate mangrove utilization area which could be separated into 3 zones; preservation zone, conservation zone and development zone under the regulation.

2. Enhance and accelerate a complete study and research on ecosystem to achieve database of components in mangrove ecosystem cycle. Study the relation and impact which might occur by designing standard practice for the study including an establishment of Mangrove Forest Research Center by Royal Forest Department, Office of National Environmental Board and Fishery Department.

3. Rehabilitate degraded mangroves by enhancing mangrove plantation. Government and private sectors should support the management of mangroves and the integration of mangrove improvement and aquatic animal development.

1st August 1989

Approved in principles the suggestion from the Ministry of Science, Technology and Energy on the preservation and protection measures of mangrove area in Surat Thani and Nakhon Si Thammarat provinces as follows:

1. Preserve all remaining mangroves and rehabilitate mangroves along the coastline and new mud flat area.

2. Arrange an effective system for appropriate mangrove utilization.

3. Protect and suppress mangrove encroachment.

4. Campaign for the participation of community in mangrove conservation.

6th February 1990

1. Approved 5 measures to solve mangrove encroachment in eastern Thailand.

1.1 Cabinet Resolution on 15th December 1987, the utilization in mangrove area designated as conservation zone, economic zone A and economic zone B, was appropriate for current situation and should be set as criterion.

1.2 Economic zone A or zone B that has been used as shrimp farming before Cabinet Resolution on 15th December 1987 should be abated. However, permission should be under these conditions.

- Permitted person should monitor an adjacent area to ensure no more encroachment.

- Permitted person should pay forest plantation fee to government at the same amount of the permitted area.

The abatement of economic zone A will cease on 15th December 1993.

1.3 Economic zone A should be declared as national forest reserve.

1.4 Economic zone A or B which has been abated, if permitted person do not submit a permission document but resist on his/her land right, the documentary evidence should be sent to the Governor.

1.5 To reduce oppression of the encroachment for shrimp farming, it should have additional measures:

- increase fee rate for permission
- promote cage culture of shrimps

2. Consent the renovation of Mangrove Management Unit at Klung district, Chantaburi province and at Laem Ngob district, Trat province to support preventive measure to land encroachment problems in the eastern mangrove areas.

**27th February
1990**

Approved recommendations from the 6th National Seminar on Mangrove Ecology by Ministry of Science, Technology and Energy;

1. Add mangrove development plan in National Economic and Social Development Plan.

2. Formulate action plan for mangrove management and the utilization of mangroves at provincial level.

3. Support government organization to use satellite image at highest competency in research and mangrove management.

4. Accelerate mangrove plantation by using appropriate seedlings for the environment and ecosystem.

5. Set preventive and protection measures of the environment adjacent to mangroves and coastal area.

6. Assign to establish information center to collect national mangrove ecosystem in the Office of the National Research Council of Thailand.

7. Enhance and promote people participation.

4th June 1991

Approved the urgent measures for coastal resources concerning mangroves and corals within the budget of 751.51 million baht to implement in 2535-2539 B.E. fiscal year. The urgent measures for mangroves were;

- Provincial mangrove management plan (2535 – 2536 B.E.)
 - Mangrove area demarcation (2535 – 2536 B.E.)
 - Mangrove plantation and seedling production areas (2535 – 2536 B.E.).
-

- The protection of mangrove encroachment and public relation (2535 – 2536 B.E.).

23rd July 1991

Appointed National Forest Policy Board to perform strictly measures to suppress mangrove exploitation in the country. Cancel all utilization in mangrove areas. Assigned related provinces to set up provincial board for the suppression of mangrove encroachment and cancel all considerations for government permission to utilize mangrove area.

16th July 1996

Current encroachment and utilization of mangroves caused severe effects to the environment and aquatic animals. The Ministry of Agriculture and Cooperatives is appointed to submit urgent measures to protect, preserve and rehabilitate mangrove environment.

13rd August 1996

Accelerated the cancellation process of forest concession in mangrove area.

19th November 1996

Abolished forest concessions in mangrove areas with the plan and supportive measures as follows:

1. Conduct urgent measures to protect, conserve and rehabilitate mangrove environment.
2. Transfer measures for continuous, rapid and concrete practices. The supportive measures were the conservation and rehabilitation of mangroves including 4 work plans as follows:
 - mangrove protection plan
 - resources conservation and mangrove environment plan
 - extension and rehabilitation of mangrove plan
 - plan for increasing efficiency on management, technology transfer and evaluation.

2nd September 1997

Provincial mangrove management organization should:

- monitor and evaluate mangrove concessionaires to comply with the conditions.
- monitor and evaluate permission licenses for mangrove utilization area consented after 1991.
- monitor and evaluate permission licenses for shrimp farming in mangrove area.
- persuade concessionaires to restrain after the concession is expired.

7th October 1997 Objective of the Office of National Economy and Development plan for mangrove management is to obtain no less than 1 million Rai in the last year of the 8th Plan. It emphasized more on mangrove plantation, surveillance and protection mangrove encroachment as well as the role of local administrative organizations, community organizations, non-government organizations and private sector to participate more in area-based mangrove management.

10th March 1998 The concessions for timber and charcoal making in mangrove area could proceed till the expiration date.

22nd August 2000 Approved the suggestion from the Ministry of Science and Technology and Ministry of Agriculture and Cooperatives to solve mangrove problems and maintain the Cabinet Resolution on 23rd July 1991. To preserve mangrove areas during concession period, conservation and rehabilitation areas should be combined as conservation area. Moreover, aquatic culture should be carried out only behind mangrove area and assigned Department of Fishery, Royal Forest Department and Pollution Control Department to monitor wastewater and solid waste treatment without any impact on mangrove ecosystem.

17th October 2000 Approved the revision of mangrove management framework compliance with Cabinet Resolution on 22nd August 2000 with additional suggestions as follows:

- 1) Allowed persons who reside in mangrove area without any land license before Cabinet Resolution on 23rd July 1991 to stay but not allow to utilize mangrove areas. Each year they must submit permission but land license is not permitted.
- 2) Royal Forest Department manages and maintains as buffer zone for the conservation of mangroves along the coastline with a width of not less than 100 m. In the area where people reside, use 1) for an abatement.
- 3) Fishery pier being used before 23rd July 1991, Royal Forest Department should be allowed for use for 2 years each time and all permission should not be over 15 years.
- 4) Government office located in mangrove area before 23rd July 1991 should cancel mangrove status and specify code of conduct to comply with Cabinet Resolution on 23rd July 1991 under conditions 1) - 4) above by:

(1) Business owner should pay for water work, wastewater and solid waste treatment for whole amount or some part as appropriate to relate with polluter pay principle.

(2) In conservation area, any permission for mangrove utilization is forbidden including any construction for public utility, public assistance and waste treatment.

(3) Assigned village headman, local administrative organization or juristic person designated by law, to participate in decision making process on the permission for person to reside in mangrove area by confirming his/her status before 23rd July 1991. In addition, public relation for the understanding on the issue should be commenced.

(4) Assigned financial measure, government consider low interest rate loan for people to an investment

“any resolution which contradicts with this Cabinet Resolution, use instead for a new cabinet resolution on mangroves can use this Cabinet Resolution as major resolution.”

**25th September
2002**

Approved the mangrove ecosystem rehabilitation project to commemorate the 72nd birthday of Her Majesty Queen Sirikit and the sustainable conservation of mangroves ecosystem. Consented to proceed with the suggestion from Ministry of Agriculture and Cooperatives by spending central budget under advance financial for economic stimulus scheme for 2546 B.E. fiscal year to implement a one-year urgent project.

5th August 2003

Advisory from the Cabinet for the concession, not only mangrove concession to return the area back to the government after the expiration date but also other concessions such as mining concession should perform in the same way. Relevant evidences illustrated that after the expiration, concessionaire did not return the area back. The cabinet assigned the Minister of Natural Resources and Environment to coordinate and consider among Ministry of Interior and related organizations to conduct according to the regulation.

5th April 2005

Consented the abatement of Cabinet Resolution on 23rd July 1991 for the study of current status of mangroves and corals in Thailand and the abatement of Cabinet Resolution on 22nd August 200 especially for fishermen to salvage their fishing boats within 4 months (February–May) in Tung Mapraw sub district in national reserved forest.

2.7 Prime Minister's Office Regulation on the Coordination of the Environmental Law Enforcement, 2550 B.E.

The establishment of the Environmental law enforcement coordinating committee complying with Prime Minister's Office Regulation on the Coordination of the Environmental Law Enforcement, 2550 B.E., to enforce environmental law as published in the Royal Gazette Volume 124 Special Part 23 D on 28th February 2007.

Accordingly, the process of supervision, monitoring and management as well as law enforcement related to mangroves could lead to an achievement of appropriate means for development, rehabilitation, conservation and utilization of mangrove area as balance and sustainability.

2.8 Principles for Good Governance

Good governance has been accepted at international level to enhance good management especially supervising organizations. In the area of natural resources and environment, all parties including government organization, state enterprise, private sector, non-government organization, academic institution, local administrative organization and Thai resident should adopt the principle for the management at policy level, decision making, and integrated cooperation. Hence, these would bring about confidence for the achievement of a successful implementation according to the objective. Good governance principles consist of the following characteristics:

- 1) Accountability
- 2) Transparency
- 3) Public Participation
- 4) Predictability
- 5) Efficiency and Effectiveness
- 6) Political Correctness and Ethics



2.9 Scope of Duties and Missions of the Department of Marine and Coastal Resources

The Department of Marine and Coastal Resources was established along with the establishment of the Ministry of Natural Resources and Environment in 2002. The vision of the department is “Marine and coastal resources are managed for the prosperity and sustainability” and the mission is “ to specify a coastal resources policy, plan and management based on good governance for the prosperity and sustainable utilization.”

Duties specified by the regulation for the Department of Marine and Coastal Resources are conservation of resources including mangrove areas for the sustainable and prosperous of Thai sea for the security of social and economy of the country which are:

1) To submit the review, amendment on rules, regulations and measures related to the conservation, rehabilitation, management and utilization of marine and coastal resources.

2) To supervise, evaluate and monitor activities to comply with the rule, regulation and measures.

3) To study, research, develop conservation and rehabilitation of marine and coastal resources including plants and marine endangered species.

4) To propose appropriate conservation sites for the preservation, protection and monitoring of marine and coastal resources.

5) To promote and enhance the understanding and participation of people in the conservation of marine and coastal resources.

6) To establish an information center of marine and coastal resources in Thailand.

7) To coordinate among national and international organizations in the area of marine and coastal resources.

8) To act on any other regulation for the duties of the Department or as assigned by the Minister or the Cabinet.



STATUS OF MANGROVES AND COASTAL ECOSYSTEM



Chapter III STATUS OF MANGROVES AND COASTAL ECOSYSTEM

3.1 Status of Beaches and Coastal Areas

Coastal erosion can be found in many areas of the country. The increasing trend seems to have severe impact on natural resources and environment as well as quality of life of people living in the coastal areas. Moreover, gross socio-economic development competency is affected. Coastal erosion is brought about by two causes: natural and anthropogenic. Due to inappropriate utilization and development of coastal areas. Surveys of the Department of Minerals Resources, Ministry of Natural Resources and Environment during 2004-2007 showed that approximately 600 km of coastline (23% of Thailand coastline) has been eroded by wave causing land loss about 100,000 Rai (16,000 hectares).

There is more coastal erosion along the Gulf of Thailand than in the coastline along Andaman Sea. All provinces along the Gulf of Thailand from Trat to Narathiwat provinces suffered from coastal erosion with an average of >5 m per year to >20 m per year with a length of 485 km (18.2% of Thailand coast line). In Andaman Sea, most of the erosions occurred at beach area rather than at tidal flat up to mangroves area. The length is around 110 km or 4.3% of Thailand coastline. The most severe coastal erosions occurred in the provinces of Ranong, Phuket, Krabi, Trang and Satun with a length of 23 km.



3.2 Mangrove Situation

3.2.1 Mangrove Area in Thailand

In 1975, mangroves in Thailand was approximately 2 million Rai. By 1996, it has decreased to around 1 million Rai. However, an increase occurred in 2004 when mangrove area was around 1.5 million Rai resulting from the conservation and rehabilitation efforts. Mangrove problems could be categorized into 3 types: (1) Remaining mangrove area with inhabitants and continually utilized the area such as in Andaman coastline of Ranong, Krabi, Trang, Satun and Phuket (2) Encroaching mangrove area for shrimp farming such as in the eastern Thai gulf and southern part of Thailand in the provinces of Chantaburi, Surat thani and Nakhon Si Thammarat (3) Land titles of mangroves were sold to investors because of loss from earlier utilization such as mangrove plantation or shrimp farming. In addition, the inappropriate land utilization causes coastal erosion like those occurring in Samut Prakarn, Samut Sakorn, Samut Songkhram, Phetchaburi and Chacheongsao provinces.

From the study of mangrove area in 2007 by remote sensing technology and interpretation of LANDSAT 5 satellite images, it was found that mangrove area in Thailand is 1,435,116 Rai. The biggest area is in Phang Nga province (18.55% of mangrove area in Thailand) (see Table 3-1 and Figure 3-1).

Table 3-1 Mangrove area of Thailand in 2007

Province	Area(Rai)	Percentage
Phang Nga	266,168	18.55
Krabi	222,457	15.50
Satun	213,036	14.84
Trang	207,191	14.44
Ranong	155,062	10.80
Nakhon Si Thammarat	65,990	4.60
Chanthaburi	62,151	4.33
Trat	56,668	3.95
Surat Thani	38,392	2.68
Chumphon	33,351	2.32
Pattani	22,538	1.57
Samut Sakorn	14,503	1.01
Samut Songkhram	13,759	0.96
Phuket	11,496	0.80
Samut Prakarn	9,663	0.67
Rayong	8,924	0.62
Chachoengsao	7,218	0.50
Songkhla	7,182	0.50
Phetchaburi	6,338	0.44
Chon Buri	4,870	0.34
Prachuab Khiri Khan	3,164	0.22
Bangkok	2,676	0.19
Phatthalung	2,067	0.14
Narathiwat	252	0.02
Total	1,435,116	100

Note : 1 Rai = 0.16 hectare

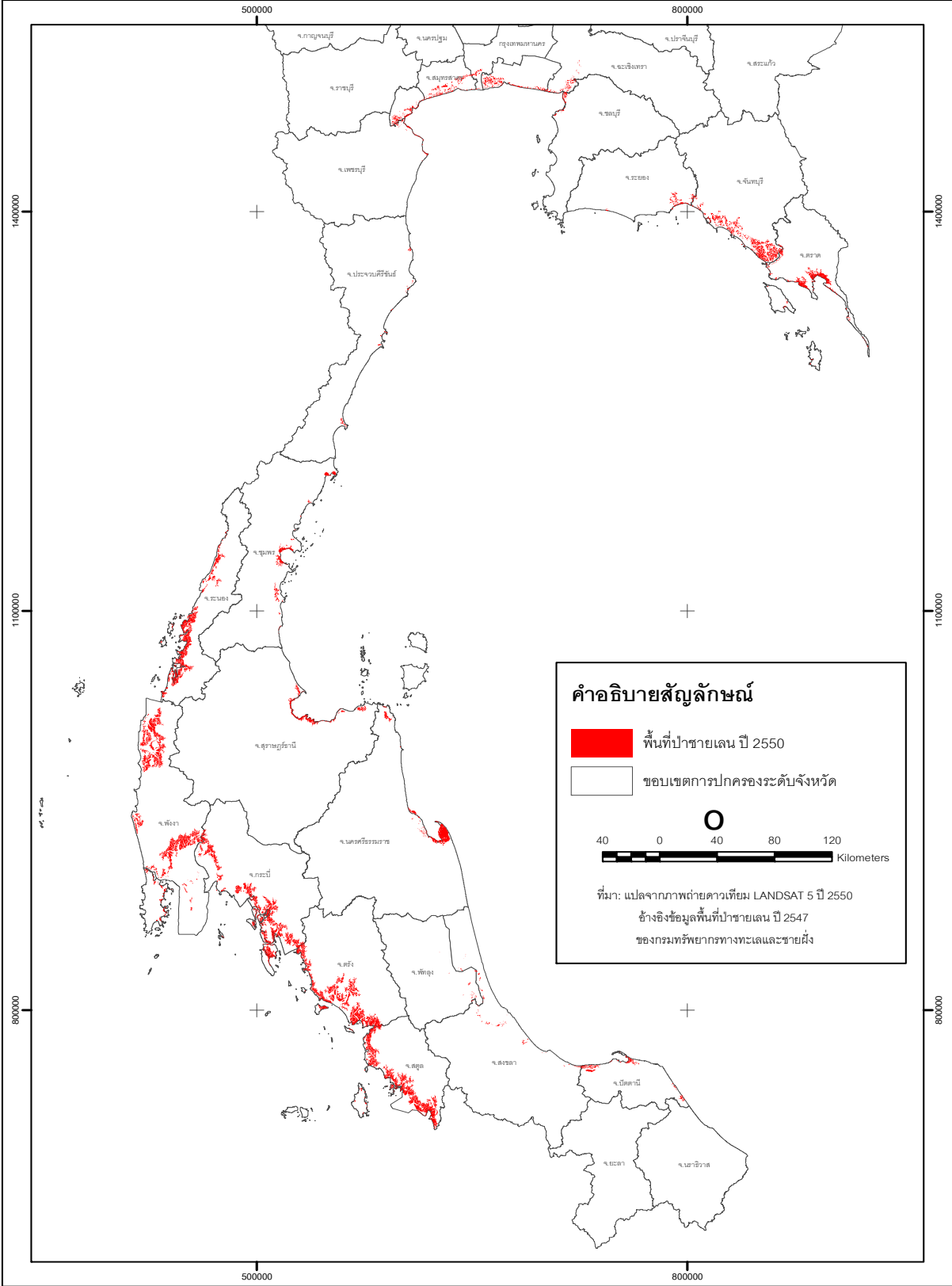


Figure 3-1 Map of mangrove distribution area in 2007

3.2.2 Current Status of Mangrove Area

Within 46 years (1961-2007), mangrove area in Thailand had dramatically decreased due to encroachment resulting to a continued decrease in mangrove area. Statistical data of mangrove area collected in 1961 showed that there was 2,327,228 Rai. However, the surveys and LANDSAT-5 satellite images interpretation in 2007 showed that the remaining mangrove area was 1,435,116 Rai, a decrease of 892,112 Rai. The major cause of initial mangrove encroachment was the overexploitation of mangroves for charcoal making including the mangrove concession. Later on, mangrove encroachment was mainly for aquaculture especially shrimp farming which cause highly negative impacts on mangroves. Some other causes are urban expansion, industrial expansion, pier construction, road construction and changing of mangroves into agriculture area. From 1986, it was clearly seen that the decreasing rate of mangrove area slowed down gradually resulting from the awareness on conservation and rehabilitation of mangrove area including mangrove abolishment.

Mangroves play an important role as food resources and protection zones for people living in the coastal area. Therefore, mangroves should be preserved for the benefit of man and other forms of organisms. For these reasons, cooperation among all stakeholders related to mangrove conservation and rehabilitation including the enhancement and support on mangrove research should be encouraged. The information gained from these actions could lead to an effective development of mangroves for the balance and sustainable management in the future. Table 3-2 and Figure 3-2 illustrate the trends of changes in mangrove area for the period 1961-2007.

Table 3-2 Mangrove distribution in Thailand (by region and province)

Province	Year										
	1961*	1975*	1979*	1986*	1989*	1991*	1993*	1996*	2000*	2004*	2007**
Central Region	418,063	228,125	195,200	6,349	3,725	2,538	33,519	34,067	75,335	69,374	50,103
Samut Prakarn	78,856	3,750	6,500	644	-	-	1,950	1,868	1,999	9,249	9,663
Bangkok	11,925	-	-	-	-	-	1,250	1,236	-	2,627	2,676
Samut Sakorn	176,519	115,625	90,100	887	-	-	11,369	10,602	21,144	19,253	14,503
Samut Songkhram	68,338	51,250	47,800	306	-	-	5,775	7,156	15,351	15,957	13,759
Phetchaburi	74,300	55,000	48,700	3,606	2,100	2,100	12,925	12,936	35,919	19,166	6,338
Prachuab Khiri Khan	8,125	2,500	2,100	906	438	438	250	269	922	3,122	3,164
Eastern Region	342,781	306,250	275,900	174,879	129,430	69,277	81,548	79,112	142,131	165,205	139,831
Trat	90,663	66,250	61,500	55,112	53,987	48,438	47,925	47,087	57,787	59,482	56,668
Chantaburi	176,181	163,125	150,400	90,668	54,350	16,644	25,450	24,332	62,360	78,580	62,151
Rayong	27,650	34,375	28,800	15,112	10,987	963	4,250	4,103	8,322	11,764	8,924
Chonburi	23,906	23,750	20,700	9,362	6,550	938	575	575	6,519	4,461	4,870
Chachoeng sao	24,381	18,750	14,500	4,625	3,556	2,294	3,348	3,015	7,143	10,918	7,218
East coast of Southern Region	352,807	221,875	211,100	122,772	106,775	87,375	102,654	103,571	205,053	212,894	169,772
Chumphon	66,450	46,250	43,300	22,662	14,156	11,363	20,584	19,699	50,024	45,292	33,351
Surat Thani	73,769	23,125	36,300	26,774	23,544	13,775	19,775	19,586	22,078	58,127	38,392
Nakhon Si Thammarat	135,106	96,875	80,200	55,224	53,256	50,156	49,975	52,601	61,718	59,876	65,990
Phatthalung	15,819	11,875	10,200	656	525	375	800	881	19,747	1,354	2,067
Songkla	37,994	36,875	32,400	6,031	4,300	1,431	3,425	3,897	29,153	21,805	7,182
Pattani	23,669	6,875	8,700	11,425	10,994	10,275	8,095	6,907	22,333	26,440	22,538
Narathiwat	-	-	-	-	-	-	-	-	-	-	252
West coast of Southern Region	1,213,577	1,198,125	1,213,475	923,724	888,864	927,198	836,545	830,650	1,067,043	1,133,634	1,075,410
Ranong	168,963	151,250	141,200	135,087	132,688	121,688	120,675	120,229	157,948	170,335	155,062
Phang Nga	274,869	319,375	304,475	227,625	222,663	209,438	191,976	190,265	248,113	262,737	266,168
Phuket	17,313	19,375	17,800	12,094	11,163	9,713	9,675	9,448	11,990	11,725	11,496
Krabi	249,331	206,250	198,500	189,450	185,269	199,469	178,292	176,709	218,727	219,338	222,457
Trang	249,488	212,500	205,400	164,225	156,500	192,806	152,050	150,597	209,375	223,677	207,191
Satun	253,613	289,375	346,100	195,243	181,581	194,084	193,877	183,402	220,890	245,822	213,036
Total	2,327,228	1,954,375	1,895,675	1,227,724	1,128,794	1,086,388	1,054,266	1,047,400	1,489,562	1,581,107	1,435,116

Source * Department of Marine and Coastal Resources, Natural Environmental Status Volume 1 Mangroves (2005)

** LANDSAT-5 Satellite interpretation 2007

Note - No data

1 Rai = 0.16 hectare

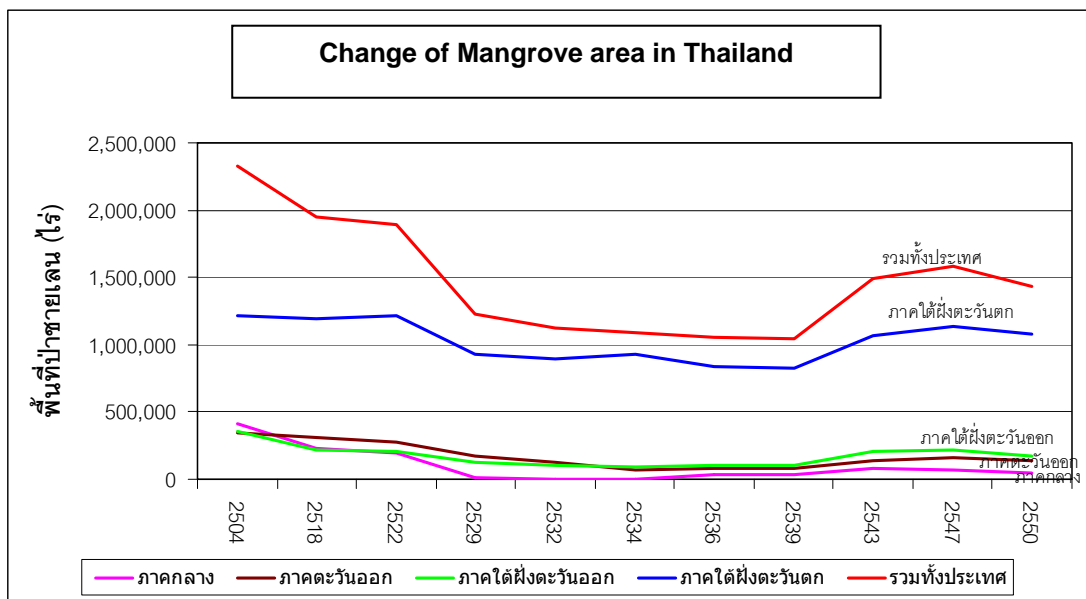


Figure 3-2 Change of Mangrove area in Thailand

3.3. Coral Reefs and Coral Bleaching Status

Corals are marine organisms living in compact colonies which secrete in calcium carbonate to form a hard skeleton. In coral tissues, there are single cell algae which give color to corals and offer byproduct of their photosynthesis to give energy to corals.

The status of coral reef in the Gulf of Thailand is at moderate condition whereas the central part of the gulf and Andaman coastline are at good conditions. Most of them are recovering continuously but some remain stable. There are less rare marine animal species despite of the turtle conservation project implementation for several years. Numbers of sea turtles laying eggs have also decreases. Moreover, Irrawaddy Dolphin also becomes at-risk for extinction.

Coral bleaching status in Thailand has been surveyed by Department of Marine and Coastal Resources from 1991. It was found that the coral bleaching phenomenon in 2010 is the most severe in recorded history of Thai sea.

Coral bleaching occurs when sea temperature rises (normal sea temperature is around 28-29°C). Survey results revealed that from 20th March 2010, sea temperature rose higher than 30°C and reach 31°C in early March of the same year (factors that might trigger the coral bleaching process is sea temperature at 30.1°C, and if corals remain under this condition for more than 3 weeks). It was found that in the third week of March the process started. In addition, this situation also occurred all over Indian Ocean region including south India, Sri Lanka, Maldives, Seashell, Myanmar, Malaysia and Indonesia.



Furthermore, surveys showed that coral bleaching occurred over 70% of living coral reefs in every province along Andaman Sea. After one month, 5-40% started to die depending on the place. In the Gulf of Thailand, coral bleaching was found at the same alarming level. However, the coral bleaching in the area around the upper islands in Chonburi province (Si Chang, Nok, Sak, Khrok and Jun Islands) occurred later than other areas.



Other areas in Thailand such as Similan Marine National Park found 25% of coral bleaching (from 8 stations), at Num Chai Bay, Surin Marine National Park found 30-50% of coral bleaching at North and South Surin Islands (from 10 stations). The area out of Marine National Park such as diving areas in Phang Nga and Phuket provinces found 70% of coral bleaching. In the Gulf of Thailand, surveys at Chang Island in Trat province, Samet Island in Rayong province and Kanom beach in Nakhon Si Thammarat province found that coral bleaching were not in severe condition. However, Marine National Park in Chumphon province detected 70-80% coral bleaching.

3.4 Sea Grass Status

There are 12 species and 7 genus of sea grass distributed in 19 provinces of Thailand. The total area of sea grass bed is approximately 92,955 Rai with about 33,300 Rai distributed in the Gulf of Thailand. The percentage of degradation is about 40. While in Andaman Sea, sea grass is approximately 59,655 Rai with a degradation of about 20%.

Sea grass degradation is caused by the destruction of the natural ecosystem. Some of the identified causes are inappropriate sea bottom condition, strong wave and wind condition, change in salinity and higher level of sedimentation. Moreover, human activities such as aquaculture, inshore fishery, sea grass harvesting, mining, dredging, land reclamation, construction as well as waste water discharge from aquaculture farming, industries and communities.



3.5 Fishery Resources Status

The 10-year (1997-2006) status of freshwater fishery showed that there were more products from inland fisheries culture than natural freshwater fisheries. The average number was 203.18 thousand tons per year. A continuously increasing trend was clearly seen especially in 2006 with 527.4 thousand tons.

3.6 Population Factor that Affect Mangroves and Coastal Ecosystem

Thailand's population has been increasing from 62,418,054 in 2005 to 63,525,062 in 2009 (1.77%). The population forecast within 7 years (2010-2016) by time trend function analysis found that in 2010 the population could reach 63,875,000 and continue to increase till 65,540,000 in 2016. The implementation of MFF project (from 2010), the population will increase around 1.67 million which could lead to an increase in demand for food and dwelling including natural resources utilization especially mangroves and marine and coastal resources (see Table 3-3) .

Table 3-3 Population forecast for the next 7 years (2010-2016)

Year	Population (N)
2010	63,875,000
2011	64,152,500
2012	64,430,000
2013	64,707,500
2014	64,985,000
2015	65,262,500
2016	65,540,000

3.7 Mega Project Plan in Southern Region

Economic and social development reports related to the development and investment of mega projects in Southern Region might impact marine and coastal ecosystem including mangroves in the implementation of 10th National Economic and Social Development Plan (2007-2011). Various plans for development projects in the coastal area of southern region of Thailand were formulated. For example, plans for investment for energy development iron industry development, industries area development, and cooperation investment on environment and energy in Gulf of Thailand or even the investment project on wharfs for logistics. Implementation plans for these development projects might impact on fundamental natural resources in coastal area as follows:

- 1) Have a direct impact on land use change and pattern of land development in the future. Local community might experience loss in land tenure for self-sufficient production or loss of career security related to local natural resources utilization;
- 2) Might cause negative impacts on the environment from wastewater of production and implementation process from development projects;
- 3) Might lead to conflicts from the project development protests especially those concerned with negative impacts on the environmental and quality of life of local community/community organization. This would lead to implementation obstacle of public policy development in both short and long terms; and,
- 4) Might cause loss of biodiversity in mangroves and coastal ecosystem especially rare resources which is valuable for the ecosystem or essential for endemic ecosystem. This would lead to loss in food security or permanent degradation of natural resources.

ENVIRONMENTAL FACTORS ANALYSIS OF
MANGROVES FOR THE FUTURE
IMPLEMENTATION FOR THE SECOND PHASE
(2010-2013)



Chapter IV

ENVIRONMENTAL FACTORS ANALYSIS OF MANGROVES FOR THE FUTURE IMPLEMENTATION FOR THE SECOND PHASE (2010-2013)

4.1 The Values System Analysis of MFF Strategy and Action Plan

The MMF strategy and action plan is a framework to mobilize the project into the second phase (2010-2013). The integrated implementation mechanism involves the National Coordinating Body (NCB) which serves as implementation body has been used in Thailand to mobilize the implementation throughout the first phase. The satisfactory success was the result of the integrated cooperation of partners to drive national strategy combining with national policy and master plan on mangroves and coastal areas.

For the implementation of sustainable mangrove management strategic plan, environmental factors should be considered such as the association of the national development policy and the need of social/local community and development partners. Nevertheless, these should be primarily based on natural resources capability which might cause difficulty in an integrated participation for effective decision making and management. An appropriate strategy should perform as framework for concrete action plan mobilization as well as governmental policy in the areas of economy, social, politics, culture

and improvement of people's quality of life. Importantly, project strategy should be coherent with the dimensions of national policy and plan, organization management competency, financial, integrated plan toward implementation and concrete outcome.

However, the MMF strategy and action plan in the second phase (2010-2013) should confirm value system in various areas as follows:

1) As a main tool for government section to implement a sustainable mangrove and coastal resources management to support national development.

2) Assist the designation of responsible government sector/organization effectively including core function sector, shared function sector and supporting sector, considering Area-Function-Participation (AFP).

3) Interpret strategy into action in problem areas. The plan should be formulated to act as policy direction designated for the implementation and realistic operation in problem situations and target areas.

4) Assist in budget allocation to support action plan including assign duties and missions of related organizations. Hence, organizations/partners could formulate action plans to seek budget appropriation from the government or other financial supporting organization. All parties should prepare clear and detailed action plans including project title, principles and rationale, objectives, implementation process, responsible person, duration, budget plan/activities and expected outcome including key performance indices.

5) Serve as a mechanism for solving mangrove and coastal ecosystem deterioration at the local level. In addition, process of strengthening local non-government organizations and partners as well as roles of the provincial, local administrative organizations and educational institutions in the conservation, rehabilitation and utilization management of biodiversity in mangrove ecosystem. However, each area should have different problem and severity level, one part in the implementation should be in the area of enhancing access to local community knowledge on appropriate mangrove management which also elevate community strength such as community capability development on tracking and monitoring change of mangrove ecosystem.

6) Assist the development of an effective project evaluation process as well as monitor and evaluate implementation results at each phase which could enhance competency development mechanism for better and effective project implementation. Moreover, lesson learned from each time period could assist in reviewing and modifying strategic and action plan responsive to the situation and social need.

4.2 Environmental Scan for MMF Implementation

Environmental factors are conditions/situations/essential indications consisting of internal factors (within control), including strengths and weaknesses, and external factors (uncontrolled), including opportunities and threats which are illustrated in Table 4-1.

Table 4-1 SWOT Analysis of MFF implementation

<i>Strengths: S (+)</i>	<i>Opportunities: O(+)</i>
<p>1. IUCN and UNDP are the main responsible administrative organizations for the implementation of MFF project.</p> <p>2. Financial support is available for the implementation both small grants and large project (in the first phase there are 15 small grants and 3 large projects)</p> <p>3. NCB had been established to support the implementation of MFF project with the Director of the Department of Marine and Coastal Resources acting as a chairman including a diversity of NCB composition assisting in integrated decision making.</p> <p>4. There are various supportive partners such as FAO, UNEP, CARE and WI.</p> <p>5. Partners (grantees) are ready to concretely operate the action plan. Most of them succeed and achieve their goal including a plan to continue project in the community/network.</p> <p>6. MFF formulated strategic plan to clearly identify framework of the implementation and capable to translate MFF strategic plan to action plan.</p> <p>7. The implementation of MFF granted community/community organization and result in capacity building and participation of local in project implementation (i.e. such as project document preparation, project initiative participation, knowledge/experience sharing, knowledge management including an adaptation of social capital for mangrove and coastal resources management).</p> <p>8. Monitoring and evaluation mechanism and lesson learned in the first phase provided good impacts on the strategy and action plan development in the second phase (2010-2013).</p> <p>9. There are local partners with strong support to effectively implement the MFF project.</p>	<p>1. Thailand is a strategically located area of marine and coastal biodiversity/mangrove ecosystem which helps in establishing networks to support project implementation. Moreover, it is an area prone to natural disaster such as tsunami. Hence, the mangrove conservation is essential for the community as an immune system for mitigating the negative impacts of natural disaster.</p> <p>2. State policy and Constitution B.E. 2550 focus on people/local communities' participation in natural resources/biodiversity management in their areas.</p> <p>3. Organizations within the Ministry of Natural Resources and Environment (e.g. Department of Environmental Quality Promotion, Office of International Cooperation on Natural Resources and Environment, Office of Natural Resources and Environmental policy and Planning, including Regional Environmental Office) could integrate their activities to support the project as well as coordinate all partners including government/private sector and international organization.</p> <p>4. The growing interest of the private sector to support project under Corporate Social Responsibility concept which is the implementation of organization policy considering sustainable development and environmental and ecosystem friendly.</p> <p>5. Thailand has collaborative efforts with international agencies which could relate to MFF implementation, such as CDM, REDD, Biodiversity including Climate Change Adaptation and Knowledge Platform.</p> <p>6. Thailand's local communities in coastal/river mouth areas have operational experiences in mangrove conservation which could establish readiness and strength of community-based conservation/rehabilitation and mangrove ecosystem management activities that can be shared to MFF project activities. In addition, they could be served as practical community models.</p> <p>7. Due to the growing interest in tourism both national and international, activities to develop</p>

Strengths: S (+)	Opportunities: O(+)
<p>10. The Department of Marine and Coastal Resources is an organization which could effectively support/cooperate/supervise and monitor implementation result under MFF project.</p>	<p>community-based tourism related to mangrove management have been established. This has good impact on the conservation and utilization of mangrove resources based on Green economy or bioresource-based economy. Hence, access to career opportunities and increase income for the local community is possible. For example, marine and coastal tourism services, tour guide and community-based accommodation services.</p>
Weaknesses: W (-)	Threats: T (-)
<ol style="list-style-type: none"> 1. Financial support for project especially small projects is limited (only for 1 year). 2. RSC's process of selection and support involved for project approval is not clearly discussed with proponents. 3. There are differences in the patterns of project mobilization of granted projects due to different problems and community participation concepts. 4. Insufficient motivation of the local community might lead to lower participation. 	<ol style="list-style-type: none"> 1. Climate change situation in region/country poses risks to natural resources and mangroves. 2. Natural disaster such as coastal erosion might be burdensome to organizations and would require extra effort to solve, prevent and handle problems. 3. Conflicts in mangrove and coastal resources utilization affect natural resources deterioration make management in the area difficult and create negative impact on food security. 4. Changes in people's lifestyle and local community due to globalization, economic and social development might result to the reduction and/or loss of culture value. 5. Tourist activities in mangroves and coastal areas might have negative impacts on natural ecosystem. The loss of rare bioresources which are valuable as an indicator of indigenous mangrove ecosystem in the area is anticipated. In addition, over-exploitation beyond carrying capacity also entirely damaged the quality of the environment. 6. Implementation policies and strategies to protect mangroves and coastal resources from encroachment are not stringent. For example, lack of regulations from the Department of Marine and Coastal resources implementation, ineffective existing regulations, no proactive management measures including open access for mangrove and coastal resources utilization caused by integrated implementation of working units.



4.3 Lesson Learned from the MFF Implementation of the First Phase (2007-2009)

The result from the workshop to collate the lessons learned from the MMF implementation of first phase among development partners including MFF administration, NCB supervision and cooperation of mechanism and knowledge sharing and project screening of working groups is illustrated in Table 4-2.

Table 4-2 Lesson learned from the implementation of the first phase (2007 – 2009)

MFF Implementation Dimension	Lesson Learned
1. Satisfaction (Grantees and networks in target area)	<p>1.1 MFF project could respond well with problem situation in the area.</p> <p>1.2 Grantee has opportunity to access budget for the implementation and achievement of project goals.</p> <p>1.3 Project is implemented in close association with local community and local network.</p> <p>1.4 Project implementation could not extend the support to local network area thoroughly.</p> <p>1.5 Large project still have limitation of project document preparation to comply with the criteria of NCB and RSC. Therefore, some projects could not access the budget.</p>
2. Planning Management (Administrative section)	<p>2.1 IUCN and UNDP are ready to support project management to reach the project goal.</p> <p>2.2 A continuous support of project management system including monitoring and evaluation for granted project.</p> <p>2.3 Lack of prioritization of target area to implement the project in terms of:</p> <ul style="list-style-type: none"> (1) Nature of the problem (2) Readiness of target community (3) Action plan of project grantee (4) Difficulty-easiness of action plan (5) Participatory mechanism of the implementation (6) Risk management system of implemented project. <p>2.4 Project management plan could not associate with strategic plan/government organization plan effectively. This might be because of the limitation of MFF purposes, which emphasized on learning enhancement and strengthening the community, while government's role focus on implementation at policy and practical levels including supervision, monitoring, and evaluation of results to comply with major government policy and role/mission.</p>
3. Learning process development (In the area of mangrove and coastal resources management)	<p>3.1 The project enhanced knowledge management of partners including grantee, such as the capacity development on project proposal writing to comply with the criteria.</p> <p>3.2 Large projects could establish integrated participation mechanism among partners in the area for sustainable mangrove management.</p> <p>3.3 Establish database to support decision making for mangrove management in the local level.</p> <p>3.4 Enhance the co-management of mangrove and coastal ecosystem as well as the integration and association with local administrative organization.</p> <p>3.5 Some communities of target area lack of continuous support/drive to achieve a mechanism for a holistic mangrove/coastal ecosystem management as well as the association of the management/utilization for community economy at household, group and community levels.</p>

Table 4-2 (continued)

MFF Implementation Dimension	Lesson Learned
4. Financial Management	4.1 MFF had an explicit financial plan in relation with project details. 4.2 Financial auditing mechanism of the project is transparent and complies with approved standard. 4.3 Budget allocation mechanism (small grants) approved by cooperative working groups result in reliable and acceptable. 4.4 Limited timeframe for implementation of both small grants and large projects. In fact, there are many projects which should be supported continuously because result of the implementation has wide positive impacts on management of mangroves and coastal ecosystem resulting in future project expansion.

4.4 Effective Implementation Mechanism of MFF in the Second Phase (2010-2013)

An analysis of the first phase MFF implementation was conducted in order to associate results with strategic plans to be formulated for the second phase. Project partners suggested that there should be a direction framework to support plan/project/activity related to real situation of the implementation. Suggestions for mechanism development for the implementation of the second phase include:

4.4.1 Project/grantee group management

- 1) Should give priority to support project based on subject details and should extend the period of implementation related to real situation.
- 2) Should support study or research project or the use of problem-based as an issue for Participatory Action Research (PAR).
- 3) Should communicate information about project support to all related partners.
- 4) Should conduct a training course on capacity development and project preparation for nominated grantee.
- 5) Should introduce capacity development of interested partner who wish to develop a large project. Additionally, it should focus on useful innovation/positive impact for sustainable mangrove management.
- 6) Should develop project proposal writing system among interested groups that is easy to understand and communicate or provide sessions for consultation with project proposal preparation experts.

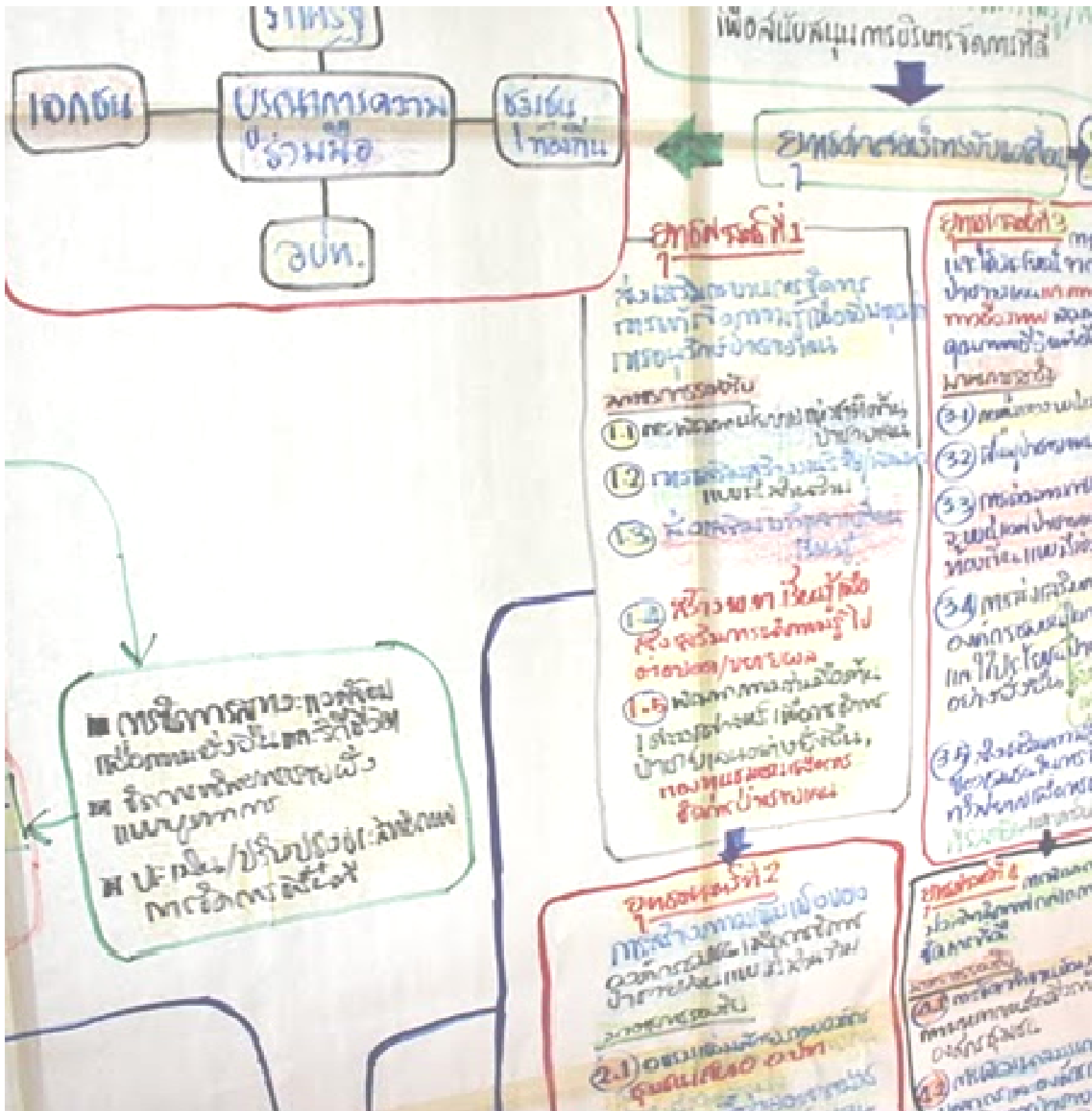
4.4.2 Mechanism development for the mobilization of project to practice

- 1) Should formulate a manual for plan/project/activity implementation in line with MFF purposes.
- 2) Should support the expansion of knowledge to target area using social learning process or learning media within the social context and the need of target area.

3) Should develop integrated monitoring and evaluating system by knowledge sharing process on monitoring and evaluation including lesson learned process.

4) Should develop competency/role of NCB and all working groups in the integrated participation for coordinating policy and action of MFF granted project, such as with organizations within the Department of Marine and Coastal Resources whose mission are area based.

MFF STRATEGY AND ACTION PLAN IN THE SECOND PHASE (2010-2013)



Chapter V

MFF STRATEGY AND ACTION PLAN IN THE SECOND PHASE (2010-2013)

5.1 Resolution

T

hailand shall actively implement integrated partnerships to conserve, rehabilitate, develop and utilize mangrove and coastal ecosystem resources, complying with national development policy including economy, society and environment, based on good governance for community and natural resources security which is the foundation of a balance, equitable and sustainable development of the country.

5.2 Vision

“Good governance for coastal ecosystem management for sustainability and security of communities and natural resources.”

5.3 Mission

To strengthen all partners and being a mobilized cooperative mechanism for effective practice and learning to develop policy and good governance in sustainable coastal ecosystem management.

5.4 Goals

1) To implement the conservation, rehabilitation and development of mangroves and ecosystem resources for a balanced coastal ecosystem protection related to ecological approach management.

2) To co-operate partnerships at all levels for preservation and protection of mangrove resources as well as the utilization of coastal ecosystem biodiversity for security and leveling up of the quality of people's life.

3) To prepare and strengthen community capacity for climate change and natural disaster adaptation, which might affect the way of life of local community, as well as reduce the loss of lives and properties including resources, under the management based on sufficiency economy philosophy and self-reliance concept.

4) To enhance the role of non-government organizations and all partners including women, youth and disadvantaged groups to gain access to knowledge sharing opportunity. Moreover, to establish cooperation supporting sustainable management of mangroves and coastal resources related to social context and good governance based on responsibility for social and environment.

5.5 Strategic Key Performance Indicators (Strategic KPIs)

5.5.1 Quantitative indicators:

1) Mangrove areas which have been rehabilitated under MFF support

2) Biodiversity of mangroves and coastal ecosystem (species/ecosystem)

3) Major environmental quality indicators related to sustainable coastal ecosystem

4) Number of cooperative partners in the project plan

5) Number of ready and capable communities to improve quality of life from sustainable utilization of mangrove resources and biodiversity of coastal ecosystem

5.5.2 Qualitative indicators:

1) An integrated management mechanism of mangroves and coastal ecosystem at the policy level utilizing the area approach management

2) Partnership among government, private sector, local administrative organizations and educational institutions as well as civil society organizations to participate in the project resulting in long term sustainable management including the implementation under local strategic plan

3) Establish means for information and knowledge sharing and transfer about research and appropriate technology to local community, local administrative organization and other partners for sustainable mangrove and coastal ecosystem management

4) Establish an integrated management of natural resources and mangrove and coastal ecosystems mechanism which could be socially-acceptable, accessible and equitable.

5.6 MFF Strategy and Action Plan in the Second Phase (2010-2013)

MFF strategy and action plan as a framework for the implementation in the second phase (2010-2013) should consider the conditions and background of MFF project including problems and situations at the national and local levels. Major strategies are as follows:

Strategy 1: Enhance accessing to knowledge for the recognition of mangrove and coastal ecosystem values

Main goal : Focusing on knowledge system development in the conservation, rehabilitation and management of mangroves including biodiversity resources utilization to reach target area. This includes community, technical officer, local development officer as well as women, and youth groups, civil society organization partners and disadvantaged groups. Consequently, these groups should gain recognition and awareness in mangrove protection together with the enhancement of measures and economy incentives applying to support value added of mangroves for leveling up quality of life for local community or directly utilization group.

Mobilized Action plan :

Action plan 1.1 Establish integrated national policy development on mangroves and coastal ecosystem, considering area-based management concept. To drive integrated cooperation among organizations at all levels to formulate strategic plans/national mangrove policies, which cover various dimensions, such as protection, conservation, rehabilitation, economy and utilization. In addition, an effective mechanism should assist the translation of policy into local strategic plan.

Action plan 1.2 Establish participatory researches and development promotion including research utilization to solve problems by promoting interdisciplinary research and integrating basic, applied and development researches/innovations for mangrove management together with the promotion of research utilization or as a pilot project in the area. Moreover, the integration of science, social, culture and local wisdom should be promoted.

Action plan 1.3 Enhancing knowledge sharing on mangrove and coastal resources management, emphasizing on public forum for knowledge management and quality partnerships.

Action plan 1.4 Establish learning areas to promote or replicate knowledge by community capacity building for practical implementation and transfer of knowledge/skills and experiences to interested parties for adoption and use related to the context of each area.

Action plan 1.5 Enhance cooperative education and develop economic tools for sustainable mangrove management, such as Payment for Ecosystem Service (PES) including the study on ability to set up community

fund for sustainable mangrove management. Therefore, communities could have access to budget/resources to implement activities for mangrove management by themselves which also building capacity of community to add up and establish an environmental economics incentive for mangrove conservation.

Action plan 1.6 Create public relation media to broadly reach local community and civil society organization. The focusing on media development which could transfer to different target groups could assist their interest and bring knowledge and experience from media accessing for learning process development to add value on knowledge transfer.

Strategy 2: Capacity building of community organizations for the conservation, rehabilitation, and a balance and equitable accessing for sustainable utilization of mangroves.

Main goal : Emphasizing on integrated strengthening and participation mechanism of community organization to formulate strategic plans for local mangroves and coastal systems that combine body of knowledge and local wisdom harmonically, which should leveling up cooperation to empowered community. To establish community rules for the conservation and an equitable and sustainable utilization of natural resources, including consultation mechanism for natural resources conservation among upstream and downstream communities; mitigate conflict of natural resources utilization in the community. Moreover, community organizations and career groups should be leveled up to access bioresource-based economy development which related to natural capacity and social capital.

Strategy 2: Capacity building of community organizations for the conservation, rehabilitation, and a balance and equitable accessing for sustainable utilization of mangroves. This strategy consists of 2 sub-strategies as follows:

Sub-Strategy 2.1- Strengthening community organization for participatory mangrove and coastal ecosystem management

Goal: Emphasizing on capacity building of community and local administrative organization for mangrove and coastal ecosystem management. This should focus on knowledge management and practical implementation of knowledge to establish a model of community of practice (CoP) for the replication to other areas. Actively motivation of local partners to take role in the formulation of local strategic plan for mangrove and coastal ecosystem management, including facilitate the cooperation to translate plan into action concretely. In addition, knowledge, skill and experience development of community change agent to develop local natural resources conservation activities should be performed.

Mobilized Action Plan:

Action Plan 2.1.1 Training and capacity building of community and local administrative organizations, emphasizing on planning a training programs (meetings, seminars, trainings, study tours and experience sharing among communities). Community leaders/local leaders should have basic

knowledge/understanding of mangrove and coastal ecosystem management. They also play an important role in the formulation of local strategic plan for resources management by community.

Action Plan 2.1.2 Establish volunteer network for community-based mangrove management to replicate the spirit of volunteerism in the community. This includes reinforcing financial support to community to initiate conservation activity.

Action Plan 2.1.3 Develop a model of community of practice (CoP) to replicate to other communities which should enhance capacity of community leaders, women's groups, youth, religious organizations and local government organizations to participate in the formulation of local community action plan for mangrove and coastal ecosystem management. In addition, develop partnerships to create a yearly plan until it has positive impacts on local ecosystem and should be a model area for knowledge transfer to interested parties.

Action Plan 2.1.4 Reinforce local administrative organizations to establish or adapt local strategic plan for mangrove and coastal ecosystem management for practical implementation by focusing on problem analysis, survey of community needs, assessing community capacity including formulating a development plan related to local capacity for a self-reliance management. In addition, this should be based on the participation of members in the community.

Action Plan 2.1.5 Reinforce the establishment of cooperative plan for mangrove management by community (self-reliant community plan) which focuses on the cooperation between governmental organization and local community to establish community action plan for mangrove resources management based on community capacity.

Action Plan 2.1.6 Create community facilitator for mangrove and coastal ecosystem conservation to enhance capacity of interested person in the community to become facilitator on local development in the area of conservation. For example, capacity building on knowledge management, tools utilization for local development learning, reconciliation at local level, monitoring and evaluation implementation result and local research.

Sub-Strategy 2.2 Conservation, Rehabilitation and Utilization of mangroves and biodiversity to level up quality of life

Goal: Emphasizing on effective measures to reserve, protect, conserve and utilize mangroves and coastal ecosystem resources as an integration or multiple-use based on conservation methods, covering sustainable utilization, restoration, rehabilitation, preservation, protection and appropriated zoning utilization which related to area capacity. Moreover, local partnerships should be taken to a higher level for community-based ecosystem monitoring. Moreover, enhancing role of women and youth in local natural resources conservation and focusing on low energy production and services to reduce green house gas to promote social and environment responsibility.

Mobilized Action Plan:

Action plan 2.2.1 Integrated coastal ecosystem protection to protect natural resources and valuable/rare/endangered ecosystem by implementing measures such as laws and regulations for designated area or community-based monitoring and protection of natural ecosystem balance.

Action plan 2.2.2 Integrated coastal ecosystem rehabilitation, using appropriate measures including mangrove plantation in degraded area, ecosystem/important coastal resources conservation, artificial coral installation and continuous and effective coastal area management.

Action plan 2.2.3 Monitoring changes of mangrove ecosystem with community participation which should be achieved by creating sustainable indicators of local ecosystem and enhancing community's role in the survey, analysis and assessment of resources status which could indicate value and status of local ecosystem by the continuous participation of the community.

Action plan 2.2.4 To promote role of women, youth and disadvantage groups in society, as well as community organizations to access conservation and sustainable utilization of mangroves. Strategy for women/youth groups include career groups in the establishment for mangrove and coastal resources conservation relating to natural resources utilization in the community. For that purpose, capacity building of women, youth and disadvantage groups could be implemented simultaneously.

Action plan 2.2.5 Enhance the capability of community people, community organizations and local administrative organizations to manage natural resources for environment-friendly and low carbon production system. This could be done by strengthening and developing the skills and proficiency in agriculture, fishery and aquaculture including marine and coastal tourism services which should not disturb natural ecosystem and utilize low energy to reduce global warming.

Strategy 3: Develop and increase efficiency of good governance mechanism

Main goal : To emphasize on the development of management system for mangroves and coastal ecosystem based on good governance, transparency and fairness. This should also be based on an effective capacity building of management organization, as well as focusing on the development of policy and strategy on mangroves and coastal ecosystem related to sustainable development direction on economy, society and environment. Moreover, it should emphasize on the review, improvement and development of rules and regulations, including good governance for the accountability to national and international organizations. This also includes the enhancement and strengthening management mechanism of government, private sector, local administrative organization and society as responsible development partners.

Mobilized Action Plan:

Action Plan 3.1 Establish mangroves, biodiversity and community organization database, focusing on collecting and analyzing from surveyed data of related organizations including research to serve as database for correct and responsive situation planning and decision making.

Action Plan 3.2 Competency developments for officers and mangrove management organizations to formulate capacity building plans for their corresponding offices and organizations. This should emphasize on the promotion and technical cooperation exchange within and between nations under the cooperation of mangrove and natural resources management.

Action Plan 3.3 Develop integrated action plan mechanism for a sustainable mangrove management by the cooperation among institutions, responsible organizations and supportive governmental organizations, central and regional (provincial) , non-government organizations, local administrative organizations including educational institutions to communicate action plans and achieve common understanding and readiness to reinforce plans into practice.

Action Plan 3.4 Develop an effective monitoring and evaluation system, emphasizing on indicator development which could reflect input, outcome and impact of implementation result of granted project.

Action Plan 3.5 Develop tools and mechanisms for sustainable mangrove ecosystem management such as, Strategic Environmental Assessment (SEA) implementation for local planning and Environmental Impact Assessment (EIA) to manage development project.

5.7 Flagship Project or the Implementation of MFF Strategy and Action Plan in the Second Phase

Flagship projects provide essential elements of activity which should be implemented for the purpose of strategic implementation of MFF in the second phase. The mission is crucial for the success and/or the sustainable of the project. Flagship projects should be established from a profound environmental factors analysis to ensure the success of project implementation. In addition, it requires cooperation to support and practice continually and clearly defined the implementation under effective key performance indicators. Details of flagship project are as follows:

5.7.1 Establish essential criteria for an initial project

To translate strategic plan into action is another process which occur after the formulation of MFF strategy and action plan for the implementation in the second phase. Generally, to translate plan into action in target area consists of various management mechanisms, such as capacity, role of responsible organization, personnel competency, action plan, duration of the translation of plan into action including financial and target area conditions.

The MFF strategic plan emphasizes on the cooperation of partners to support the implementation as well as role of local community and development partner in the area. Therefore, direction for the translation of MFF strategy and action plan to tangible practice needs the assessment of problem situation in the area, administrative interest and level of emphasis of governmental policy on problem solving method.

However, as MFF strategy and action plan is major framework for partners to use for preparing or initiating their interested project, it should set

criteria to support essential project for secondary strategy. Initiative project should consider an area of criteria and condition or merging criteria. These criteria are:

- 1) The project should respond ecosystem-related issues in the area
- 2) The project should integrate cooperation among organizations in the target area
- 3) The project should utilize interdisciplinary body of knowledge to implement combined with science, society, culture and local wisdom
- 4) Based on public needs and comply with government development policy for mangroves and coastal ecosystem
- 5) Resulting in a long term positive impact on sustainability of coastal ecosystem
- 6) Clearly identify stakeholders especially bioresources utilization group as well as the issue of the implementation on coastal ecosystem and highly important bioresources protection. It should also consider environmental sensitive areas.

5.7.2 Flagship Projects for MFF Strategy and Action Plan

Major projects which should be included for the MFF strategy and action plan in the second phase (2010-2013) could be categorized into 2 groups which are:

1) MFF supports group of projects with urgent and high importance

This group of projects needs urgent support from MFF to protect, restore or rehabilitate natural resources and coastal ecosystem. It also related to the intention of MFF's strategic plan implementation which emphasizes on the enhancement of knowledge access and value of mangroves and coastal ecosystem to local community. Consequently, it could prevent and mitigate loss from natural disaster that might occur. This group of projects consists of:

1.1) Projects on capacity building for coastal community adaptation to climate change and natural disaster (Adaptation mechanism of community/food security)

1.2) Projects on integrated partnerships for the conservation and rehabilitation of river mouth ecosystem and high value bioresources. (Ecosystem protection for biodiversity)

1.3) Projects on development of situation and biodiversity indices of mangroves and coastal ecosystem (Community-based simple indicator formulation)

1.4) Projects on enhancing capacity of community organizations and partners to formulate a community-based strategic plan for mangrove and coastal ecosystem management (Mechanism development on local strategic plan together with local administrative organization)

1.5) Projects on enhancing participatory action research for sustainable mangrove and coastal management (Problem-based for research issues)

1.6) Projects on curriculum formulation of mangroves and coastal ecosystem learning for local educational institution (Local curriculum)

2) MFF supports group of projects continuously and on a long term basis

As this group of projects is appropriate for implementation support and could establish coastal ecosystem sustainability, but might need multi-cooperation to proceed in the long term. Project proposals might design implementation into phases, such as in the first phase should include initiative, collection and preparation while in the second phase might be implementation, planning and decision making. This group of projects includes;

2.1) Projects on community-based surveying and monitoring changes in coastal ecosystem (Enhance community's role to access coastal ecosystem value)

2.2) Projects on mechanism development to access resources utilization for biodiversity-based community economy development (To level up biodiversity-based economy by local wisdom)

2.3) Projects on capacity building for community organizations and partners to reconcile mangroves and coastal ecosystem conflicts (Mechanism to solve conflicts on natural resources)

2.4) Projects on the preparation of community of practice about mangrove and coastal ecosystem management (Strengthening community's capacity)

2.5) Projects on enhancing the role of women, youth and disadvantaged groups in the society to access the right to manage and utilize bioresources in mangrove ecosystem for the security of community's way of life and natural resources (Enhancing gender roles and disadvantaged group roles in the society)

INTERPRETATION OF MFF STRATEGY AND ACTION PLAN
OF THE SECOND PHASE INTO PRACTICE



Chapter VI

INTERPRETATION OF MFF STRATEGY AND ACTION PLAN OF THE SECOND PHASE INTO PRACTICE

6.1 Communicating MFF Strategic Plan in the Second Phase for NCB Approval

The Development of MFF strategic management mechanism of the second phase towards the implementation in target area involves several levels of mechanism. To achieve this, it is crucial to integrate plan among related organizations as well as national policy. Additionally, the role of the Department of Marine and Coastal Resources is to facilitate the process of cooperation among partners and bring this process of interpretation in accordance with national policy and community's needs. Natural resources management should be based on conservation principles. Draft strategic plan for NCB approval should be submitted as a framework for the translation process including future plan/project implementation. Then, communicating process of strategic plan to partners and related organizations both at policy and practical levels should be practiced.

6.2 Prioritizing Action Plans

To formulate action plan for the strategy, the prioritization of plan/project for financial support according to urgency level is essential. Framework for project prioritization is as follows:

1) The action plan should respond to MFF's intention to emphasize on capacity building both policy and decision making including strengthening the community for sustainable management of mangroves and considering the serious problems in target areas.

2) The action plan should comply with national policy and strategy plan or the operation plan which comply with the role of related organizations, especially the strategy on strengthening the community for the national security foundation and strategy on development based on biodiversity and natural resources and environment security including good governance enhancement strategy.

Mechanisms to prioritize action plan for MFF implementation strategy in the second phase should integrate the cooperation among partners to analyze urgency level of project on the protection, conservation, rehabilitation and utilization of mangroves and coastal ecosystem.

6.3 Establishment of MFF Project Management Organization

Thailand's MFF project management mission is a cooperation of national and regional mechanism, such as National Coordinating Body (NCB), Department of Marine and Coastal Resource and Regional Steering Committee (RSC), to support budget and cooperate among organizations in the area and other partners such as IUCN, UNDP, WWF, TEI, GSEI, UNEP, WI and FAO.

Project management comprises of administrative and cooperative organizations which have a close cooperation mechanism and unity, as MFF implementation is based on cooperation and implementation plan initiation according to strategy and action plan of the project.

6.4 Integration with Related Organization's Strategy

MFF strategy and action plan should be integrated and related to other strategies. Therefore, the Department of Marine and Coastal Resources or NCB should cooperate among related organizations to apply MFF's strategy and action plan as a framework to support each others at ministry/provincial and local levels. MFF's strategic plan in the second phase complies with natural resources and environmental development dimensions such as bioresources-based economic development promotion, community organization strengthening base on community capital, green community focusing on environment-friendly production and services and community-based tourism development related to mangrove and coastal ecosystem conservation and utilization.

6.5 Cooperation for Budget Support to MFF Projects

MFF strategy and action plan should apply for project proposals to have access the budget through UNDP (small grant projects) for NCB project approval. For large projects, project nominees should apply their project proposals through NCB for screening before sending to RSC for approval. In

addition, project proposals should be within the framework or follow the terms of reference of MFF project. Moreover, proposals should bring essential issues of action plan indicated in strategic plan in accordance with budget resources from government organizations and related to mangrove and coastal ecosystem management or through strategic plan for provincial development. Funding sources include the Global Environmental Fund, the Thailand Research Fund, educational institutes or another budget supporting sources such as foundations or international organizations. Project nominees should select the most severe target area or seriously affected area as a priority area for the relevance to situation and the interest of partners.

6.6 Stakeholder Participation and Good Governance

The MFF strategy and action plan should emphasize on public participation at each process systematically from planning to implementation process. Public participation is an essential mechanism to achieve the acceptance of implementation guideline. Area-Function-Participation (AFP) should be practiced among organizations which could support the mission and role of each partner. Moreover, various civic organizations should be given opportunity to meet, consult, analyze and making decision for the implementation without any social conflict.

The development of good governance mechanism should emphasize on basic principles. This includes:

- 1) Support and enhance active and continuous participation of partners
- 2) Transparency and accountability
- 3) Enhancing the role of private sector/corporate sector to initiate Corporate Social Responsibility (CSR), such as the initiative of mangrove plantation, the support of coastal ecosystem conservative group establishment, the enhancement on coastal ecosystem management community plan including the capacity building on conservation and utilization bioresources for new career in the community.
- 4) Establish the implementation result communication mechanism to beneficial group/local community as a two-way information exchange which complied with good governance principles.

6.7 Monitoring and Evaluation

To monitor and evaluate project management results of MFF project is a mechanism to assess if each process followed the framework or achieved the purpose/goal of the implementation. Then project management plan should be adjusted immediately and manager should make decision to plan for the next phase. Additionally, this could be a public participation mechanism to give opportunity for community and stakeholders to participate in the monitoring and evaluation process which should result in a more acceptable result for development partners.

The monitoring and evaluation of MFF result could be divided into 3 phases, the first phase or Before Action Review (BAR) is a readiness preparation of project management mechanism including essential data and information for the implementation plan; the second phase or During Action

Review (DAR) is the process of suggestion from experts to the implementation; and, the last phase or After Action Review (AAR) is an evaluation of success/lesson learned which should focus on the participation of partners to establish evaluation criteria and evaluate the project.

6.8 Review and Improvement

To review and improve MFF strategy and action plan could result in more appropriate and effective plan, common understanding of partners and participation of the strategy/plan improvement. Moreover, guidelines for the review and improvement should be established to attain a plan that responds to all partners' requirements and achieve the main purposes of plan/project. The guidelines should consider about:

- 1) The appropriateness of goal and current situation should be adjusted to the situation such as change in society's interests.
- 2) The appropriateness of budget allocation to cover all implementation of each phase. In case of inadequate budget, funding from outside organizations/ networks might be an alternative source.
- 3) The efficiency of implementation, in case the result did not meet the specified goal, should be improved toward more efficient implementation.

References

- DMCR 2007 Mangrove Research Master Plan for Ranong Biosphere Reserve (2008 – 2011) Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment (MONRE), Bangkok
- DMCR 2009 Mangrove Management Master Plan Ministry of Natural Resources and Environment (MONRE), Bangkok
- DMCR and Sukhothaimathirat 2007 Evaluation report: Sustainable Wetlands Management by community participation, Department of Marine and Coastal Resources, Bangkok
- Ittiphol Srisaowalak 2004 Environmental Management Law, Ecology and Natural Resources Management, Vol 2, Sukhothaimathirat University, Nonthaburi
- Kittichai Rattana 2006 Wetlands participatory management, Conservation Department, Faculty of Forestry, Kasetsart University, Bangkok
- Faculty of Forestry 2007, Final report Economic evaluation and mangrove resources dependent value, Kasetsart University, Bangkok
- NESDB 2007 The tenth National Economic and Social Development Plan www.nesdb.go.th
- ONEP 1997 Environmental Quality Control Plan and Policy 1997 -2018, Office of Natural Planning and Policy, Ministry of Natural Resources and Environment (MONRE), Bangkok
- Sanit Aksornkoe 1998, Mangrove Ecology...and Management, Kasetsart University, Bangkok
- Suratthani Forestry Office 2002 Final report 30 years of Man and Biosphere UNESCO programme at Ranong Biosphere Reserve, Forestry Department, Ministry of Natural Resources and Environment (MONRE), Bangkok
- Thongchai Jarupatt&Jirawan Jarupatt 1997 Mangrove monitoring by using satellite image from Landsat-5 (TM) in Thailand, proceeding the 10th National Mangrove Symposium, Mangroves Management and Conservation: 20 years lessons learned 25-28 August 1997 at JB Hotel, Had Yai Song Kla
- UNDP GEF Project on “Reversing Environmental Degradation Trend in the South China Sea and Gulf of Thailand ”

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Mangroves for the Future (MFF) is a partnership-based initiative promoting investments in coastal ecosystems that support sustainable development. MFF provides a collaborative platform for the many countries, sectors and agencies tackling the challenges to coastal ecosystem conservation and livelihood sustainability and is helping them to work towards a common goal.

MFF builds on a history of coastal management efforts before and after the 2004 Indian Ocean tsunami, especially the call to sustain the momentum and partnerships generated by the immediate post-tsunami response. After focusing initially on the countries worst-affected by the tsunami – India, Indonesia, Maldives, Seychelles, Sri Lanka and Thailand – MFF has now expanded to include Pakistan and Viet Nam. MFF will also continue to reach out to other countries in the region facing similar challenges, with the overall aim of promoting an integrated, ocean-wide approach to coastal area management.

MFF seeks to achieve demonstrable results through regional cooperation, national programme support, private sector engagement and community action. This is being realized through concerted actions and projects to generate and share knowledge more effectively, empower institutions and communities, and enhance the governance of coastal ecosystems.

Although MFF has chosen mangroves as its flagship ecosystem, the initiative embraces all coastal ecosystems, including coral reefs, estuaries, lagoons, wetlands, beaches and seagrass beds. Its management strategy is based on specific national and regional needs for long-term sustainable management of coastal ecosystems. These priorities, as well as newly emerging issues, are reviewed regularly by the MFF Regional Steering Committee to ensure that MFF continues to be a highly relevant and responsive initiative.

Learn more at: www.mangrovesforthefuture.org



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