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MARINE FISHERY RESOURCES
DEVELOPMENT AND MANAGEMENT
DEPARTMENT OF SEAFDEC

KUALA TERENGGANU, MALAYSIA



SEAFDEC MFRDMD/RM/18

**REPORT OF THE THIRD
REGIONAL TECHNICAL CONSULTATION**

**ON IDENTIFICATION OF INDICATORS FOR SUSTAINABLE
DEVELOPMENT AND MANAGEMENT OF CAPTURE
FISHERIES IN THE ASEAN REGION**

**Hai Phong, Vietnam
13-14 October 2005**



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Marine Fishery Resources Development and Management Department
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REPORT OF THE THIRD REGIONAL TECHNICAL CONSULTATION ON IDENTIFICATION OF INDICATORS FOR SUSTAINABLE DEVELOPMENT AND MANAGEMENT OF CAPTURE FISHERIES IN THE ASEAN REGION

I. INTRODUCTION

1. The Third Regional Technical Consultation on Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region was organized by SEAFDEC/MFRDMD in collaboration with the ALMRV II project, and hosted by the Ministry of Fisheries, Vietnam, in Hai Phong, Vietnam from 13 to 14 October 2005. The Consultation was conducted under the framework of the ASEAN-SEAFDEC Special 5-year program on "Sustainable Fisheries for Food Security in the ASEAN Region (2002-2005)". The Consultation was held in conjunction with the ASEAN Regional Conference on Adaptive Fisheries Management: The Application of Indicators, held also in Hai Phong from 10 to 12 October 2005, where the ASEAN member countries share experiences and lessons learned in the development and application of indicators.



2. The Consultation was attended by the delegates from ASEAN-SEAFDEC Member Countries namely Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Vietnam. The Consultation was also attended by representatives from the ALMRV II project¹, IFM², UNEP/GEF/SCS³, and SEAFDEC (Secretariat, TD and MFRDMD). The list of participants appears as **Annex 1**.
3. The objectives of this Consultation are:
 - a) To present and adopt final draft of the Regional Guidelines on the Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region; and
 - b) To discuss the follow-up actions on the use of indicators in the development and management of capture fisheries in the ASEAN region.

II. OPENING OF THE MEETING

4. Mr. Raja Mohammad Noordin Raja Omar, Chief of SEAFDEC-MFRDMD welcomed all participants to the meeting. He expressed his gratitude to Dr. Vu Van Trieu for attending the meeting and to the Ministry of Fisheries, Vietnam and the ALMRV II project for collaborating with SEAFDEC-MFRDMD in organizing this meeting. He reminded the Consultation that the indicator project which had been ongoing for four years is coming to an end. As such, SEAFDEC-MFRDMD would soon table the draft regional guidelines for indicator which has been prepared by a Core Group of technical officers from countries that have implemented pilot indicator projects. His welcome address appears as **Annex 2**.



¹ The project on Assessment of Living Marine Resources in Vietnam, a component of Fisheries Sector Programme Support (FSPS) funded by DANIDA.

² International Fisheries Management, Denmark.

³ The project on "Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand" under the Global Environmental Facility of the United Nations Environmental Programme.

5. Dr. Vu Van Trieu, Acting Director of International Cooperation Department, Ministry of Fisheries, Vietnam and concurrently SEAFDEC Alternate Council Director for Vietnam, welcomed the participants to the meeting. He stressed the need for Vietnam to have modern management measures to ensure the fisheries sector is sustainable. He also highlighted the close cooperation Vietnam has been having with SEAFDEC which has been instrumental in preparing guidelines on developing indicators. Dr. Vu then declared the meeting open on behalf of the Leader of the Ministry Fisheries, Vietnam. His opening address appears as **Annex 3**.

III. ADOPTION OF THE AGENDA

6. The Agenda of the meeting, which appears as **Annex 4**, was adopted.

IV. EXPERIENCE AND LESSONS LEARNED IN DEVELOPING REGIONAL GUIDELINES

7. Mr. Rosidi Ali, the Regional Project Coordinator, outlined the progress and achievement made in the implementation of the project on Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region. He briefly presented the pilot activities implemented under the project as well as lessons learned in the development of regional guidelines. The presentation appears as **Annex 5**.

V. FINALIZATION OF THE REGIONAL GUIDELINES ON THE USE OF INDICATORS FOR SUSTAINABLE DEVELOPMENT AND MANAGEMENT OF CAPTURE FISHERIES IN THE ASEAN REGION

8. The Consultation discussed the draft regional guidelines on the use of indicators that had been developed during the Core Group Meeting held in Penang, Malaysia from 1 to 3 August 2005. Taking into consideration the outcome of the ASEAN Regional Conference on Adaptive Fisheries Management: The Application of Indicators, held also in Hai Phong from 10 to 12 October 2005 and deliberation at the Consultation, the Regional Guidelines on the Use of Indicators for Sustainable Development and Management for Capture Fisheries in the ASEAN Region (**Annex 6**) was adopted.

VI. FUTURE DIRECTIONS AND FOLLOW-UP ACTIONS

9. To promote the use of indicators in the ASEAN region, the Consultation identified and adopted the following directions and follow-up actions:
 - i. It was suggested that SEAFDEC will publish the regional guidelines on indicators possibly by the end of 2005. The "Guidelines" should be submitted for endorsement by high-level authorities of ASEAN and SEAFDEC. The Guidelines should be published together with Regional Guidelines on Fisheries Co-management Using Group User Rights, Fishery Statistics, Establishment of Fisheries Refugia for Fisheries Management;

- ii. Close linkage between indicators and fishery statistics should be further explored. Regional standard measurement of variables/data should be developed;
- iii. National consultation as a process to investigate the use of the regional guidelines on indicators in each ASEAN member country should be conducted in order to identify issues and actions for the promotion of application of indicators at the national level. SEAFDEC technical support to assist in the conduct of the above process is requested;
- iv. Efforts should be made to further strengthen the applicability of the Guidelines for Inland Fisheries. In this connection, possible collaboration between SEAFDEC and the Capture Fisheries Management Component of the DANIDA Fisheries Sector Programme Support to Vietnam could be explored;
- v. Collaboration between SEAFDEC and UNEP/GEF/SCS on the use of indicators for the establishment of fisheries refugia should also be promoted; and
- vi. Research and studies on the abundance of juveniles and identification of critically important aquatic habitats should be continued in order to investigate possible establishment of fisheries refugia using indicators.



VII. OTHER MATTERS

7.1 UNEP/GEF project on “Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand (SCS)”

10. Mr. Chris Peterson, the representative from the UNEP/GEF/SCS, made the presentation on the topic (**Annex 7**). He explained the importance to identify critically important aquatic habitats in order to establish “fisheries refugia”. “Fisheries refugia” is considered as a conservation and management tool to ensure sustainable utilization of fisheries resources. He stressed the close linkage between indicators and the establishment of fisheries refugia.

7.2 Proposal for Establishment of Status and Trend of Fisheries and Aquaculture in Southeast Asia (SEASOFIA)

11. In line with the need for comprehensive fishery information to understand status of fisheries and aquaculture in the ASEAN region as well as close linkage between fishery information and indicators, Ms. Pouchamarn Wongsanga, Information Program Coordinator, SEAFDEC Secretariat presented a proposal for establishment of “Status and Trend of Fisheries and Aquaculture in Southeast Asia (SEASOFIA)”, which appears as **Annex 8**. SEASOFIA is a publication containing comprehensive fishery information to provide a regional status of fisheries. She highlighted the possible contribution of the use of indicators in the production of this publication.
12. In the discussion, the Consultation supported the above proposal and therefore suggested that further collaboration in respective topics be promoted in the future.

VIII. ADOPTION OF PRESS STATEMENT

13. The Consultation adopted the Press Statement, which appears as **Annex 9**. The Consultation recommended that the press statement should be circulated to various information channels of the participating countries especially the national media in Vietnam in order to promote visibility of the results concluded at this Consultation.

IX. CLOSING OF THE MEETING

13. In his Closing Remarks, Mr. Raja Mohammad Noordin Raja Omar, Chief of SEAFDEC-MFRDMD thanked the Ministry of Fisheries, Vietnam for co-hosting this Consultation. He also thanked all the delegates from the participating member countries as well as representatives from UNEP/GEF/SCS, the IFM and the ALMRV II project. He expressed appreciation to Dr. Yasuhisa Kato, core group experts, resources persons and the secretariat staff for their contribution and arrangement in making this Consultation a success. He then declared the meeting closed.

Annex 1

**THIRD REGIONAL TECHNICAL CONSULTATION ON THE IDENTIFICATION
OF INDICATORS FOR THE SUSTAINABLE DEVELOPMENT AND
MANAGEMENT OF CAPTURE FISHERIES IN THE ASEAN REGION
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13-14 OCTOBER 2005**

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**THE THIRD REGIONAL TECHNICAL CONSULTATION ON THE
IDENTIFICATION OF INDICATORS FOR SUSTAINABLE DEVELOPMENT AND
MANAGEMENT OF CAPTURE FISHERIES IN THE ASEAN REGION
13-14 OCTOBER 2005, HAI PHONG, VIETNAM**

WELCOME REMARKS

Bismillahir-Rahmanir-Rahim, Assalamualaikum WBTH, Boey Siang and Good Morning

Honorable SEAFDEC Alternate Council Director for Vietnam, Dr. Vu Van Thieu

SEAFDEC Special Advisor, Dr. Yasuhisa Kato

Representative for SEAFDEC Secretariat

Special Technical Advisor to ALMRV, Dr. Karl-Johan Staehr

Distinguished participants,

Honored Guests and Observers

Ladies and Gentlemen

First of all, on behalf of SEAFDEC-MFRDMD, I would like to thank Dr. Vu Van Thieu for being here with us today. I bid you all a very warm welcome (xih chao) to the Third Regional Technical Meeting on the Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region.

Indeed it is great pleasure for SEAFDEC-MFRDMD to collaborate with the Ministry of Fisheries of Vietnam in organising this RTC in Hai Phong, Vietnam. In this way we are complying to the recommendation made in the 2nd RTC in the need to collaborate with other organization who are effortlessly promoting the use of indicators not only in this region.

I believe that many of you have already had the opportunity in attending the first part of this joint effort for the last three days and learnt the experiences our colleagues from Vietnam had in the practice of adaptive management of their fisheries.

Our Vietnamese colleagues had the benefit from their national project the ALMRV project and on our part, SEAFDEC has had its own program that started in year 2002 after the First RTC in September. The program had been going on for 3 years or so, and now we have come almost to its end. We are duty bound to deliver what has been planned and expected.

As agreed in the Second RTC in November 2004, in Kuala Lumpur, SEAFDEC-MFRDMD has been tasked to come up with a Regional Guidelines on the Identification of Indicators.

Very soon, SEAFDEC-MFRDMD will table Draft Regional Guidelines, developed by a Core Group of Technical Officers from implementing Member Countries, for your consideration and deliberation. When we have agreed, the use of these Guidelines will be promoted in the next phase of the Special 5-year Program 2006-2010. We hope that Member Countries who have not had the opportunity to start implementing their pilot projects, can continue to do so in the next 5-year.

Ladies and Gentlemen

Today's collaboration could also be a turning point in our quest on the need to achieving sustainable fisheries in the region. Whilst we are dwelling on the use of indicators, let us remind ourselves that this approach is a temporary regional initiative in the effort to gather information on the status of our fisheries. There are many challenges ahead for all member countries especially many of those that borders the South China Sea (Eastern Sea) and share the fish stocks. We may perhaps need to dwell also at one point in time in near future, to start assessing the actual fish biomass and at what level we should all harvest and mutually share. Thoughts should also be made for other areas such as the Andaman Sea, The Straits of Malacca and even also for the larger fisheries waters of some member countries.

I know there are tasks ahead are difficult and challenging, but with the ASEAN spirit of cooperation and the continuing SEAFDEC technical and financial support, I am confident that we can make our future generation and stakeholder happier.

I would like to thank many keys players in planning and implementing this program particularly to our SEAFDEC special Advisor, Dr. Yasuhisa Kato who has spear headed the program. I also wish to thanks the Regional Project Coordinator and his colleagues, you yourself and many others for realizing this meeting.

Thank you very much.

Annex 3

OPENING ADDRESS

By Dr. Vu Van Trieu, Acting Director of International Cooperation Department and Alternative Council Director for Vietnam

Distinguished Dr. Kato, the Special Advisor of SEAFDEC

Distinguished Mr. Raja Mohammad Noordin, the Chief of SEAFDEC-MFRDMD

Distinguished International Guest

Ladies and Gentlemen

On behalf of the leader of the Ministry of Fisheries, I would like to express our welcome to all representatives of SEAFDEC member countries, representatives of SEAFDEC Departments and Honorable Guest, to participate in the Third Regional Technical Consultation on the Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region which is held in Hai Phong Vietnam from 13-14 October 2005.

In order to ensure the sustainable development of the fisheries sector, it is essential for Vietnamese Government to have modern management approaches with reasonable price, quickly adaptable to the changes in production and fisheries resources and in consistence with the international and regional standard. In front of this circumstance, Vietnam in the process of introducing a new approach for management of its marine fisheries and setting up a multi-disciplinary advisory system to ensure the management of its marine fisheries is based on the best available knowledge in line with the ASEAN strategy.

During the process of survey, research and data collection for fisheries indicators serving as basic for adaptive fisheries management satisfying the changes on reality of fishing activities, Vietnam has a close coordination with SEAFDEC, the regional fisheries organization in the Southeast Asia has made its greatest effort in drafting technical guidelines on utilization of indicators for responsible fisheries management through organizing the First Regional Technical Consultation on the Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region on May 2001 and now the Third Regional Technical Consultation with a view to discuss the final draft of the regional Technical Guidelines and to adopt it.

On behalf of Leader of the Ministry of Fisheries of Vietnam, I would like to declare the opening of Third Regional Technical Consultation on the Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region.

Thank you very much.



The Third Regional Technical Consultation on the Identification of Indicators for the Sustainable Development and Management of Capture Fisheries in the ASEAN Region

REVISED PROVISIONAL AGENDA AND TIME TABLE

Time 13 October 2005 (Thursday)

0830 - 0900 Registration

0900 - 0920 **Agenda 1.** Opening of the Meeting

- Welcome address by the Chief of SEAFDEC-MFRDMD
- Opening of the Meeting by the SEAFDEC Council Director for the Socialist Republic of Vietnam

Chairman - Dr Vu Van Trieu, SEAFDEC National Coordinator for Vietnam

0920 - 0940 **Agenda 2.** Adoption of Agenda

0940 - 1030 Photo Session and Tea Break

Chairman - Mr. Raja Mohammad Noordin, Chief of SEAFDEC-MFRDMD

1030 - 1200 **Agenda 3.** Discussion and Adoption of the Final Draft of the Regional Technical Guideline on the Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region

- Experiences in developing the Final Draft of the Regional Technical Guideline on the Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region
(by Mr. Rosidi Ali, Regional Project Coordinator)
- Revision and Discussion on the Final Draft of the Regional on the Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region

1200 - 1400 Lunch break

1400 - 1600 **Agenda 3:** (Continue)

1600 Tea Break

1830 Welcome Dinner

Time 14 October 2005 (Friday)

Chairman - Dr. Y. Kato, SEAFDEC Special Advisor

0900 - 1000 **Agenda 4. The Use of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region: The Way Forward**

- Discussion on the future directions and steps in the implementation and usage of indicators for sustainable development and management of capture fisheries in the ASEAN Region

1000 - 1030 Break

1030 - 1100 **Agenda 5. Other matters**

- Proposal for Establishment of Status of Fisheries and Aquaculture in Southeast Asia - SEAFDEC/Secretariat

Chairman - Mr. Raja Mohammad Noordin, Chief of SEAFDEC-MFRDMD

1100 - 1200 **Agenda 6.** Adoption of recommendations and draft of press release/statement

1200 **Agenda 7.** Closing of the Meeting

1210 **Press Conference** (Mr. Raja Mohammad Noordin, Dr. Vu Van Trieu, Dr. Y. Kato, Mr. Rosidi Ali and Mr. Suriyan Vichitlekarn)

1230 Lunch

Time 15 October 2005 (Saturday)

0900 Trip to Cat Ba and Ha Long

Lessons and Experiences Learned in the Implementation of the Special 5-year Program of SEAFDEC:

“IDENTIFICATION OF INDICATORS FOR SUSTAINABLE DEVELOPMENT AND MANAGEMENT OF CAPTURE FISHERIES IN THE ASEAN REGION”

By

**Rosidi Ali
SEAFDEC-MFRDMD**

Introduction

Fishing is an important activity throughout the world. It has been reported that more than 100 million tonnes of fish and fishery product is produced each years by this sector. The sector contributes significantly to human welfare by providing a livelihood for about 200 million people and a source of animal protein to more than a billion of people, and also other cultural and social benefit, such as recreation.

The rapid growth in demand for fish production as being the low-cost animal protein has increased manifold for the past decade. This has substantially contributed to the vast expansion of fisheries industries around the world particularly in the Southeast Asian region. The increased fish production is currently threatening the sustainable of fisheries and well being of the environment. Recent phenomena such as the depletion of the resources in major fisheries areas, have risen concern about the sustainable development of this sector. It has been realized that managing of fisheries for sustainable development requires multi-dimensional and multi-level activity, which must deal with a wider range of considerations. It requires information, and hence indicators, on dimensions well beyond fish stock and fishing activity. The quality of indicators and information should be such as to help communication and coordination of actions of all those having a stake in the fisheries.

As one of the major contributors to the world fish production, the sustainability of the fishery sector in the Southeast Asian region could contribute to the sustainability of global fishery sector. Intension to introduce indicators as a management tool for sustainable development and management of capture fisheries in this region was discussed in the Regional Technical Consultation on Indicators for Sustainable Fisheries Management in ASEAN region held in Hai Phong, Vietnam in May 2001. This has been strengthened by the Resolution and Plan of Action on Sustainable Fisheries for Food Security for ASEAN region which was adopted at the Millennium Conference held in November 2001. The conference acknowledged the use of indicators as one of the means to achieve the goals of the sustainable capture fisheries for food security in the region and the need to formulate a guideline (Anon¹, n.d.)

Following to the Resolution and Plan of Action on Sustainable Fisheries for Food Security for ASEAN region, the National Coordinator Meeting held in Bangkok, Thailand in June 2002, has endorsed the use of sustainability indicators as a tool to monitor and control the development of fisheries in ASEAN. These indicators would be developed and used by relevant national management authorities.

In order to stimulate this, the project on “Identification of Indicators for Sustainable Development of Capture Fisheries in ASEAN region” has been formulated under the Special 5-Year Programme of SEAFDEC. Recommendations adopted in the Regional Technical Consultation on Indicators for Sustainable Fisheries Management in ASEAN region held in Hai Phong, has been taken as a guide in drafting the proposal of the project, such as the need to develop indicators on the basis of specific fisheries in specific area. The indicators are only one of the many management tools available and are not a mechanism to replace or supersede the entire national fisheries management program (Anon², 2001). The Technical Guidelines develop by FAO has also been taken as the main references for the proposal. One of the important considerations highlighted is to select geographical “units” for which indicators will be reported, and to some extent it may be useful to have indicators at finer scales, (e.g. individual fishery or sub-national region (Anon³, 1999).

This regional project is organized with the main objective to support and improve fisheries management through the use of a range of suitable indicators and a more “bottom-up” approach. SEAFDEC/MFRDMD has been appointed as the Responsible Department to coordinate this regional project. The main output expected from the project is the formulation of the “Regional Guideline on the Use of Indicators for Sustainable Development and Management of Capture Fisheries in ASEAN Region. This paper reviews the steps that had been taken in implementing the project with special focus on the process in formulation of the guidelines.

Definition of Indicator

Indicator is defined as:-

“A performance-based variable, measure or index that provides information on the condition and status of fisheries and fisheries resources” (Anon⁴, 2003)

Indicator is a performance-based variable, measure or index that quantify, summarize and simplify information on complex issues. It provides information on the condition and status of fisheries and fisheries resources, which can support the decision making process.

Indicators are variety and can be categorized into three groups namely, resources, fleet, and social and economy. In order to achieve sustainable development and management of capture fisheries, suitable indicators must be developed and used appropriately. Thus it requires proper guidelines in developing and using indicators.

Implementation of the Project

The project on Identification of Indicators for Sustainable Development and Management of Capture Fisheries in ASEAN region, has been designed with the following objectives:

1. To introduce the use of indicators for fisheries development and management of capture fisheries.
2. To prepare regional guideline on the use of indicators for fisheries development and management for capture fisheries in the ASEAN region.
3. To conduct related research on the use of indicators for improved fisheries management.

The implementation of the project comprises two main activities i.e. consultations and meetings, and the implementation of pilot projects (Figure 1).

Two Regional Consultations have been held to discuss, finalize and monitor the implementation of the project (Chee, 2003 and 2004). The First Regional Technical Consultation (RTC) was organized from 16-18 September 2002 with the objectives outlined below to support fisheries management through the use of a range of suitable indicators,

1. To present and discuss the proposal for the introduction of the use of indicators in the ASEAN region.
2. To identify and test simple and practical indicators as management tools that can be used in ASEAN Member Countries through pilot projects in interested countries.
3. To identify suitable sites for the implementation of pilot projects.

At this RTC five pilot projects were accepted for implementation in SEAFDEC Member countries i.e. Brunei Darussalam, Indonesia, Malaysia, the Philippines and Vietnam. However, Vietnam decided not to implement the pilot project, and later been replaced by Thailand. Malaysia has been appointed as the lead country of the project.

Brunei Darussalam is studying the use of indicators for the management of the trawl fishery beginning September 2003. Indonesia initiated a study on a traditional demersal fishery in Pekalongan, Central Java, beginning July 2003. The Philippines started the project on the ringnet fishery operating from Danao City, Cebu, in December 2002. Malaysia started a pilot project in early 2003, focusing on the trawl fishery (covering vessels of <40 GRT) in the States of Kedah and Perlis on the north-west coast of Peninsular Malaysia. Thailand started a pilot study on the trawl fishery in Pran Buri, Prachuab Khiri Khan District in 2003. The implementation of these pilot projects have been monitored and supervised by SEAFDEC-MFRDMD through a series of technical visits, the second RTC held in March 2004, the Technical Working Group Meeting (TWGM) held in November 2004 and finally the Core Group Meeting (CGM) held in August 2005.

Stakeholders involvement in identification of indicators and collecting data have been given emphasize. All the pilot projects are implemented successfully and have completed of first phase. Other countries that are in consideration to conduct the pilot projects are Cambodia and Myanmar.

Figure 1: The implementation of activities of the project on the Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN region

Bil	Activities	2002			2003			2004			2005		
1	Planning	■	■	■									
2	1 st RTC (6 -18/9/2002)			■									
3	Pilot Projects				■	■	■	■	■	■	■	■	■
4.	2 nd RTC (9-11/3/2004)							■	■	■			
5.	TWGM (8-9/11/2004)										■	■	■
6.	Drafting Guidelines										■	■	■
7.	Core Group Meeting (1-3/8/2005)												■
8.	Regional Conference (10-12/10/2005)												■
8.	3 rd RTC (13-14/10/2005)												■
9.	Publication Guidelines												■

Formulation of the Regional Guidelines

Formulation of the Regional Guidelines on the Use of Indicators for Sustainable of Capture Fisheries in the ASEAN region, is the main out expected from this project. This is inline with the Plan of Action, in its item 6 under the Fisheries Management section, states the need to:

“Formulate guideline to promote the use of practical and simple indicators for multi-species fisheries as a substitute for classical fisheries management models within the national fisheries management framework, with particular regard to facilitating timely local level fisheries management decisions”

The Guidelines is drafted base mainly on the experiences and outcomes from the pilot projects. The purpose of the Guidelines is to promote the use of indicators in interpreting and understanding the status and the trends of the capture fisheries in order to support fisheries management in the Southeast Asian region. The formulation of the Guidelines involved two main steps:

- i. Establishing the framework
- ii. Drafting and finalizing the guidelines

Three tentative frameworks were initially discussed and proposed in the second RTC in March 2005. The frameworks were then been summarized and made up into a single framework in the Technical Working Group Meeting (TWGM), held in Kuala Lumpur, Malaysia in October 2004 and was adopted (Rosidi et. al, 2005¹). The adopted framework is as shown in Appendix 1.

The technical officers of the pilot project have been nominated as a member of the Core Group, and each of them has been assigned to draft the guidelines according to the adopted framework. The input of the guideline should mainly base on their experience and knowledge in conducting the pilot projects. The inputs from the members of the Core Group have been summarized and made of the final draft of the Regional Guidelines in the Core Group Meeting held in Penang, Malaysia in August 2005 (Rosidi et. al. 2005²). The final draft of the Guidelines will be presented and discussed in the third RTC in October 2005. Recommendations of the Regional Conference on Adaptive Management - the application of Indicators, held in Hai Phong on the 10th to 12th October 2005, will be integrated into the guidelines prior adoption in the RTC.

Lessons and Experiences Learned

The use of indicators as emphasize in this project is a new approach in the fishery management in this region. The implementation of the project has given a good introduction to this new approach and also has enhanced our knowledge, skill and experience and also confidence in realizing it in this region. Among the observations seen in the implementation of this projects are:-

1. The use of indicators is not new in this region. It has been used in deferent terms with improper approaches. Thus, further improvements on approaches are necessity.
2. The participations of stakeholders need to be strengthened, as the concept is more toward bottom-up approach and sustainable indicators play an important role as a medium of communication means among the stakeholders.
3. Numbers of indicators are required to reflect the actual situation of the fishery's system understudied.
4. The need for proper training has also been highlighted by the pilot project implementers. This should be given higher consideration in the next phase. Experts in this region, especially the implementers of pilot projects will be mobilized to produce better training module and inputs.
5. There is need for member countries to give higher priority to implement this concept, followed by good financial support have been recognized as the major contributing factor to the success of implementing the concept in this region.
6. There is a need for continuous promotion on use of this concept in this region to ensure a good understanding and awareness among the stakeholders.

Conclusion

Although the development of the Regional Guideline is the main out put of this phase of the project, it is not the end of the story. The member countries should further adopt and implement the use indicators in the national management framework. As this Guidelines has been produced based on pilot scale, implementation at larger scale is required to verify it. SEAFDEC as the regional body for the development and management of fisheries in this region would continuously monitor, coordinate and supervise the implementation of this concept in the region.

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Appendix 1 for Annex 5

RECOMMENDATIONS OF THE TECHNICAL WORKING GROUP MEETING, 8-9 November 2004

The Meeting agreed on the recommended framework for the guidelines as shown below:

1. Executive summary (to be prepared by MFRDMD)
2. Introduction (to be prepared by MFRDMD) Regional guidelines for fisheries management already used but this one for practical use of indicators
3. Definition of indicator (include categories of indicators)
4. How to develop indicators
 - 4.1 Objectives and targets
 - 4.2 Data collection (to include standardization), analysis and interpretation
 - 4.3 Examples of indicators (including methodology for pelagic, demersal and inland fisheries)
5. Use of indicators (in planning, communication, monitoring & evaluation)
 - 5.1 Monitoring and review of management performance
6. Stakeholder consultation & participation
7. Development of national system to use indicators (include linkage between data for indicators and national statistical system)
8. Follow-up actions (to promote use of guidelines and to include HRD and capacity building)
9. Annex to include
 - Glossary
 - Definition of stakeholders

ADOPTED

THE REGIONAL GUIDELINES ON THE USE OF INDICATORS FOR THE SUSTAINABLE DEVELOPMENT AND MANAGEMENT OF CAPTURE FISHERIES IN ASEAN REGION

Executive Summary

- 1.0 The Regional Guidelines on the Use of Indicators for the Sustainable Development and Management of Capture Fisheries in the ASEAN Region is developed to assist ASEAN member countries in the implementation of the Code of Conduct for Responsible Fisheries (CCRF) as well as the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region with the emphasis on the use of indicators.
- 2.0 The Guidelines is an elaboration of the Regional Guidelines for Responsible Fisheries Management in Southeast Asia with emphasis on item 7.4.2 *ADD.1* (indicators), which was prepared mainly based on experiences of the ASEAN member countries.
- 3.0 This Guidelines elaborates the following main topics:-
 - 3.1 *Regional Common Understanding of Indicators* - this section explains how “indicators” is perceived in the ASEAN regional context - not a new definition of the terminology. The explanation also includes close linkage with fisheries policy and management.
 - 3.2 *Importance and Roles of in the Use of Indicators* - this section outlines the roles of stakeholders in the development and use of indicators as well as how the consultation and participation of stakeholders should be promoted.
 - 3.3 *Development of Indicators* - this section provides basic elements, criteria and development cycle of indicators as well as interrelationship of respective components.
 - 3.4 *Use of Indicators* - this section elaborates on the issues and consideration that need to be taken into account when using indicators.
 - 3.5 *Development of National System to Use Indicators* - this section outlines basic elements of a national system for using indicators, system development process, and linkage between indicators and supporting data and fishery statistics.
 - 3.6 *Follow-up Actions* - this section suggests actions to be taken by the ASEAN member countries and organizations such as SEAFDEC for future development and promotion of indicators in the ASEAN region.
 - 3.7 *Glossary of Terms* – this section provides definitions of important terminologies cited in the Regional Guidelines to facilitate the readers for their better understanding of the issues.

- 4.0 This Guidelines is supplemented by selected experiences from the ASEAN member countries, which are given in the Appendixes. This is to clarify potential application of the Guidelines in respective localities.

I. INTRODUCTION

Background

1. In the Code of Conduct for Responsible Fisheries (CCRF) and its overall objectives for sustainable development of fisheries, the need for the use of indicators to determine how well these objectives are being pursued and whether the broader goals of sustainable development are being achieved is stressed.
2. In line with the CCRF, the ‘Plan of Action’ adopted at the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security in the New Millennium: “Fish for the People”, organized from 19 to 24 November 2001 in Bangkok, Thailand, emphasizes the importance of the use of indicators to support fisheries management in the ASEAN region. As a basis for formulation of guidelines, the Plan of Action, in its item 6 under the Fisheries Management section, states the need to:

“Formulate guidelines to promote the use of practical and simple indicators for multi-species fisheries as a substitute for classical fisheries management models within the national fisheries management framework, with particular regard to facilitating timely local level fisheries management decisions.”

3. The Plan of Action is also supported by the “Regional Guidelines for Responsible Fisheries in Southeast Asia: Responsible Fisheries Management”, which indicates that the use of practical and simple indicators should be promoted to augment classical fisheries management models within the national management framework, with particular regards to facilitating timely local level fisheries management decision. Thus it is encouraged the ASEAN member countries should:
 - Use indicators in support of management tools to achieve sustainable fisheries in the region;
 - Formulate appropriate guidelines for the use of indicators as an effective fisheries management decision-making tool within the national fisheries management framework; and
 - Incorporate appropriate mechanisms for collecting data and information supporting indicators in routine (national fishery statistical system) and non-routine (research) exercises.

Linkages between Indicators and Fisheries Management

4. Considering the nature of fisheries in the region, which is mainly characterized as tropical small-scale multi-species/multi-gear fisheries, the use of indicators for fisheries management in an adaptive manner is seen to be more practical, and easily understood and supported by the stakeholders.
5. Adaptive management is a paradigm shift from predictive approach to adaptive approach. Under a broad co-management concept, adaptive management is an approach where fishery managers

react on suit of indicators to undertake assessment of fisheries, resources and eco-system instead of classical stock assessment (e.g. MSY and MEY), incorporating views and knowledge of interested parties in decision-making process using best available information. Adaptive management is by itself a process to achieve management objectives and also a learning process among interested stakeholders about fisheries or system being managed in order to adapt policies and management framework to be more responsive to future conditions. The backbone of a good adaptive fisheries management system lies on a good data and information system.

Preparation and Usage of the Guidelines

6. This Guidelines was developed mainly based on the experiences gained from the ASEAN member countries. The experiences include the implementation of pilot projects which were started in 2003 initially in Brunei Darussalam, Indonesia, Malaysia, the Philippines and Thailand and completed in 2005. This Guidelines is supplemented by selected experiences from the ASEAN member countries, which are given in the Appendixes in order to clarify potential application of the Guidelines in respective localities.
7. The main objective of the Guidelines is to provide 'inspiration', regional reference or checklist for the ASEAN member countries that are interested in applying indicators for sustainable development and management of fisheries both in inland and marine waters. The Guidelines is not meant to be "implementation guidelines" that are directly applicable to any particular country. The Guidelines is generic in context rather than focusing on specific national situations. It is therefore suggested that the actual application of the Guidelines would require appropriate adjustment or modification, including the terminology used in the guideline so as to fit the national or local specifics on geo-political, social, economic and legal situations.

II. REGIONAL COMMON UNDERSTANDING ON INDICATORS

8. While noting that definitions can be varied, 'fisheries indicators' is generally referred as a practical tool to support management of fisheries. 'Indicators' provides information on status and trend of fisheries and resources, which can support the decision making process. There is a close link between policy objectives and the selected indicators in achieving sustainable development goals. Thus indicators used may include resource/ecological, social and economic indicators to support the management decisions.

III. IMPORTANCE AND ROLES OF STAKEHOLDERS IN THE USE OF INDICATORS

9. Wider and genuine participation of all interested stakeholders is essential for enhancing their understanding, transparency, and accountability on the application and improvement of indicators in response to the management requirements. Consultation and involvement of stakeholders should be enhanced to ensure availability of supporting data. This will in return promote better compliance to management measures by the stakeholders particularly fishers.
10. During the planning stage, consultations with the stakeholders are crucial before the establishment of appropriate indicators. Initial consultations are important steps to introduce the concept of indicators in management, to discuss related issues, to identify the potential indicators and agreement in providing data/information. The subsequent consultations are to present the potential

indicators with the latest information, select the appropriate indicators, monitor and evaluate the indicators used, and make appropriate adjustments to the development and use of indicators.

IV. DEVELOPMENT OF INDICATORS

Indicators and Supporting Data and Information

11. For sustainable use purposes, indicators should not be developed in isolation but rather be integrated as part of a broader fishery data and information system, which is supported by registration/records, fishery statistics through census and surveys, and ad-hoc/specific data and information collection or research. These data and information will provide a basis to support indicators. This linkage should be made explicit to maximize the use of fishery data and information to development and management of fisheries. The use of indicators does not only enhance understanding and encourage local authorities to collect supporting data for the local usage but it also contributes greatly to improve the quality of fishery statistics aggregated at the national level.
12. Development of indicators should utilize existing available data and where possible additional required data should be identified and obtained. Selection of indicators must be based on broader perspective, and policy relevant indicators are selected based on data requirements bearing in mind the possible importance of data that is not available. In this process, special attention should also be given to social, economic and ecological indicators.
13. Appropriate and sufficient coverage of sampled data needs to be carefully determined and collected to ensure high quality of data and indicators. The data collection for indicators should be flexible and robust to accommodate a potential change in management instruments and subsequently generate time series for “new indicators” taking into consideration the cost-benefit ratio. Level of aggregation of data supporting indicators should be determined at national and local levels considering the complexity and needs for decision-making process.

Development Process for Indicators

14. The development process for indicators is an evolving on-going learning process. The starting point of this process largely depends on specific situation. The following are suggested key steps in the development process for the use of indicators¹ through stakeholder consultation process.
 - *Defining the system scope* - refers to a system to be covered. A system can be a particular fishery or a geographical area.
 - *Developing a system framework* - refers to components within the defined system.
 - *Specifying criteria, objectives and potential indicators* - refers to criteria, management objectives, and potential indicators that can be used to support the management. This may also include means of verification and sources/suppliers of supporting data.
 - *Choosing a set of indicators* - refers to a suit of practical indicators that are perceived appropriate in response to the management requirements.

¹ Refers to the cycle diagram for development of indicators to page 32.

15. In defining the scope, the system to be covered should be manageable and focused on the sustainable development and management of fisheries. The areas of consideration are:
 - Human activities (Stakeholders) - refers to resource utilization either focusing only on fishing activities or including other activities related to fisheries or other users of the area.
 - Issues of focus - refers to major issues of concern in the defined system such as excess capacity, overfishing, compliance, endangered aquatic species, critical habitats, interaction between fisheries and other aquatic resource use.
 - Geographical boundaries - refers to the boundary of the defined system. This can be all fisheries in a geographical area or a specific sub-sector (commercial, artisanal/traditional) or a specific fishery.
 - Contribution of fisheries - refers to the role and contribution of fisheries in the sector or in a broader development objective.
16. Within the defined system, components or elements of the system should be identified. Components or elements may include fisheries sub-sectors or fishing activities (boats, gear, and fishers) in the system. The identified components or elements will then clarify criteria, objectives for the use of indicators, a set of potential indicators and appropriate reference points. It should be noted that under the adaptive fisheries management approach, reference points may not be required as a long-term target. Reference points can however be temporary and used to facilitate monitoring of the progress of the management process.
17. In line with the defined system and identified components, the criteria for selecting indicators includes:
 - Resource and Ecological - e.g. landing volume, juvenile of commercial species, and important aquatic habitats
 - Fishing efforts - e.g. fishing boats, fishing gear, and fishers
 - Social - e.g. employment, education, and literacy
 - Economic - e.g. income, landing values, and fish price
18. A number of objectives should be developed for each criterion. The objective should be directly related to sustainable development and management e.g. under *Resource and Ecological*, one of the objectives is to sustain biodiversity; under *Fishing efforts* is to increase compliance, under *Social* is to increase employment and livelihood level, and under *Economic* is to increase/improve income.
19. Subsequently, potential indicators should be determined for each objective. It should be noted that the usefulness of specific indicators differs between fisheries and geographical areas. Usefulness of selected indicators should be verified through appropriate application to the fisheries. Selection of potential indicators should take into account the following:
 - Availability of time series data
 - Understandability and acceptability
 - Cost-effectiveness
 - Practicability/feasibility
 - Scientific validation
 - Ability to communicate information to stakeholders

V. USE OF INDICATORS

20. The indicators should be simple, easily understood and scientifically valid to act as a communication tool among stakeholders. For effective implementation of fisheries management, indicators could be used in all the management process - planning, communication, monitoring and evaluation in fisheries management. In planning stage, indicators should be used in setting directions for developing management plan and action.
21. Efforts should be made to interpret indicators in such a way to create understanding among concerned stakeholders particularly policy makers, managers and resource users. Indicators could also be used as a tool in monitoring the effectiveness of management action and policies.
22. Use of indicators should be regularly evaluated at appropriate time intervals as part of management process to ensure their relevance to management objectives.

VI. DEVELOPMENT OF NATIONAL SYSTEM TO USE INDICATOR

23. A national system for the use indicators depends on the following components, *inter alia*, registration and records, fishery statistics, research and studies, enforcement activities, and stakeholder consultations.
24. Gathering of data and information should be strengthened. The relevant authority should review and evaluate the current fishery statistical system in order to identify constraints. Mechanisms to improve the system such as standard measurement and definition of variables/data should be developed to ensure national/regional compatibility of data for timeliness, reliability and availability of the information. Data for indicator that cannot be collected by the regular statistical system and routine data sampling such as biological, ecological and social and economic should be collected under non-routine data collection.
25. The relevant authority should establish a mechanism to include application of indicators in fisheries management as well as development of synthesis in various criteria of indicators - resource and ecological, fishing efforts, social and economic. The mechanism can be in the form of a fisheries specialist group², which has proven to be useful for condensing indicator information into recommendations to policy, decision makers and managers. This mechanism will in return enhance overall improvement of quality and usage of indicators. Working methods and structure of the fisheries specialist group are important to ensure efficient and effective performance and high quality of the assessment reports³. Based on the assessment reports, the fisheries specialist group could provide regular advice on the use of indicators in management of the fisheries.
26. As most countries in the ASEAN region, in one way or another has started the use of indicators in fisheries management, at least at the pilot project level, there is a need to mainstream the application of indicators at the national level so as to ensure comparable results. Efforts should be made to develop new indicators in response to the evolving management requirements.

² An example to this mechanism is the Marine Fisheries Specialist Team (MFST) in the case of Vietnam.

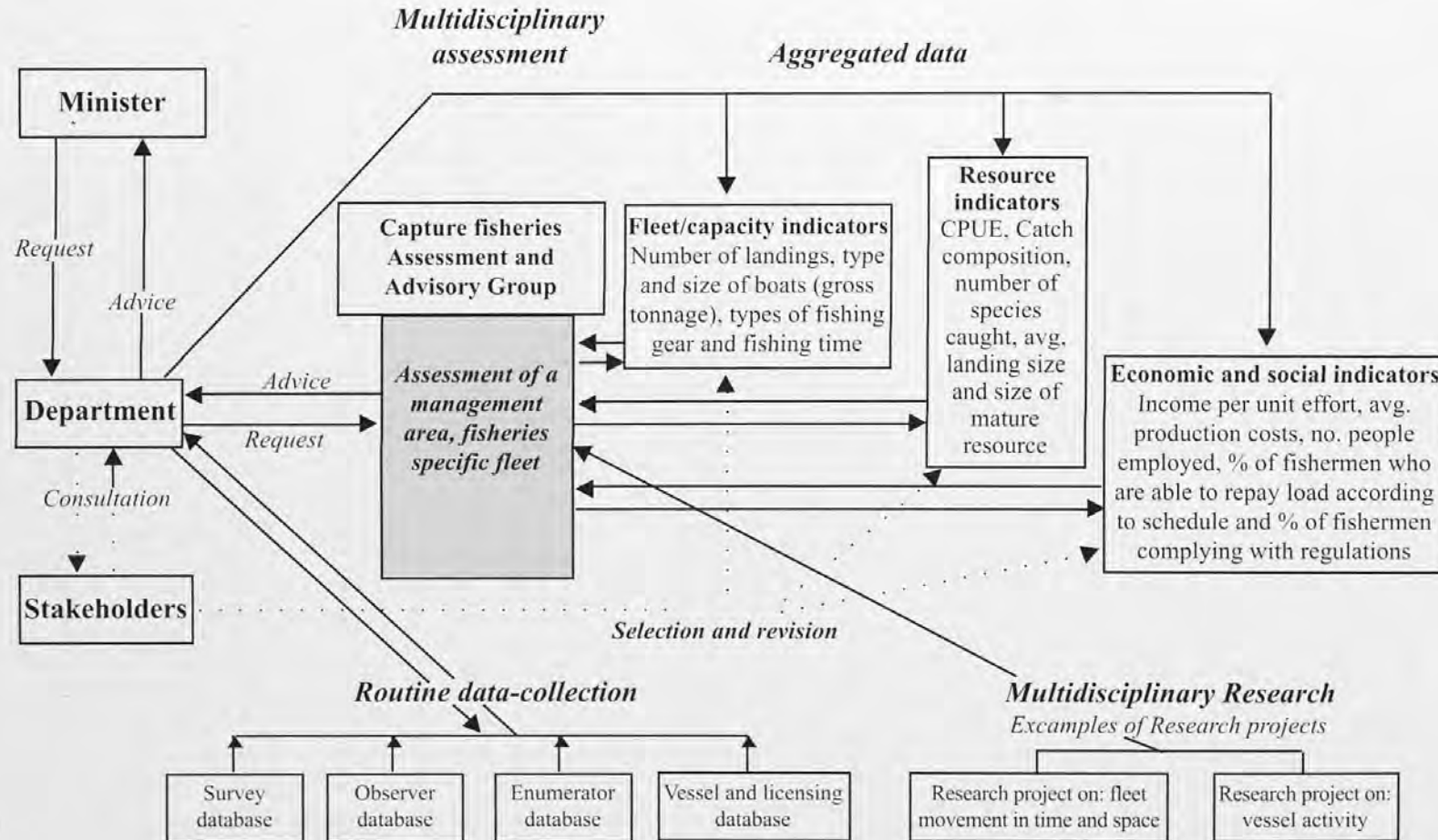
³ Composed of the following sections - introduction, fleet synthesis, resource and eco-system synthesis, catch assessment, conclusion, and recommendations.

27. National capacity building programs should be developed to support the various steps in the application of indicators.

VII. FOLLOW-UP ACTIONS TO PROMOTE THE USE OF INDICATORS

28. It is strongly recommended that practical implementation of 'indicators' should be further promoted to support fisheries management in the ASEAN region. Appropriate steps to incorporate the application of indicators into the national management framework should be identified and conducted including familiarization on the use of indicators for fisheries management to the stakeholders.
29. Along this line, further exchange of experience and expertise in the application of indicators among countries in the region should be promoted. International/regional organizations including SEAFDEC should provide further technical support in the application of indicators as well as promote sharing of experience and raise up the issue to high-level authority to demonstrate the applicability and benefits to improve management of fisheries towards sustainable development concepts. This includes promotion on the implementation of this Guidelines and development of capacity building.

Cycle diagram for development and applying indicators in capture fisheries management in SEAFDEC pilot projects





**REVERSING ENVIRONMENTAL
DEGRADATION TRENDS IN THE SOUTH
CHINA SEA
AND GULF OF THAILAND**

A System of Fisheries *Refugia* for the Gulf of Thailand

WWW.UNEPSCS.ORG



The Regional Working Group for the Fisheries Component (RWG-F) is:

- Developing criteria to determine the national, sub-regional and transboundary significance of spawning and nursery areas; and
- Applying these criteria to determine priorities for management action within the Gulf of Thailand.

It is aimed that these activities will enable the establishment of a system of *refugia* to maintain important transboundary fish stocks in the Gulf of Thailand. These *refugia* will be based on areas identified as critical habitats for fish stock conservation and protection.



What are Fisheries *Refugia*?

“Spatially and geographically defined, marine or coastal area in which specific management measures are applied to sustain important species [fisheries resources] during critical stages of their lifecycle, for their sustainable use.”



Explanatory Notes

- Should not be a “no take zone”.
- Have the objective of sustainable use for the benefit of present and future generations.
- Some areas within a *refugia* might be permanently closed due to their critical importance [essential contribution] to the life cycle of a species or group of species.
- Critical areas of importance in the life cycle include spawning, and nursery grounds, or areas of habitat required for the maintenance of broodstock.
- Refugia* will have different characteristics according to their purpose and the species or species groups for which they are established and within which different management measures will apply.
- Refugia* may be sub-divided reflecting the differing importance of sub-areas to the species or species group. A management plan for the *refugia* will reflect different measures for the subdivisions.



Determining the Effectiveness of Fisheries *Refugia*

What **indicators** could be used to determine the effectiveness of fisheries *refugia*?

Examples

- Density of pelagic species eggs/larvae in the area of “spawning” *refugia* at the time of spawning
- Mean length at first maturity of a given species



Regional Guidelines on the Use of Indicators

Is there potential for inclusion of guidance regarding the use of indicators in evaluating the effectiveness of spatial approaches to fisheries management, such as fisheries *refugia*?

“States should identify indicators to evaluate the effectiveness of spatial approaches to fisheries management, such as the fisheries *refugia* being developed as part of the UNEP/GEF South China Sea Project, in sustaining important species [fisheries resources] during critical stages of their lifecycle, for their sustainable use.”

Status of Fisheries and Aquaculture in Southeast Asia (SEASOFIA)

Presented at the 3rd RTC on Indicators
Southeast Asian Fisheries Development Center
Hal Phong, Vietnam
13-14 October 2005



OUTLINE

- Background and Rationale
- Concept
- Overall Objectives
- Scope and Framework
- Possible Potential Inputs/Linkage of Indicators
- Suggestion and comment by the RTC

BACKGROUND AND RATIONALE (1)

- A need for a better medium to provide better understanding of the fishery in the region which will give information on the status and trends of fisheries to facilitate sound policy-making and responsible fisheries management
 - Essential for assessing the validity of fishery policy; and
 - Tracking the performance of fisheries management

BACKGROUND AND RATIONALE (2)

- ASEAN-SEAFDEC Millennium Conference, in 2001 with the Adoption of the Resolution and Plan of Action
- Follow-up Actions in Series of RTCs and Meetings
 - RTC on Fishery Statistics, June 2003
 - ASEAN-SEAFDEC RTC on Fishery Statistics, June 2004
 - Recommended at the 27th SEAFDEC Program Committee Meeting, 2004
 - Directed by SEAFDEC Council at the 37th Meeting, 2005
 - In line with the development of the new framework of SEAFDEC Fishery Statistical Bulletin
- SEASOFIA was identified as a Regional Collaborative Program

CONCEPT

- A publication from a concerted agreement among the Member Countries in the region to strengthen fisheries information
 - To provide better understanding and knowledge of fisheries industries in particular fisheries information on status and trends of fisheries and aquaculture; and outlook in Southeast Asia, derived from multiple data and information sources
 - Use for development planning and management of fisheries sectors applying tools/database and presentation in a user's friendly manner

OBJECTIVES (1)

- Facilitate intra-regional exchange of information and the required analysis for the fisheries related issues in Southeast Asia that can be used as basis for individual country for regional cooperation/collaboration
 - Better understanding of fishery from statistics and other sources of information such as research, regional studies, and experts in the region

OBJECTIVES (2)

- Tool reflecting regional requirement, interest and usage to tell the policy-makers and managers of directing fisheries policy
- Show the regional initiatives which needs to be monitored
- Monitor the interest and needs of the country and how would SEAFDEC support the country

SCOPE/Framework (1)

- Implementing Agency:
 - SEAFDEC/Secretariat in collaboration with AQD, MFRD, MFRDMD and TD
- Geographical Coverage:
 - ASEAN Member Countries (Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam)
- Target readers:
 - Policy-makers, immediate advisor, development planners and managers, researchers, academicians, students, and donors

SCOPE/Framework (2)

- ISSUES
 - Production Trends, Status and Outlook
 - Regional synthesis on fisheries production trends, status and outlook
 - Resources, sector performance, market and trade, contribution to economy
 - Regional Priority Issues
 - Implementation the ASEAN Roadmap and Resolution and Plan of Action
 - In-depth studies from regional programs implemented by SEAFDEC
 - Studies conducted by member countries

POSSIBLE LINKAGE WITH INDICATORS

- Possible Potential Inputs/Linkages
 - Information on status and trends of fisheries – obtained through routine data collection (fishery statistics) and non-routine data collection (research)
 - Fisheries indicators is recognized as a tool to support fisheries management that provides information on status and trends of fisheries resources, which can support decision-making process
 - Effort should be made to analyze data and interpret indicators in such a way to create understanding of policy-makers, managers, resource users

SUGGESTED RTC TO CONSIDER

- Suggestion to improve the concept, scope and framework of SEASOFIA



The Third Regional Technical Consultation on Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN Region Hai Phong, Vietnam 13-14 October 2005

PRESS STATEMENT

1. The Third Regional Technical Consultation on Identification of Indicators for Sustainable Development and Management of Capture Fisheries in the ASEAN region was organized by SEAFDEC/MFRDMD¹ and hosted by the Ministry of Fisheries, Vietnam in Hai Phong, Vietnam from 13 to 14 October 2005. The Consultation was conducted under the framework of the ASEAN-SEAFDEC Special 5-year program on “Sustainable Fisheries for Food Security in the ASEAN Region (2002-2005)”. The Consultation was held in conjunction with the ASEAN Regional Conference on Adaptive Fisheries Management: The Application of Indicators, held also in Hai Phong from 10 to 12 October 2005, where the ASEAN member countries share experiences and lessons learned in the development and application of indicators.
2. The Consultation was attended by the delegates from ASEAN-SEAFDEC Member Countries namely Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Vietnam. The Consultation was also attended by representatives from the ALMRV II project², UNEP/GEF/SCS³, and SEAFDEC (Secretariat⁴, TD⁵ and MFRDMD).
3. Considering the diversity and uniqueness of fisheries in the ASEAN region, the Consultation stressed on the importance of and the need for improvement of fisheries management by applying “indicators” as a tool to support the management in an adaptive manner. “Indicators” provides information on status and trend of fisheries and resources, which can support the decision making process in planning, development and management of fisheries to achieve sustainable development of fisheries.
4. The Consultation finalized the *Regional Guidelines on the Use of Indicators for the Sustainable Development and Management of Capture Fisheries in the ASEAN region*. Based on various experiences and lessons learned in the region, the ‘Guidelines’ was developed to assist the ASEAN member countries to apply indicators for sustainable development and management of capture fisheries both in marine and inland waters.

¹ Marine Fishery Resources Development and Management Department of the Southeast Asian Fisheries Development Center. SEAFDEC is a regional inter-governmental body established in 1967 to promote sustainable fisheries in Southeast Asia. MFRDMD is a department of SEAFDEC located at Kuala Terengganu, Malaysia.

² The project on Assessment of Living Marine Resources in Vietnam, a component of Fisheries Sector Programme Support (FSPS) funded by DANIDA

³ The project on “Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand” under the Global Environmental Facility of the United Nations Environmental Programme.

⁴ The SEAFDEC coordinating body located in Bangkok, Thailand.

⁵ A SEAFDEC department located in Samut Prakan, Thailand.

5. The Consultation recommended that practical implementation of ‘indicators’ should be further promoted to support fisheries management in the ASEAN region. Appropriate steps to incorporate the application of indicators into the national management framework should be identified and conducted including familiarization on the use of indicators for fisheries management to the stakeholders. The Consultation also identified areas and issues for future development and promotion of the application of indicators in the ASEAN region, which include, among others:
- Publishing the regional guidelines on indicators by December 2005 for the promotion on the use of indicators in the region;
 - Conduct of national consultation as a process to familiarize the concept of indicators for management and explore the use of the regional guidelines on indicators in each ASEAN member country to identify issues and actions for the promotion of application of indicators at the national level; and
 - Strengthening collaboration among SEAFDEC and other organizations/projects including the Capture Fisheries Management Component of the DANIDA Fisheries Sector Programme Support to Vietnam and UNEP/GEF/SCS.

The ‘Guidelines’ and regional cooperation on the use of indicators are envisaged to greatly contribute to improved management for sustainable development of fisheries and better livelihoods of fishers in the ASEAN region.

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