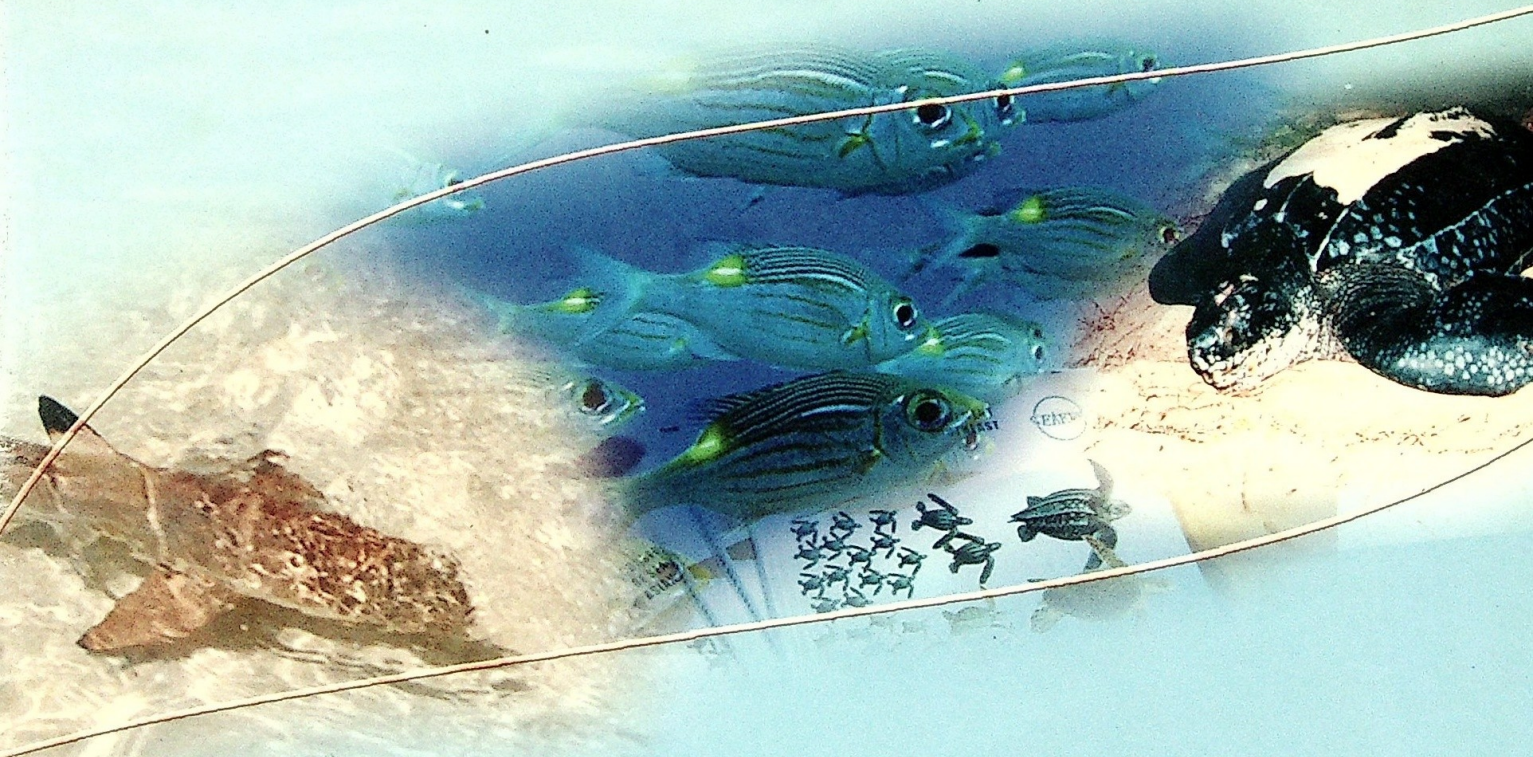


# SEAFDEC-MFRDMD HIGHLIGHTS 2004







SEAFDEC-MFRDMD

# HIGHLIGHTS

# 2004



SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER (SEAFDEC)  
Marine Fishery Resources Development and Management Department (MFRDMD)

Kuala Terengganu

2005

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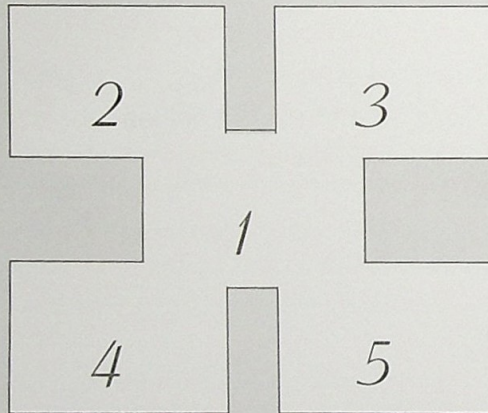
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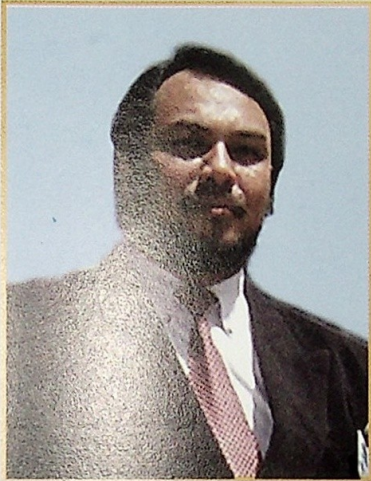
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# Foreword



I am most honoured to be invited to make this foreword for the SEAFDEC-MFRDMD Highlights 2004. This book records the highlights of the activities conducted in the year 2004 accordance to the decisions of the SEAFDEC Council along with the Millennium Conference Resolutions and Plan of Actions on Sustainable Fisheries for Food Security in this region.

After taking the helm of MFRDMD-SEAFDEC as the chief in last March, I felt challenged at the most daunting task of realizing the expectations of the Council and the SEAFDEC Secretariat and meeting the vision of making SEAFDEC

departments 'the leader in sustainable tropical fisheries for people' in the region as suggested by the Seminar on ASEAN-Japan Cooperation for Sustainable Fisheries through SEAFDEC. However with the support of all SEAFDEC members and departmental staff, I am confident of achieving if not all but some of objectives of the department.

The success of the projects depended very much on the cooperation of the staff and the teamwork displayed. I am confident that the project leaders are able and competent researchers in their own fields, and the timely program on the Human Resource Development recently outlined by the SEAFDEC Secretariat, will facilitate in the further upgrading of the expertise of the staff.

I wish to take this opportunity also in thanking my predecessor, Mr. Ibrahim Saleh who has put in place most of what that needs to be done.

I wish to thank also The Honourable Dato' Junaidi bin Che Ayub, Director General of Fisheries Malaysia, for his strong support.

Finally I wish to thank all those who are involved in the preparation of this book, which will be an important document for all who have similar research interest not only in the region but also from other parts of the world.

Thank you.

**Raja Mohammad Noordin bin Raja Omar**  
Chief of SEAFDEC-MFRDMD  
Kuala Terengganu  
January 2005

# STAFF OF SEAFDEC - MFRDMD 2005



Seated from right: Mr. Ku Kassim, Mr. Ahmad, Mr. Raja Bidin, Mr. Rosidi, Ms. Hjh. Mahyam, Mr. Raja Mohammad Noordin (Chief), Dr. Konishi (Deputy Chief), Dr. Mansor, Mr. Hj. Jamaludin, Mr. Che Harun and Mr. Zulkifli.

Second row from right: Ms. Nik Zuraini, Ms. Rosilah, Ms. Norfaikah, Ms. Wahidah, Ms. Jafrizah, Ms. Noor Azlina, Ms. Norharm, Mr. Sallehudin, Mr. Wahab, Mr. Wan Mohd. Zulkifli, Mr. Ismail, Mr. Mansor, Mr. Nadzri, Mr. Abd. Rashid, Mr. Mohd. Azmi, Mr. Solahuddin, Mr. Osman, Mr. Azman, Mr. Ruzelan, Mr. Mohd. Rizman, Ms. Kamariah, Ms. Kasnirawati, Mr. Mohd. Nor Azam, Ms. Hjh. Kharidah and Ms. Siti Rohani.

Third row from right: Mr. Hj. Aznan, Mr. Nik Rani, Mr. Zahari, Mr. Nik Abd.Rahman, Mr. Zailu, Mr. Nik Nasrudin, Mr. Wan Ahmad, Mr. Saiful Nizam, Mr. Roazwi, Mr. Shafie, Mr. Abd. Razak, Mr. Mohd. Nasir, Mr. Muhammad Suhaimi, Mr. Abd. Manaf, Mr. Harun, Mr. Wan Zainal, Mr. Mohd. Nazir, Mr. Nor Azman, Mr. Abdul Aziz, Mr. Mohamad Mat Said, Mr. Muhammad Ibrahim and Mr. Rosdi.

Absent: Mr. Nordin, Mr. Sayed Sahabudin, Mr. Ibrahim, Mr. Sharum, Mr. Suhaimi, Mr. Mokhtar and Mr. Harun.



## *Our Vision*

To be the CENTRE OF EXCELLENCE for the sustainable development and management of fishery resources in Southeast Asia.

## *Our Mission*

To provide assistance to SEAFDEC member countries in matters relating to the sustainable development and management of fishery resources in Southeast Asia, through research, training and information.

## *Our Functions*

- 1 To provide a regional forum for consultation and cooperation in research and management of fishery resources
- 2 To coordinate and implement research programmes to support sustainable development and management of fishery resources in SEAFDEC member countries through:
  - Monitoring condition and exploitation of the state of fishery resources
  - Providing scientific basis and appropriate guidelines
  - Providing advice on management of fishery resources
- 3 To provide training in the field of stock assessment and fisheries management towards improving the capability of SEAFDEC member countries in the sustainable development and management of fishery resources

# THE MANAGEMENT TEAM



From right: Mr. Raja Bidin, Mr. Rosidi, Dr. Mansor, Mr. Raja Mohammad Noordin (Chief), Dr. Y. Konishi (Deputy Chief), Ms. Mahyam, Mr. Jamaluddin and Mr. Che Harun.

**Message by:**

## The Special Department Coordinator



**T**HE establishment of Marine Fishery Resources Development and Management (MFRDMD) is to fulfill the regional requirements and overcome technical issues related to the sustainable management of fishery resources.

Therein lays the great challenge in performing this duty. It has been realized that the fishery resources in this region have been deteriorating. Lack of proper management has been recognized as one of the main reason. To overcome this situation, the Resolution and Plan of Action on Sustainable for Food Security for the ASEAN region has been adopted in the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security in the Millennium "Fish for the People", in 2001.

It becomes our responsibility as one of the department of SEAFDEC, to ensure that the member countries are technically competent to implement the Resolution and Plan of Action, especially those are related to the fishery management.

I am grateful to Allah that all our programs and activities have been performing well. I believe that the bless of Allah is due very much on the sincerity and full commitment show by my dear colleagues in performing thier duties, with the excellent guidance and supervision by the Chief and the Deputy Chief of MFRDMD. Support and full cooperation by member countries has also contributed significantly to success of the programs and activities.

I am praying to Allah so that all of us and our region would be sustainable covered by His Blessing.

Thank you

**Mr. Rosidi Ali**

# The Identification of Indicators for the Sustainable Development and Management of Capture Fisheries in the ASEAN Region

Project Coordinator:  
**Mr. Rosidi Ali**



development and management of capture fisheries has been prepared and the members of Core Group to draft the details guideline have been identified.

**T**HE activities in the year 2004 have focused on monitoring the progress of the pilot projects carried out in Brunei Darussalam, Indonesia, Malaysia, the Philippines and Thailand. The Second Regional Technical Consultation was held in March 2004, followed by The Technical Working Group Meeting in October 2004. These meetings were held to evaluate and assess the achievements of these pilot projects. Only one technical visit to Brunei Darussalam was conducted from 11-14 October 2004 to provide technical support.

Philippines are on going and more data would be collected and analyzed. Similarly stake holders meetings would be conducted in 2005. Cambodia and Myanmar proposed to carry out pilot project on Dai fishery in Tonle Sap River and on trawl fishery in Than Dwe District respectively.

A framework on the regional guideline on the use of the indicators for sustainable

## Future Plan

All the pilot projects are expected to complete by the year 2005. The Regional Guideline on the Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN region will be developed base on the experience in conducting the pilot projects. The core experts have already been identified to draft the guideline. The draft will be compiled and edited by MFRDMD, which are then will

Meetings with stakeholder in Malaysia and Thailand have been carried out in July 2004 and October 2004 respectively. Several indicators have been identified and verified. The pilot projects in Brunei Darussalam, Indonesia and the



.be finalized and adopted the third RTC, scheduled on October, 2005 in Vietnam. The adopted guideline will be published and disseminated. In addition, the reports of the pilot projects will also be compiled, edited, published and disseminated.

MFRDMD has also proposed the follow-up actions for the year 2006 to 2010, to implement the pilot projects with wider scope including research and development (R&D) and human capacity building in the use of indicators for sustainable development and management of capture fisheries in the ASEAN region. The core countries have yet to identify to undertake the pilot projects on cost sharing basis.



# Information Gathering for Capture Inland Fisheries in ASEAN Countries

Project Coordinator:  
**Ms. Mahyam Mohd Isa**



**I**NFORMATION Gathering of Inland Capture Fisheries is being implemented in most ASEAN member countries. In each country, information on inland capture fisheries is compiled with the assistance of resource persons appointed during the First Regional Technical Consultation held in 2003. During the consultation, pilot projects proposed by the interested member countries were identified and adopted for implementation in three proposed

sites, i.e., riverine system, lakes/reservoirs and flood plains. Data and information to be collected, inter alia, fishery, biology, fish larvae, environment and socio-economy. The outcomes and experiences gained from these pilot projects among participating countries will be discussed and exchanged at the final Regional Technical Consultation, scheduled to be held in November 2005.

Eleven pilot projects were proposed during the first Regional Technical Consultation on Information Gathering for Inland Capture Fisheries in ASEAN countries, held from 4 to 6 August 2003. The RTC had agreed with the objectives, format and requirements of the pilot project proposals as presented by the member countries with small contribution from SEAFDEC.

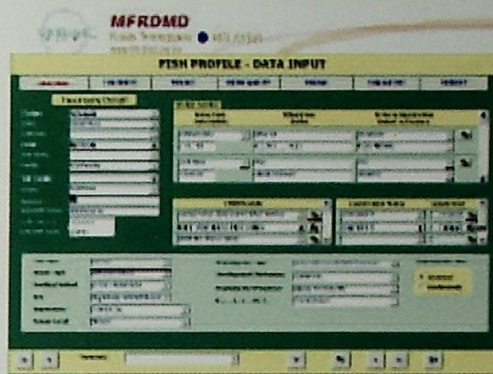
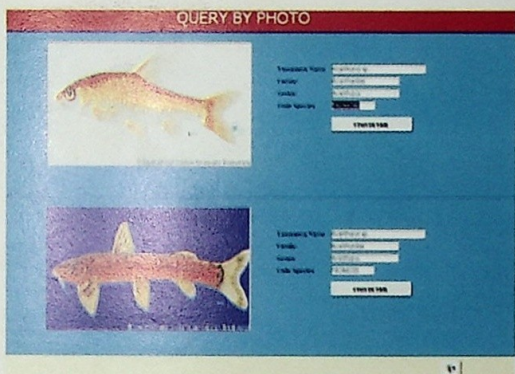
The list of projects is as follows:

Country	Project Title	System	National Project Leader	Status
Cambodia	Biodiversity, Fishery and Socio-Economic of Fisheries in Stung Treng Province, Cambodia	Riverine	Mr. Lieng Sopha	Data collection in progress
Indonesia	Fishery Information on Rawa Pening	Riverine		Project not confirmed
Lao PDR	Biodiversity and fishery of Mekong River (Siphan Done), Lao PDR	Riverine	Mr. Akhane Phomsouvanh	Data collection in progress
Malaysia	<b>Peninsular Malaysia</b> Project 1: Biodiversity, Limnology and Fishery of Pahang River, Malaysia	Riverine	Ms. Mahyam Mohd. Isa & Mr. Jamaluddin Ibrahim	*Project Completed
	Project 2: River Catfish ( <i>Pangasius</i> sp.): Status, Abundance and its relationship with Macrobenthos and Other Environmental Factors from middle to lower reaches of Pahang River, Malaysia	Riverine	Mr. Zulkaffli Abdul Rashid	Data collection in progress
	<b>Sabah</b> Biodiversity, Socio-economics, and Fishery of Kinabatangan River in Sabah, Malaysia	Riverine	Mr. Jephirin Wong & Dr. Ahemad Sade	Data collection in progress
	<b>Sarawak</b> Diversity, Ecology and Utilization of Fishery Resources of Loagan (Lake) Tujuh, Baram, Sarawak, Malaysia	Lake	Mr. Stephen Sungan & Mr. Ken Edward	Data collection in progress
Myanmar	Inland Fisheries Resources and Evaluation of the Fishery Management	Flood Plain and Riverine	Mr. Hla Win	Data to be collected
Philippines	Fisheries Ecological Assessment of Lake Naujan, Oriental Mindoro, Philippines	Lake	Mr. Fileonor Eleserio & Mr. Abundio Galicia Jr.	Data collection in progress
Thailand	Management of Economically Important Fisheries Resource in Vachiralongkorn Reservoir, Kanchana Buri Province Thailand	Reservoir		
Vietnam	Data Collection and Information of Inland Fisheries For Management in the Mekong Delta	Flood Plain and Riverine	Mr. Nguyen Van Trong	Data collection in progress

\*For detail, please refer to <http://www.mfrdm.org.my/programs/inland-pilotproject.html>

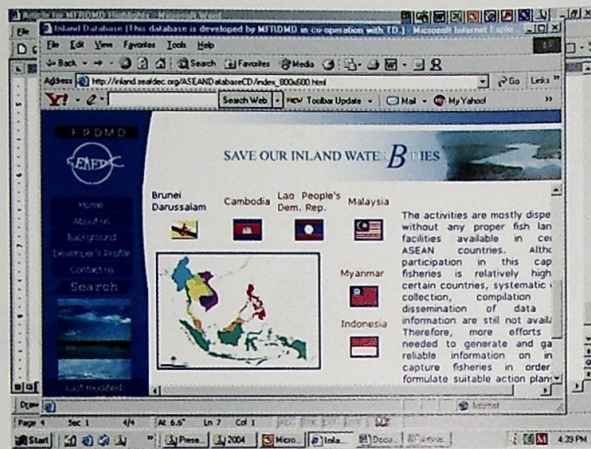
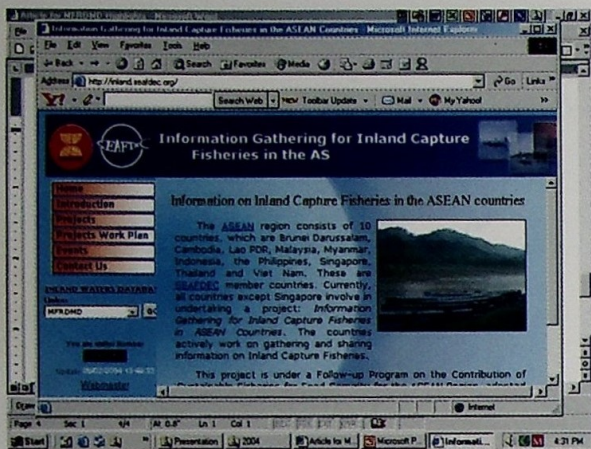
Development of Database on Inland Capture Fisheries is one of the components in Information Gathering for Inland Capture Fisheries in ASEAN countries. It is a collaborative work between MFRDMD and TD Bangkok. An application database for inland capture fisheries is being developed for data entry, updating and retrieving. The database contains nine modules: Fish Profile Module, Biological Study Module,

Fishing Gear Module, Fish Production Module, Habitats and Water Quality Module, Socio-economy Module, Marketing Module, River Information Module and Project Information Module. Each module will be developed in stages depending on priority. A standardized codes for freshwater fishes, shrimps and bivalves have been developed and to be used in setting up the Fish profile module.



Landings from inland capture fisheries are mostly dispersed without any proper fish landing facilities in most ASEAN countries. Although participation in this capture fisheries is relatively high in certain countries such as Cambodia, but, systematic data collection, compilation and dissemination of data and information are still not available. The lack of information and the need to review and compile inland capture fisheries as basis for the enhancement of sustainable fishery resource management was highlighted in the Report of the Fourth Meeting of the ASEAN-SEAFDEC Fisheries Consultative Group (FCG) in Myanmar, 18 March 2002. In view of gathering and achieving accurate

information on inland capture fisheries in ASEAN countries, MFRDMD as the lead department is under taking a project, entitled "Information Gathering for Inland Capture Fisheries" (<http://inland.seafdec.org/>). A website on inland database was initiated so as to act as a platform to gather and compile information on inland water bodies and support for the gathering of information on inland capture fisheries in ASEAN countries (<http://inland.seafdec.org/ASEANDatabaseCD/index-800x600.html>). All countries have actively collaborated in submitting the information and we wish to thank them for all the great help.



The project on Information Gathering for Inland Capture Fisheries concluded the following actions or activities until December 2005.

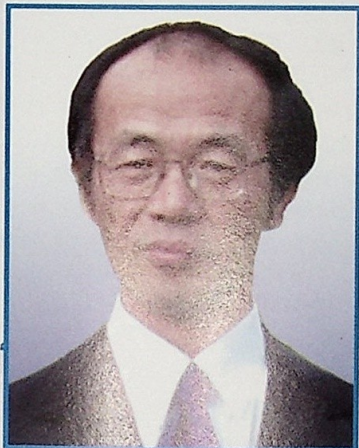
No.	Actions/Activities	Responsibilities	Expected Date of Completion
1.	Design and develop website for Inland Capture Fisheries and ASEAN Database of Inland Water Bodies	MFRDMD and TD	August 2004
2.	Progress meeting on pilot project implementation	MFRDMD	March 2005
3.	Regional Training course on Fish Taxonomy and Data Entry	MFRDMD	March 2005
4.	Compilation of data and information on Inland Capture Fisheries in ASEAN countries	MFRDMD	September 2005
5.	Implementation of pilot projects in each participating countries	Project Coordinators	September 2005
6.	Development of database: <ul style="list-style-type: none"> <li>a. Socio-economic Module</li> <li>b. Fish Profile Module</li> <li>c. Fishing Gear Module</li> <li>d. Water Quality Module</li> </ul>	MFRDMD	December 2004 January 2005 July 2005 December 2005
7.	Final Regional Technical Consultation on Information Gathering for Inland Capture Fisheries	MFRDMD	November 2005
8.	Documentation and dissemination of output on Inland Capture Fisheries	MFRDMD	2005





Message by:

## Deputy Chief of SEAFDEC-MFRDMD and Co-Manager of Trust Fund



**I**T takes about seven months after I arrived at a Deputy Chief of SEAFDEC-MFRDMD on 1st July 2004 to co-manager Trust Fund Projects sponsored by Japan and to promote them with research members of the Departments and SEAFDEC member countries. The Southeast Asian sea waters are fascinating and interesting for me who had studied on stock assessment of commercially important pelagic fishes by ichthyoplankton surveys and their recruitment in the East China Sea next to the South China Sea, and identification of fish larvae and fish phylogeny by larval

morphological characters. The West Pacific, particularly the East and Southeast Asian seas, is the most productive region for capture fisheries in the world, and the total catch of marine fisheries by the countries concerned occupies about 40% of that of the whole countries in 2002. In this year the ratio of the marine capture productions in the Southeast Asia region to that of the world is approximately 15%, however the value surely become very higher within the limits of the tropical seas. And biodiversity of flora and fauna in the Southeast Asia is known to be the highest in the earth.

Our Department of SEAFDEC is responsible to the sustainable development and management of fisheries resources in the Southeast Asian region while taking conservation of biodiversity into consideration. In order to achieve this mission, we implemented four projects of Trust Fund (TF) with the related Departments and participating member countries in 2004: Sea Turtles Research Conservation and Management in ASEAN/SEAFDEC Member Countries (TF 1); Information Collection for Sustainable Pelagic Fishes in the South China Sea (TF 2); Management of Shark Fisheries and Its Utilization in Southeast Asia (TF 3); Stock Enhancement of Sea Turtles (TF 4). Project of TF 1 on tagging experiments and hatchery management technique of sea turtles has substantially finished in 2003 and the supplementary activity was carried out in 2004. TF 4 project succeeded by TF 1 was begun to implement and the sea turtle expert meeting was held to make a program plan for 4 research years until 2008. Other two projects, TF 2 and TF 3, have been conducted since 2002 and 2003 respectively. Detailed research progress of these four projects are described in the following pages by the project coordinators.

In general, pelagic fishes and sea turtles are widely migratory and therefore they are straddling stocks. To achieve the objectives for pelagic fish and sea turtle projects, TF 2 and TF 4, it is required to implement the research in collaboration with almost all of the Southeast Asian countries. Conversely, these subjects are remarkably worthy of the research activities for SEAFDEC as a well-organized research body in the Southeast Asia region. In 2005 fishing and spawning grounds, and growth of the target pelagic fishes in the South China Sea are required to reveal for TF 2 project. In TF 4 project more recaptures of the sea turtles tagged from 2002 to 2003 under TF1 project are expected because remigration interval of green turtles seem to be 2 to 3 years. As the nesting sea turtles are known to re-migrate the same beach during the next nesting season, the genetic analysis with mtDNA method is promising to detect the subpopulations. Evaluation and conservation of fishery resources needs a lot of data, information and knowledge not only on fisheries catch and biological aspects but also physical oceanography and biotic information. And these data must be shared by researchers in this region and be collected for long term to leave an inheritance for the next generation. From this point of view, development of the catch, and biological and oceanographic databases and their utilizing systems is very important too.

Finally, it is my hope that the implementation of the Trust Fund Projects will proceed well and will provide sufficient outcomes in quality and quantity in 2005 too.

**Dr. Yoshinobu Konishi**

# Japanese Trust Funds

## Sea Turtles Research Conservation and Management in ASEAN-SEAFDEC Member Countries

Project Coordinator: **Mr. Ahmad Ali**



These activities are the follow-up of the 2003 project under Trust Fund I. Several activities have been planned for the year 2004-2005

### PRODUCTION OF DOCUMENTARY FILM

Since the information about conservation and management of sea turtles activities in this region has not been publicized worldwide, SEAFDEC-MFRDMD with collaboration of member countries plans to produce a documentary film on sea turtle conservation and management in this region for the international distribution. This activities will be continued and included in the Trust Fund IV.

### PUBLICATION OF THE BOOK:

**Book entitled: "Conservation and Enhancement of Sea Turtles in the Southeast Asian Region"**.

The publication of this book based on the compilation of available information on research, conservation, enhancement and management of sea turtles in ASEAN-SEAFDEC member countries gathered from various sources. This publication is also for international distribution.

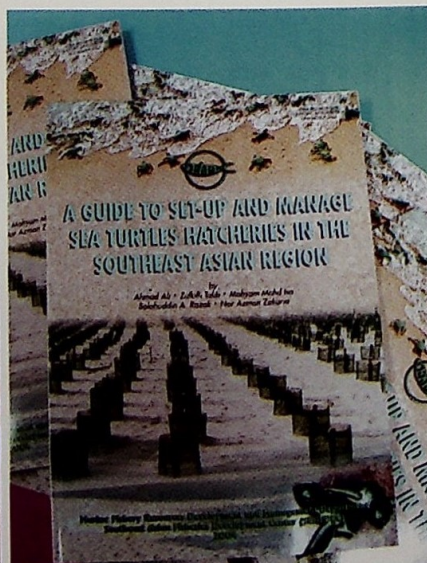
### Book entitled: "A Guide to Set-up and Manage Sea Turtles Hatcheries in the Southeast Asian Region"

This publication is an outcome of research activities conducted from 2001-2003 in Malaysia and Thailand namely field incubation (hatch success, emergence success and other relevant parameters), field sand and nest temperatures (natural and artificial incubations), field experiments to improve incubation success, sex ratio, hatchling performance,

hatchling dispersal and mortality. This publication can be used as a guideline for member countries in their planning to setup sea turtles hatcheries in their country.

#### Researchers:

- Mr. Ahmad Ali
- Mr. Zulkifli Talib
- Mr. Ku Kassim Ku Yaacob



# Information Collection for Sustainable Pelagic Fisheries in the South China Sea

Project Coordinator:  
**Dr. Mansor Mat Isa**

**The Japanese Trust Fund II funds the implementation of this program from 2002 to 2006. The program comprises of three components;**

- Component I: Organization of meetings/workshops/trainings for effective program implementation.
- Component II: Survey of the actual status of operation and catches of the purse seine fishery and fish population structure.
- Component III: Examine the possibility of maximizing pelagic fish utilisation.

The overall aims of this program include the clarification of the actual status of operation and catches of the purse seines fishery for sustainable fisheries, to examine existence of under-exploited resources in the purse seines fishery, to clarify biological characteristics of pelagic fishes caught by purse seines and to examine maximizing utilization of catches of the purse seines fishery towards sustainable development and management of the pelagic fishery in the South China Sea area.

In the year 2003, the envisage outcome of the program were to strengthen capabilities of Technical Officers of the participating countries on data collection, handling and analysis through sampling program, workshops, meetings and training; to identify the fishing ground and examine the status of pelagic fishery in the region, to



standardise the fishing operation and catch and biological data collection and analysis of mackerels and roundscads and to conduct preliminary analysis on the maximum utilization of pelagic fish in the region.

In order to achieve the objectives, the Second Technical Consultation Meeting (2nd TCM) on Information Collection for Sustainable Pelagic Fisheries in the South China sea was held from 15-17 October in Ho Chi Minh, Vietnam, after the Technical Training on Data Handling and Analysis which was conducted on 13-14 October. The methodology and mechanism for regular data collection and analysis were discussed and finalized at the meeting. In addition, the methodology and mechanism of the activities of maximizing utilization of pelagic fish resources was also been discussed and finalized.

A team members from MFRDMD and TD were visited a number of sampling sites of Brunei Darussalam, Cambodia, Philippines, Indonesia, Malaysia, Thailand and Vietnam for technical support on data collection and a regional training in fish processing was conducted at SEAFDEC-MFRD.

Proceeding report of the 1st TCM held on 5-9 September 2002 in Bangkok was published and disseminated to all relevant agencies of participating countries.

In the year 2004, envisaged outcomes of the activities were as follows; (a) to strengthen of capabilities of Technical staff of the participating countries on data analyses and interpretation through the meetings and on-site training, (b) identification of the fishing ground and examination of the status of pelagic fisheries in the region, (c) national and regional overview of the fishing operation and catch and biological information of mackerels and roundscads and (d) implementation of pilot projects, produced manual on products development and conducting regional training course on maximizing utilization of targeted pelagic fishes.

In order to achieve the above objectives the 3rd TCM and on-site training will be conducted. The vessel tracking system programme implementing in Brunei Darussalam, Cambodia and Malaysia during 2003 will be expanded to other member countries such as Vietnam, Philippines and Indonesia. At the same time the regular data collection on fishing operation and catch, studies on population structure as well as stocks/population identification of mackerels and roundscads will be continued. The catch and biological database will be developed and introduced to all participating countries for online data input. The pilot projects on products development and manual in selected countries and regional training course will be conducted.

#### *Researchers:*

Dr. Mansor Mat Isa  
Mr. Syed Abdullah Syed Abdul Kadir  
Mr. Raja Bidin Raja Hassan  
Mr. Sallehudin Jamon



### Component I: Meetings/workshops/trainings for effective implementation the program.

The Third Technical Consultation Meeting (3rd TCM) was conducted in October 2004 to overview of the progress of data collection and analysis. The national analyses of the data collection by all participating countries will be presented by technical officers and the regional overview of fishing operation and catch and biological information of mackerels and roundscads and the update of the examination of the utilization of pelagic fishes will be presented by SEAFDEC Technical Department; MFRDMD, TD and MFRD respectively. The meeting will be also highlighted the work plan of activities in the year 2005-2006.

On-site trainings by a team from MFRDMD and TD are conducted in April-July to participating countries in order to uplifted capabilities of technical staff on data processing, handling, analysis and interpretation. Demonstrations on the installation and use of the Black Box Onboard (BBO) for vessel tracking on selected purse seines are conducted in Vietnam, Indonesia and the Philippines.

### Component II: Survey for actual status of fishing operation and catches of purse seines fishery

Project 1: TD, MFRDMD and participating countries will continue regular data collection



and analysis from 26 sampling sites in the South China Sea area.

Project 2: Biological data collection and analysis of mackerels and roundscads, responsible by MFRDMD will be also continued. This project consist of four activities: Growth and mortality of mackerels and roundscads, (b) Reproductive biology of mackerels and roundscads and (c) Identification of stock/population on selected species from selected sampling site for population structure studies and (d) Development of catch and biological database for online data input by all participating countries.

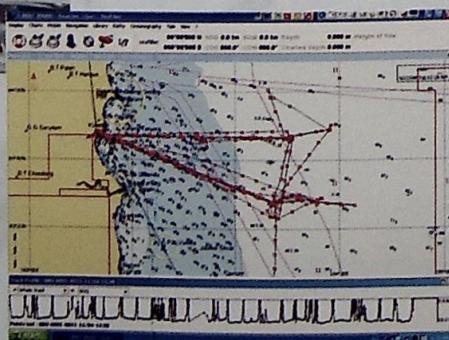
### Component III: Examination on maximizing utilization of pelagic fish resources

The project and activities below will be implemented mainly by MFRD Singapore who is a partner in the implementation of this program.

Project 3: Development of products and processing



technology for maximizing utilization; (a) Pilot project in Malaysia, Philippines and Thailand to develop value-added products from various target pelagic fish species and a manual on products development will be produced and (b) Regional training course in fish processing and packaging with emphasized on utilization of pelagic fish species for value-added products, surimi and surimi-based products.



# Management of Shark Fisheries and its Utilization in Southeast Asia

Project Coordinator: **Mr. Ahmad Ali**

**MFRDMD in collaboration with Department of Fisheries Malaysia was implemented two studies on sharks beginning in year 2003. The studies were part of a regional project that has being coordinated by the SEAFDEC Secretariat.**

## **Data and Information Collection on Shark Fisheries in the ASEAN Region**

Data collections on shark fisheries including landing, biology, taxonomy as well as trade were conducted from October 2003 until August 2004. There were six targeted sampling sites for the study in Malaysia namely Kuantan and Hutan Melintang representing Peninsular Malaysia, Bintulu and

Mukah for Sarawak and Kota Kinabalu and Sandakan for Sabah. The studies were conducted in four quarters as shown below:

1<sup>st</sup> Quarter:  
1<sup>st</sup> September -  
30<sup>th</sup> November 2003

2<sup>nd</sup> Quarter:  
1<sup>st</sup> December 2003 -  
29<sup>th</sup> February 2004

3<sup>rd</sup> Quarter:  
1<sup>st</sup> March - 31<sup>st</sup> May 2004

4<sup>th</sup> Quarter:  
1<sup>st</sup> June - 31<sup>st</sup> August 2004

All information gathered during this study will be used as a guideline for the preparation of National Plan of Action (Sharks) as well as for the management

and enhancement of sharks' resource in the future.

## **Identification of Shark Species by Observation of Denticle of Shark Fin**

The objective of this study is to identify shark species by observation of dermal denticle from wet and dried fin using compound microscope. The study were conducted by focusing on the most common 20 shark species (middle to big size) in this region especially those are commony used for dried shark fin. The fresh sharks fin were collected from market or landing port. About 1cm<sup>2</sup> skin samples were cut off from three major shark fins viz., the dorsal fin, pectoral and lower lobe of caudal fin. The picture of wet denticle were taken using camera, fix to the microscope.

All fins were sun dried for 2 hours and the picture of dried denticle was taken again. The shape of dried denticle will be used as reference to identify dried shark fin bought from markets.

This project was started in August 2003 and was completed in December 2004. The publication of shark denticle manual from sharks fin of 20 most common shark species in the region will be ready in the first quarter of 2005. This project will be continue under TFII.

### **Researchers:**

Mr. Ahmad Ali  
Mr. Solahuddin A. Razak

Graceful shark *Carcharhinus amblyrhynchoides*  
(Female) TL 90 cm, BW 5.5 kg

### **Wet denticles**



# Research for Stock Enhancement of Sea Turtles

Project Coordinator: **Mr. Zulkifli Talib**



With the successful completion of the sea turtles activities under Trust Fund 1 - "Conservation and Management of Sea Turtles in Southeast Asian Countries" have ended, MFRDMD has proposed 3 new activities under the research for stock enhancement of sea turtles under the new Trust Fund 4 (2004-2008):

## Identification of the Stock/ Population of Sea Turtles in the Southeast Asia Region and Preliminary Study on the Possibility of Cloning of Sea Turtles.

Sea turtles are highly migratory and most probably share the waters of the Southeast Asian region. Within the region, conservation in one country may be jeopardized by activities of another country. The conservation of sea turtle population in the region is crucial and proper management of these resources based on scientific evidence is highly needed to conserve and enhance these valuable species in

the future. Regional cooperation among member countries in conserving sea turtles is vital to ensure their survival. Understanding the sea turtles stock or how the stocks relate to each other is crucial for a proper regional management of these marine reptiles. Thus, molecular biological study on DNA fingerprint for the identification of the stock/ population of sea turtles from Southeast Asian countries is highly recommended. Information gathering on the possibilities of cloning of Sea Turtle from litretunes will be conducted.

## Tagging of Sea Turtles

This activity is a continuation of Trust Fund 1 Project. Under the Trust Fund 1, tagging of sea turtle was started in 2001-2003. Continuous tagging of sea turtles was needed to understand their

temporal and spatial distribution, migratory patterns and habitat utilization. For decades, the main tool used to gain further insights of sea turtles was flipper tagging and considerable ecological information could be derived from tagging studies. These include geographical range and migratory path, breeding and interesting frequencies, longevity beyond the time when first tagged, growth rates, population size etc. In many cases, a commitment to years of systematic tagging may be necessary to achieve certain objectives.

## Head-starting Techniques for Enhancing Survival of Sea Turtles Hatchlings

Rearing of sea turtles hatchling until they reach the size more able to survive predation before being released into the sea or head-start program is another method aimed at increasing the survival of sea turtles in the wild.

## Future Plan

After the Planning Meeting by Experts on the Research for Stock Enhancement of Sea Turtles that was held from 21-22 December 2004, a study on the interaction between sea turtles and fisheries will be included. The justification for this activity lies with the need to reduce the sea turtles by-catch by fishing activities. This study will be conducted by SEAFDEC-TD in collaboration with SEAFDEC-MFRDMD. Other future activities include:

- 1<sup>st</sup> Regional Technical Consultation on the Research for Stock Enhancement of Sea Turtles
- On-site training in member countries for proper methodology of sea turtle tissue sampling and tagging procedure
- Information collection on cloning and head-starting

## Researchers:

Mr. Zulkifli Talib

Mr. Rosdi Mohd. Nor



# *Closing the year 2004*

In summary, we closed the year 2004 with many achievements, in getting published the research results in turtles and sharks. Works on information gathering of inland capture fisheries and sustainable pelagic fish have proceeded well and the success is also attributed to the cooperation of participating member countries and sister departments.

This year saw three newly appointed personnel, all of which are high posts in SEAFDEC-MFRDMD namely, The Chief, Deputy Chief and Department Coordinator.

We now look forward to more achievements in the year to come.

1. Second Regional Technical Consultation on the Use of Indicators for the Sustainable Development and Management of Capture Fisheries in the ASEAN Region  
Hotel Grand Maya, Kuala Lumpur, Malaysia  
9-11 March 2004
2. The Technical Working Group Meeting on Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region  
The Legend Hotel, Kuala Lumpur, Malaysia  
7-10 November 2004
3. Third Technical Consultation Meeting on Information Collection for Sustainable Pelagic Fisheries in the South China Sea Area  
22-24 November 2004
4. The Twenty-seventh Meeting of the Program Committee of SEAFDEC  
Awana Porto Malai, Langkawi, Malaysia  
6-9 December 2005
5. The Planning Meeting by Experts on the Research for Stock Enhancement of Sea Turtles  
Concorde Hotel, Shah Alam, Malaysia  
21-22 December 2004
3. Ku Kassim, K.Y., Zulkifli T., and Ahmad, A. (editors). 2004. Report of the ASEAN-SEAFDEC Regional Technical Consultation on Management and Conservation of Sea Turtles in Southeast Asia, Kuala Lumpur, Malaysia, 16-18 September 2003.  
*SEAFDEC MFRDMD/RM/11*
4. Zulkifli, T., Ahmad, A., Ku Kassim, K.K., Mahyam, M.I., Conservation and Enhancement of Sea Turtles in The Southeast Asian Region  
*SEAFDEC MFRDMD/SP/7*
5. Ahmad, A., Abdul Haris, H., Albert, C.G. Ahmad, S., Sollahuddin, A.R., Elasmobranch Resources, Utilization, Trade and Management in Malaysia  
*SEAFDEC MFRDMD/SP/8*
6. Mansor, M.I., Raja Bidin, R.H., (Editors), Report of the Second Regional Technical Consultation Meeting on Information Collection for Sustainable Pelagic Fisheries in the South China Sea  
*SEAFDEC MFRDMD/RM/12*
7. Chee, P.E. (Editor), Indicators for Improved Fisheries Management in the ASEAN Region Proceedings of the Second Regional Technical Consultation on the Use of Indicators for the Sustainable Development and Management of Capture Fisheries in the ASEAN Region  
*SEAFDEC MFRDMD/RM/13*

## Reports & Publications

### SEAFDEC-MFRDMD List of Publication 2003-2004

1. The Catch-Effort Statistics for the South China Sea Area 1998. Kuala Terengganu: *SEAFDEC MFRDMD/ST/10*
2. Ahmad, A., Mahyam, M.I., Sollahuddin, A.R., and Jamaludin, I. A Guide to Make and Set Durable Artificial Reef Fish Aggregating Devices (ARFAD's) for Coastal Areas  
*SEAFDEC MFRDMD/SP/6*
8. Ahmad, A., Zulkifli, T., Mahyam, M.I., Solahuddin, A.R., Nor Azman, Z., A Guide to set-up and manage Sea Turtles Hatcheries in the Southeast Asean Region.  
*SEAFDEC MFRDMD/SP/9*
9. SEAFDEC-MFRDMD Highlights Year 2004  
*SEAFDEC MFRDMD/SP/10*



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