



REPORT OF REGIONAL CORE EXPERT GROUP MEETING ON RESEARCH FOR STOCK ENHANCEMENT OF SEA TURTLES (JAPANESE TRUST FUND IV PROGRAM)

**Kuala Terengganu, Malaysia
20-21 October 2009**





THE REGIONAL CORE EXPERT MEETING ON RESEARCH FOR STOCK ENHANCEMENT OF SEA TURTLES

(JAPANESE TRUST FUND IV PROGRAM)
20-21 OCTOBER 2009 KUALA TERENGGANU, MALAYSIA



Sitting from right: Mr. Kamarruddin, Mr. Kawata, Ms. Mahyam, Dr. Abe and Dr. Ngurah

Standing from right: Mr. James, Mr. Tonny, Dr. Kongkiat, Ms. Wahidah, Assoc.Prof. Liew,
Dr. Worawit, Mr. Somchai, Mr. Dung, Mr. Syed Abdullah, Ms. Thida Moe, Mr. Fauzi, Mr. Hariel,
Mr. Irwan, Dr. Renato and Dr. Sukarno



**REPORT OF REGIONAL CORE EXPERT GROUP MEETING
ON RESEARCH FOR STOCK ENHANCEMENT OF SEA TURTLES
(JAPANESE TRUST FUND IV PROGRAM)**

Kuala Terengganu, Malaysia
20-21 October 2009

Prepared by
Syed Abdullah bin Syed Abdul Kadir
Osamu Abe

Marine Fishery Resources Development and Management Department
SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER

2010

Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Report of Regional Core Expert Group Meeting on Research for Stock
Enhancement of Sea Turtles (Japanese Trust Fund IV Program)

20-21 October 2009

ISBN 978-983-9114-49-2

1. Sea turtles-Southeast Asia. 2. Sea Turtles fisheries – Southeast Asia
1. Regional Core Expert Group Meeting on Research for Stock Enhancement
of Sea Turtles (2009 : Terengganu)
597.9280959

Copyright @ 2010 SEAFDEC-MFRDMD

All Right Reserve. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical photocopying, recording or otherwise, without the prior permission of the copyright owner.

Bibliographic citation:

Syed Abdullah, S.A.K., Osamu Abe (Editors). 2010. Report of Regional Core Expert Group Meeting on Research for Stock Enhancement of Sea Turtles (Japanese Trust Fund IV Program). SEAFDEC-MFRDMD/RM/25 24pp

Marine Fishery Resources Development and Management Department
Southeast Asian Fisheries Development Center

Taman Perikanan Chendering, 21080 Kuala Terengganu, Malaysia

Tel: +609-6175940, 6177867 Fax: +609-6175136

Email: .mfrdmd@seafdec.org.my Website: <http://www.seafdec.org.my>

CONTENTS

Introduction	1
Objectives	2
Opening of Meeting	2
Adoption of Agenda	3
Country Report on Tagging and Satellite Telemetry Study	
Regional Analysis of Tagging, Satellite Telemetry and Pilot Study on Multiple Paternity of Green Turtles	3
Interaction between Sea Turtles and Fisheries	5
Intended and Incidental Capture of Sea Turtles	6
Proposal for Japanese Trust Fund V Program (2010-2014)	6
RECOMMENDATIONS	
Country Report on Tagging And Satellite Telemetry Study	7
Regional Analysis of Tagging, Satellite Telemetry and Pilot Study on Multiple Paternity of Green Turtles	10
Interaction between Sea Turtles and Fisheries	11
Intended and Incidental Capture of Sea Turtles	11
Japanese Trust Fund V Program (2010-2014)	12
Other Matters	12
Adoption of the Meeting Report	12
Closing of the Meeting	12
List of Participants	13



Report of Regional Core Expert Group Meeting on Research for Stock Enhancement of Sea Turtles (Japanese Trust Fund Iv Program)

Kuala Terengganu, Malaysia
20-21 October 2009

I. INTRODUCTION

1. SEAFDEC-MFRDMD in collaboration with TD has conducted the Japanese Trust Fund IV (JTF IV) entitled "Research for Stock Enhancement of Sea Turtles in the Southeast Asian Region". The JTF IV Program started 2004 and will be terminated at the end of December 2009. This program consists of three main projects, namely, tagging and satellite tracking telemetry, DNA study, and interaction between fisheries and sea turtles.
2. In the year 2008 SEAFDEC-MFRDMD organized the Third Technical Consultation Meeting (3rd TCM) of the JTF IV. Following the 3rd TCM of the JTF IV, SEAFDEC-MFRDMD will organize the Regional Core Expert Meeting in October 2009 to discuss and compile the outcomes of this JTF IV program and to discuss on future planning of the new JTF program.
3. The Regional Core Expert Group Meeting of Japanese Trust Fund IV Program (JTF IV Program) was held from 20-21 October 2009 in SEAFDEC-MFRDMD Kuala Terengganu, Malaysia to discuss the outcomes of the program activities from 2004 to 2009 and the planning for future programs. The Meeting was attended by participants from Brunei Darussalam, Indonesia, Malaysia, Myanmar, the Philippines, Thailand and Vietnam; and representatives from SEAFDEC-Secretariat, SEAFDEC-TD and SEAFDEC-MFRDMD. Three resource persons were invited from Department of Fisheries Malaysia, Universiti Malaysia Terengganu and Department of Marine Parks Malaysia. The Meeting was also attended by one observer from Sarawak Forestry Corporation. The full list of the participants appears in Annex I.



II. OBJECTIVES

4. The objectives of the meeting are:

- To obtain the outstanding information and result on tagging studies of sea turtles in the region from 2004 until 2009.
- To obtain the outstanding information and result on satellite telemetry studies of sea turtles in the region from 2004 until 2009.
- To obtain the results and findings on DNA study of sea turtles.
- To obtain the results and finding on interaction between fisheries and sea turtles.
- To obtain the regional information on intended and incidental capture of sea turtles.
- To discuss the future activities of Japanese Trust Fund V Program (2010-2014).

III. OPENING OF THE MEETING

5. In her Opening Speech, the Chief of SEAFDEC-MFRDMD, Kuala Terengganu, Malaysia, Ms. Mahyam Mohd Isa, welcomed all the participants and guests to Malaysia. She thanked MFRDMD for hosting this Meeting as well as giving her the opportunity to say a few words. She touched on the importance of collaborative work at the regional level to enhance, as well as to conserve, sea turtle, as this animal is a highly migratory reptile. She hoped the Meeting will explore and discuss the common issues within the region which would provide a great boost in sea turtles protection and conservation. She stressed upon the need for positive action on regional cooperation and collaboration for conserving and managing these resources based on scientific information. She also emphasized that a better understanding of their biology and ecology is a crucial factor. The multidisciplinary and integrated approach, and up to date research findings is of the utmost importance for promoting the sustainable management of sea turtles in the region. She believes the efforts that had been undertaken through the Japanese Trust Fund IV Program will play an essential role for the survival of our regional sea turtles for the next generation. She expressed her appreciation to the Government of Japan, SEAFDEC and resource persons for making this meeting a success. She hoped the participants would have a fruitful discussion. The Chief of SEAFDEC-MFRDMD then declared the Meeting open. Her Opening Speech appears in Annex II



IV. ADOPTION OF AGENDA

6. This session was chaired by the Chief of SEAFDEC-MFRDMD. The Agenda was adopted with the changing on Agenda IV: Intended and Incidental Capture of Sea Turtles. The meeting agenda appears in Annex III.

V. COUNTRY REPORT ON TAGGING AND SATELLITE TELEMETRY STUDY

7. The Meeting expressed its appreciation to all the member countries for their good work in the tagging and satellite telemetry study in the Southeast Asian region, as presented by representatives from Brunei Darussalam, Indonesia, Malaysia-Peninsular, Malaysia-Sabah, Malaysia-Sarawak, Myanmar, the Philippines, Thailand and Vietnam (Annex IV to Annex XII).

VI. REGIONAL ANALYSIS OF TAGGING, SATELLITE TELEMETRY AND PILOT STUDY ON MULTIPLE PATERNITY OF GREEN TURTLES

8. A regional analysis on tagging exercises on sea turtles was presented by MFRDMD Technical Officer, Mr. Syed Abdullah bin Syed Abdul Kadir. The objectives of these activities are (i) to initiate and promote regional sea turtles tagging in the Southeast Asian region (ii) to estimate female populations at selected nesting beaches. A total of 12,200 inconel tags have been distributed to SEAFDEC participating member countries from 1999 to 2007. PIT microchip, which is complimentary to inconel tag, had been implemented in Indonesia, Malaysia, Philippines and Thailand. The green turtles (*Chelonia mydas*) is the most popular species to be tagged followed by hawksbill turtles (*Eretmochelys imbricata*), olive ridley turtles (*Lepidochelys olivacea*) and Leatherback turtles (*Dermochelys coriacea*).
9. To date, the study had identified more than 30 major nesting beaches of sea turtles in the Southeast Asian region where tagging exercises have been implemented. These rookeries are Brunei Beach (Brunei Darussalam), Kep municipality, Kampot province, Sihanoukville, Koh Kong province (Cambodia), Pangumbahan, Segamat-Lampung, Belitung Island, Derawan Island, Sangalaki Island and Panjang Island (Indonesia), Cagar Hutang, Mak Kepit, Ma' Daerah, Upeh



Island, Sabah Turtles Island and Talang-Satang National Park of Sarawak (Malaysia), Thameehla Island, Kadongalay Island, Gayetgyl Island, Coco Island, Thin Pann Island and Kwin Bauk Island (Myanmar), Turtle Islands Wildlife Sanctuary in Tawi-Tawi and Morong-Bataan (Philippines), Khram Island and Huyong Island (Thailand), Minh Chau, Nui Chua and Con Dao Island National Park (Vietnam).

10. Approximately 44,616 female sea turtles had been tagged in the Southeast Asian region. A total of 53 female sea turtles have been tagged in Brunei Darussalam, 43 female sea turtles have been tagged from 2005 - 2009 in Cambodia, and 737 individuals have been tagged from 2007 - 2009 in Indonesia. From 1999 to 2008, a total of 1,272 individual tagged turtles have been recorded in Peninsular Malaysia, 7,668 individuals in Sarawak and 26,386 individuals in Sabah (from 1999-July 2009). In Myanmar 643 female sea turtles were tagged from 2001-2009. A total of 4249 female sea turtles were tagged in three nesting beaches in the Philippines, i.e. Morong-Bataan, Bagac-Bataan and Turtles Island Wildlife Sanctuary (TIWS) (from 1999-2009). A total of 195 female sea turtles were tagged (from 1994 - 2009) in Thailand, while 3,370 female sea turtles have been tagged in Vietnam (from 1998 and 2009). The details of the study appear in Annex XIII.
11. Regional analysis on satellite telemetry study on sea turtles was presented by MFRDMD Technical Officer Mr. Syed Abdullah bin Syed Abdul Kadir. The objectives of the study are to obtain regional biological information such as migration routes, inter-nesting period, inter-breeding period, foraging habitat, nesting behavior, growth rate and other relevant biological information. All SEAFDEC member countries, with the exception of Singapore, Cambodia and Laos, have conducted this study on four species, namely green, hawksbill, olive ridley and Leatherback. The green turtle (*Chelonia mydas*) The green turtle is the most species studied in the region. Based on the analysis, the study had indicated several possible foraging habitats of green turtles in the region. The possible foraging habitats are Brunei Bay, Riau Archipelago, Andaman Island, Sulu Sea and Sulawesi Basin. However, scientific surveys for collecting ecological information is highly needed in order to identify the actual foraging habitats of sea turtles in the region. The details of this study appear in Annex XIV.
12. Study on multiple paternity of green turtles (*Chelonia mydas*) was presented by MFRDMD Technical Officer Ms. Wahidah binti Mohd Arshaad. The objectives of the study are (i) to determine



the level of multiple paternity (ii) to estimate adult males stock sizes at Mak Kepit nesting beach in Redang Island, Terengganu. A total of 300 tissue samples of hatchlings green turtles from 10 different clutches of adult green turtles were analysed. The results showed that 5 clutches are single paternity (1 male), 4 clutches are multiple paternity (2 males) and one 1 clutch cannot be analyzed. Analysis of paternal genotypes showed that 9 clutches were fertilized by 12 males with 2 of these clutches fertilized by the same male. The study also indicated that the green turtles exhibit both polyandry (female mate with more than one male) and polygyny (male mate with more than one female) habits. The details of the study appear in Annex XV.

VII. INTERACTION BETWEEN SEA TURTLES AND FISHERIES

13. This project was undertaken from September 2005-2008 by Dr Worawit Wanchana from SEAFDEC-Training Department. The overall objectives are (i) to understand interactions between sea turtles and fishing operations through information collection and research and (ii) to promote responsible fishing gear and practices to conserve sea turtle populations through fishing trials and demonstrations. Fishing trials on MV SEAFDEC 2 using pelagic longline were conducted in 2006 in the Andaman Sea, Brunei and the Philippines. In the year 2006 and 2007, on-site training to local fishermen were conducted in Vietnam and Indonesia. Several fishing trials and demonstrations have been conducted in 2007 to local bottom longline fishermen in Kuantan and Melaka (Malaysia), while in 2008 fishing trials and demonstrations were conducted for tuna longline and bottom line fishermen in Vietnam and Indonesia. In 2009, similar activities were carried for bottom longline fishermen in Kuching, Malaysia. The details of the study appear in Annex XVI.
14. Preliminary research on the response of the sea turtles to different sound frequencies was also conducted by SEAFDEC-TD. The envisaged output of this study is to define new materials/equipments to be attached to fishing gears. The preliminary findings indicate that (i) juvenile turtles may respond to the sound frequency range from 100-500 hertz, while young turtles may respond to the range of 200-500 hertz, and (ii) behavior of sea turtles at sea may not be similar with turtles kept in captivity. In future wild sea turtles will be used for determining the accurate sound frequency. The details of the study appear in Annex XVII.

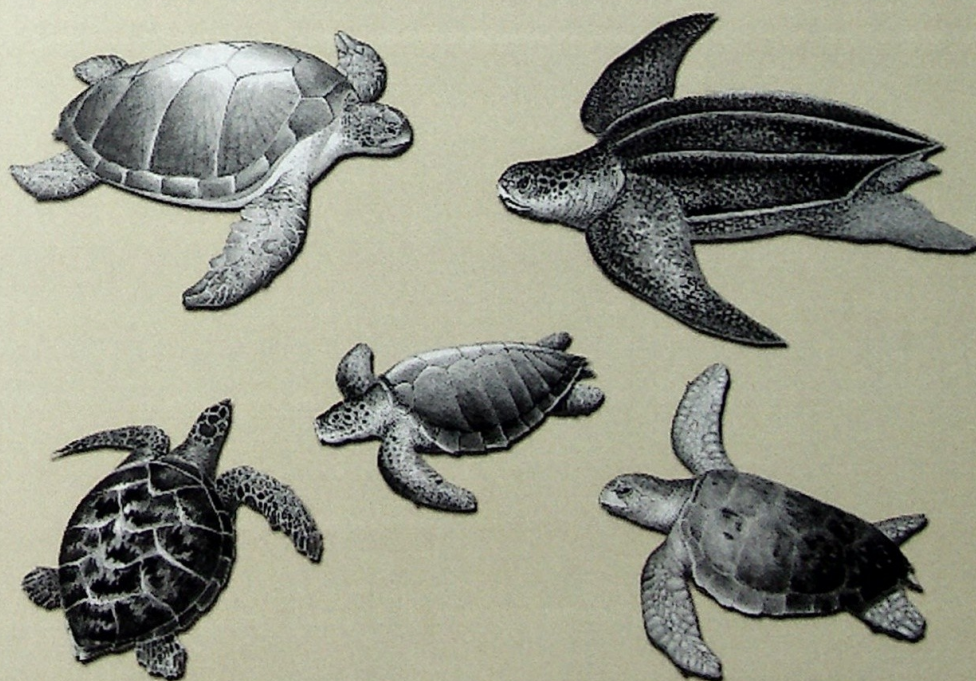


VIII. INTENDED AND INCIDENTAL CAPTURE OF SEA TURTLES

15. The follow-up action of the Third Regional Technical Consultation Meeting (3rd RTC) in 2008 regarding the issues on poaching of sea turtles in the region was presented by the Deputy Chief of SEAFDEC-MFRDMD, Dr. Osamu Abe. He reminded the meeting that during the 3rd RTC, several SEAFDEC Member countries mentioned about the serious poaching of sea turtles in the region. He also stressed that one of the recommendations during the 3rd RTC is a request that SEAFDEC raise the issue on poaching at the 11th Meeting of the ASEAN-SEAFDEC Strategic Partnership and Fisheries Consultative Group in November 2008, for consideration of SEAFDEC involvement in compilation information on poaching. He added, based on the Report of 41st SEAFDEC Council Meeting in Fukuoka, 6-7 April, 2009 SEAFDEC was encouraged to continue implementing activities that would support the conservation of sea turtles in the region. In this regards, SEAFDEC-MFRDMD has include information gathering from Member Countries on sea turtle poaching, as one of the activities under the JTF IV in 2009, in order to know the actual state of poaching in the region. Finally SEAFDEC-MFRDMD will propose to continue information collection of sea turtle poaching under JTF V Program. The details of the follow-up action appear in Annex XVIII.
16. The Meeting expressed it's appreciation to all the member countries for the good work they have done in gathering information on intended and incidental capture of sea turtles in the region, as presented by representatives from Indonesia, Malaysia-Sabah, Malaysia-Sarawak, Myanmar, the Philippines, Thailand and Vietnam. The details of this information appear in Annex XIX to Annex XXV).

IX. PROPOSAL FOR JAPANESE TRUST FUND V PROGRAM (2010-2014)

17. The Deputy Chief of SEAFDEC-MFDMD, Dr. Osamu Abe, presented the proposal for JTF V which would be carried out in 2010-2014. The proposed total budget for this 5-year program is USD303,500. The proposed program will focus on four main activities; (i) Regional Workshop/ Meeting (ii) Research on Sea Turtle Foraging Populations (iii) Sea Turtle Interaction with Marine Capture Fisheries (TD) and (iv) Management Plans for Conservation of Sea Turtles in Foraging Habitats in Southeast Asia. The details of his presentation appear as Annex XXVI.



18. The meeting is requested to discuss the following issues:

- i. To suggest the pilot study sites of sea turtle foraging habitats,
- ii. To discuss on the participating countries for each of the pilot study of the foraging habitats.
- iii. To suggest the ecological parameters which should be collected during the pilot study of the foraging habitats,
- iv. To suggest the appropriate methods to catch sea turtles in each of the foraging habitats,
- v. To discuss the possibility of conducting mtDNA analysis in the member countries.

X. RECOMMENDATIONS

A. COUNTRY REPORT ON TAGGING AND SATELLITE TELEMETRY STUDY

Brunei Darussalam

- i. The meeting was informed that the olive ridley turtle which had been attached with the satellite device in Brunei Darussalam is a juvenile, based on its size. This may account for the fact that after 101 days of release, the turtle is still in Brunei waters. However, this phenomenon may possibly be due to Brunei waters being a foraging area for this turtle.
- ii. The meeting requested that the information acquired from the satellite telemetry study on olive ridley turtles in Brunei Darussalam be analyzed carefully especially on the location class of the positions, and a home-range analysis be applied to the data.

Indonesia

- i. The Indonesian participant reported that apart from the central government, local governments and a number of NGOs are also involved in sea turtle conservation in



Indonesia. However, compiling and gathering of information on sea turtle populations in Indonesia is still lacking. In this regard, the meeting agreed that SEAFDEC-MFRDMD should consider organizing a Regional Technical Consultation (RTC)/National Forum in Indonesia under JTF V program. During this meeting the local governments and NGOs should be invited to present their sea turtle conservation activities in Indonesia.

Malaysia

- i. Intensive tagging of sea turtles were conducted at rookeries such as Mak Kepit (Terengganu), Talang-Satang National Park (Sarawak), and Turtle Islands Park (Sabah). However, the percentage of tag return in these rookeries is very low. The meeting suggested that MFRDMD should consider an evaluation of tag loss rate. The meeting agreed that under the JTF V Program, SEAFDEC-MFRDMD should organize a workshop involving turtle experts to develop a standard method on analyzing the tag loss as well as other tagging information.
- ii. The meeting also requested that all participating SEAFDEC member countries implement double tagging of inconel tags, and also to implement PIT tagging to compliment the conventional tagging method.
- iii. The meeting also reminded Member countries to follow the SOP in the tagging manual which had been provided by SEAFDEC-MFRDMD.

Myanmar

- i. Sea turtle tagging exercises were conducted quite comprehensively on three species, namely green, hawksbill and olive ridley, in various nesting beaches since 2002. It is essential for SEAFDEC-MFRDMD to assist Myanmar in tagging activities.

The Philippines

- i. The percentage of tag recovery is quite high in some rookeries. The meeting requested that this information should be verified.



Thailand

- i. After 3 years of using both inconel and PIT tags on the same individual turtle, it was discovered that 50% of the inconel tags have been lost, while the PIT tags were still intact. However, the sample size of the analyzed data was quite low. Thailand, thus, proposed to report more complete results to the next SEAFDEC RTC meeting. The meeting recommended using both PIT and inconel tags where applicable in the region.
- ii. Thailand has demonstrated an example on analyzing satellite telemetry data and interpretation of population status from the nesting statistics. The meeting requested a regional workshop to develop a standardized method on analysing both satellite telemetry and inconel tagging data systematically, under the Japanese Trust Fund V Program.
- iii. The meeting agreed to exchange experts at the regional level for enhancing the conservation of sea turtles in some SEAFDEC Member Countries.

Vietnam

- i. The meeting was informed that during tagging, tissue samples were collected. However, there are samples of hawksbill turtles which are still not analyzed. The participant and MFRDMD will further communicate on whether Vietnam will be able to analyze these samples and any budget requirements for this purpose.
- ii. The Vietnam participant reported that apart of the institutional governments and a number of NGOs are also involved in sea turtle conservation. However, compiling and gathering of information on sea turtle populations in Viet Nam is still lacking. In this regard, it should consider organizing a National Technical Consultation Forum in Viet Nam sponsored a part of JTF V program that the local governments and NGOs should be invited to present their sea turtle conservation activities.
- iii. The sea turtle PIT tags have never used in Viet Nam. Therefore, Viet Nam proposed to trial using PIT tags under the JTF V if possible, to collect more information in Viet Nam that is very urgent.
- iv. The Vietnam participant proposed SEAFDEC continue considering and providing the inconel tags for member countries under JTF V program.



B. REGIONAL ANALYSIS OF TAGGING, SATELLITE TELEMETRY AND PILOT STUDY ON MULTIPLE PATERNITY OF GREEN TURTLES

Regional Analysis of Tagging and Satellite Telemetry

- i. The Technical Coordinator from MFRDMD reported on the regional analysis of the tagging and nesting information that had been gathered from SEAFDEC Member countries. The meeting suggested that the data should be analyzed carefully to evaluate the status of nesting populations. Also, the meeting suggested that tag loss rates should be considered to evaluate tag returns. The meeting suggested that SEAFDEC-MFRDMD should organize a workshop for evaluating sea turtle populations using currently existing data under JTF V Program.
- ii. The Technical Coordinator from MFRDMD reported on the regional analysis of the satellite telemetry study in the region. The area where a last satellite signal was detected may not be the actual foraging habitat. The meeting agreed that baseline information on ecological parameters such as sea grass and coral reef areas should be linked together to identify the foraging habitats of sea turtles in the region. Based on the information obtained from the participants, Brunei Bay and Derawan Complex (Panjang Island) can be considered as possible foraging habitats, especially for green turtles.
- iii. The meeting requested that aerial surveys, as well as ground surveys, should be conducted in possible foraging habitats for identifying the actual feeding grounds of sea turtles. The meeting noted that aerial surveys may not be applicable in some areas.
- iv. Information from local communities, such as fishers, can also assist in identifying the feeding grounds.

Pilot Study on Multiple Paternities of Green Turtles

- v. The meeting agreed that this is a good study to attempt an estimation of the male population in a particular area. The outcome from this study should be compared to outcome from similar studies conducted in other areas.



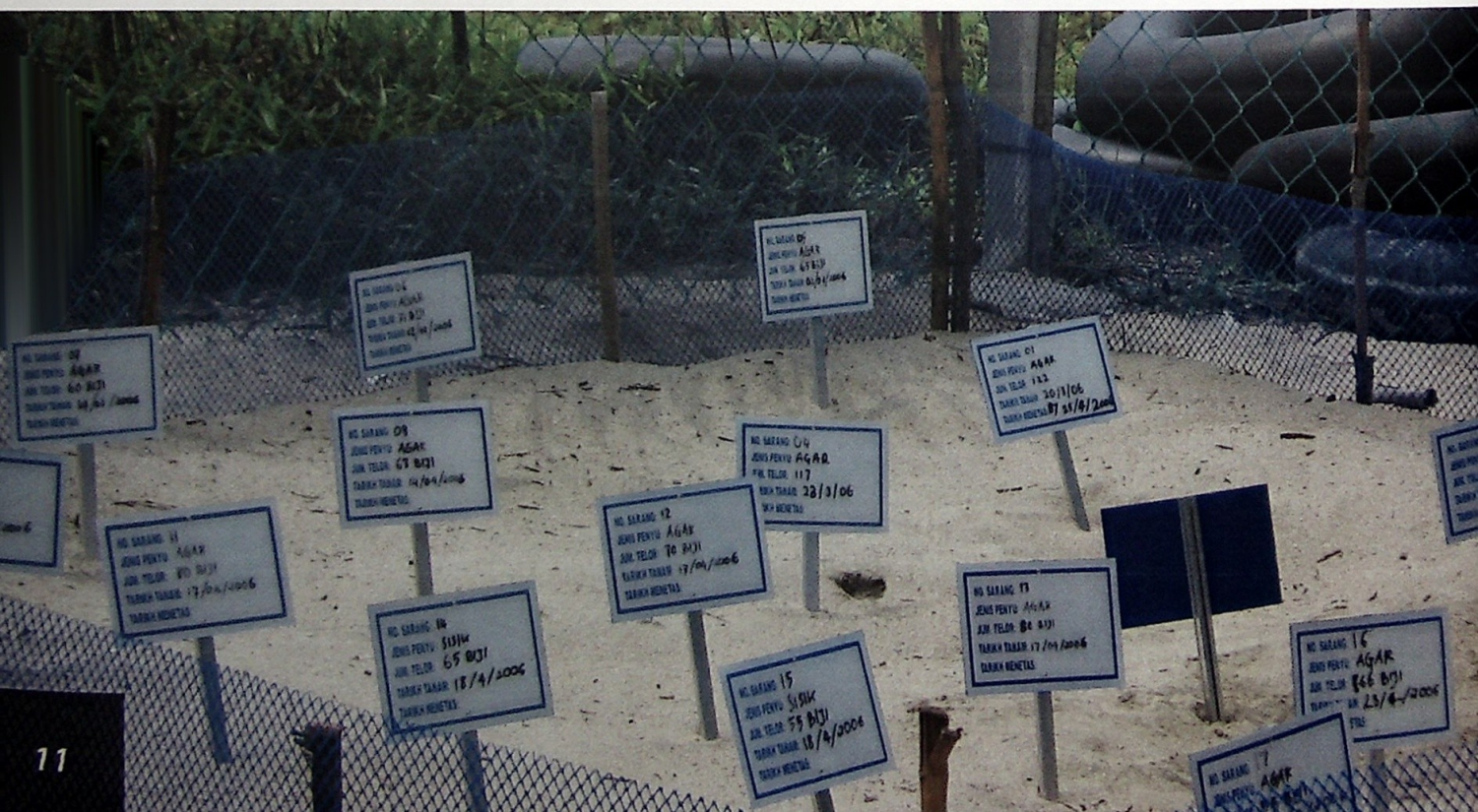
C. INTERACTION BETWEEN SEA TURTLES AND FISHERIES

- i. Since SEAFDEC-TD has promoted the use of Circle Hook in the region from 2004 to 2009, the meeting requested that SEAFDEC-TD should compile the record on number of boats that have used this type of hook in the region.
- ii. The meeting agreed that the study on the effect of sound on sea turtles should be continued, by experimenting with different types of factors, e.g. interaction with fish, different sounds and environment. The meeting also requested that SEAFDEC-TD seek other sources of funding for implementing this study.

D. INTENDED AND INCIDENTAL CAPTURE OF SEA TURTLES

Follow up report

- i. The meeting was informed of the follow up actions taken up by SEAFDEC-MFRDMD following the request by the 3rd RTC. The meeting encourages SEAFDEC to continue raising the poaching issue to higher authorities. The meeting further suggested that SEAFDEC refer to the report produced by TRAFFIC on sea turtle trade in Southeast Asia to get the regional information on the poaching of sea turtles. The meeting also agreed SEAFDEC should continue compiling poaching data in the region.
- ii. The results presented by the participant from Brunei Darussalam showed that there are a lot of juvenile sea turtles caught by gill nets. This information can be used as an indicator for identifying the foraging habitats in Brunei Darussalam. He also requested that SEAFDEC sponsor the promotion of using the Circle Hook in Brunei Darussalam.
- iii. The meeting suggested that SEAFDEC conduct genetic studies on samples from sea turtles which have been confiscated from foreign vessels, as well as compiling the operational position of the vessels.
- iv. The meeting agreed that the direct hunting and poaching activities by foreign vessels and incidental catches are major threats for sea turtles in the region. Most of the poaching



activities occurred in the possible foraging habitats. Thus, the meeting suggested SEAFDEC should address these issues during relevant international fora.

- v. The meeting expressed its concern about the relatively high ratio of females among the stranded green turtles found along the coast of Thailand. This situation may indicate a shortage of males which may impact negatively on sea turtle populations in the region. The meeting requested SEAFDEC Member countries to evaluate this issue closely.

E. JAPANESE TRUST FUND V PROGRAM (2010-2014)

- i. The meeting agreed that the proposal on the Japanese Trust Fund V Program should be reviewed by all participants. Feedback and comments from the participants are expected to reach the MFRDMD Technical Coordinator by 7th November 2009.

F. OTHER MATTERS

All participants should submit their full technical papers by 15th November 2009 through email to the Technical Coordinator from MFRDMD.

XI. ADOPTION OF THE MEETING REPORT

- 19. The Report of the Regional Core Expert Group Meeting on Research for Stock Enhancement of Sea Turtles (Japanese Trust Fund IV Program) was adopted on 21 October 2009.

XII. CLOSING OF THE MEETING

- 20. Dr. Osamu Abe, the Deputy Chief of SEAFDEC-MFRDMD, on behalf of the Chief of SEAFDEC-MFRDMD, expressed his sincere appreciation to everyone for their cooperation and active participation during this Meeting. He thanked all the participants, resource persons, observers as well as members of the secretariat for making this Meeting a success. He wished everyone would have a safe journey home. He then declared the Meeting closed.



PARTICIPANTS

BRUNEI	
1. Mr. Hariel Bin Hj.Simpol Fisheries Officer	<p>Fisheries Department Ministry of Industry and Primary Resources Jalan Menteri Besar, Berakas, BB3910 Brunei Darussalam. ☎: 673-277-2786/2773693/2383067 Fax: 673-277-065 / 673-238-2069 E-mail: desimawati.metali@fisheries.gov.bn</p>
CAMBODIA	
2. Mr. Lieng Saroeun Fishery Officer	<p>Fisheries Administration #186, Norodom Blvd., P.O. Box 582 Phnom Penh, Cambodia. ☎: 855-92626210 Fax: 855-23-219-256 / 215-470 E-mail: liengsaroeun@yahoo.com</p>
INDONESIA	
3. Prof. Dr. Ngurah Nyoman Wiadnyana Researcher/Head of Monitoring and Evaluation Division	<p>Research Centre for Capture Fisheries (RCCF) Agency For Marine and Fisheries Research Ministry of Marine Affairs and Fisheries Jln. Pasir Putih 1, Ancol Timur, Jakarta 14430, Indonesia. ☎: 62-21-6471-1940 ext. 103 Fax: 62-21-640-2640 E-mail: : ngurah_prpt@indo.net.id</p>
MALAYSIA	
4. Mr. Fauzi bin Abdul Rahman Senior Fishery Officer	<p>Licensing and Resources Management Division, Department of Fisheries Malaysia Wisma Tani, Level 1, Block 4G2, Precint 4 Federal Government Administration Centre 62628 Putrajaya, Malaysia. ☎: 603-8870-4405/ 019-2767389 Fax: 603-8889-1233</p>
5. Mr. James Bali Biologist	<p>Protected Area & Biodiversity Conservation Unit Sarawak Forestry Corporation Level 11, Office Tower, Hock Lee Centre Jalan Datuk Abang Abdul Rahim 93450 Kuching, Sarawak, Malaysia. ☎: +6082-302-315 (DL) / 348-001 (GL) Fax: +6082-341-550 E-mail: jamesbali@sarawakforestry.com</p>

<p>6. Mr. Irwan bin Isnain Marine Research Officer</p>	<p>Sabah Park Block K, Lot 1-3, Taman-Taman Sabah, Kota Kinabalu, P.O. Box 10626, 88806 Kota Kinabalu, Sabah, Malaysia. ☎: 6088-229-572 / 211-881 . Fax: 6088-211-001 / 201-169 E-mail: Irwan.Isnain@sabah.gov.my</p>
MYANMAR	
<p>7. Ms. Thida Moe Fisheries Officer</p>	<p>Department of Fisheries Ministry of Livestock and Fisheries Sinmin Road, Ahlone Township, Yangon, Myanmar. ☎: 95-1-223036, 220597 Fax: 95-1-228-258 E-mail: fisheries@myanmar.com.mm</p>
PHILIPPINES	
<p>8. Dr. Renato D. Cruz Project Leader</p>	<p>Pawikan Conservation Project, Protected Areas and Wildlife Bureau, Department of Environment and Natural Resources, Ninoy Aquino Parks and Wildlife Center, Diliman, Quezon City, The Philippines. ☎: 632-925-8946 Fax: 632-924-0109 E-mail: pawbpcp@yahoo.com renatodalmaciocruz@yahoo.com.ph</p>
THAILAND	
<p>9. Dr. Kongkiat Kittiwattanawong Senior Marine Biologist</p>	<p>Phuket Marine Biological Center Department of Marine and Coastal Resource Ministry of Natural Resources and Environment 51 Sakdides Rd. Phuket 83000, Thailand ☎: 66-76-391-128 Fax :66-76-391-127 E-mail: kkongkiat@gmail.com</p>
<p>10. Mr. Somchai Monanunsap Senior Marine Biologist</p>	<p>Marine and Coastal Resource Department 309 Moo 1 Pranampasare, Klang District Rayong Province 21170, Thailand ☎: +66-38-661693 Fax : +66-38-661694 E-mail: mannaismomcai@yahoo.com</p>
VIETNAM	
<p>11. Mr. Phan Hong Dung Marine Senior Scientist</p>	<p>Research Institute for Marine Fisheries (RIMF) 170 Lelai Street, Ngo Quyen District, Haiphong, Vietnam. ☎: 84-31-35594923767277 Fax: 84-31-383-6812 E-mail: dung1960@yahoo.com, phdung@rimf.org.vn</p>

RESOURCES PERSON	
Department of Fisheries Malaysia	
12. Dr. Sukarno bin Wagiman Director	Human Resource Development Division Department of Fisheries Malaysia Wisma Tani, Level 1, Block 4G2, Precint 4 Federal Government Administration Centre 62628 Putrajaya, Malaysia. ☎: 603-8870-4601 Fax: 603-8889-1233
Universiti Malaysia Terengganu (UMT)	
13. Assoc.Prof Liew Hock Chark Project Leader, Turtle Research and Rehabilitation Group	Institute of Oceanography Universiti Malaysia Terengganu 21030 Kuala Terengganu, Malaysia ☎: 609-668-3251 / 016-2069098 Fax 609-669-2166 E-mail: davliew@gmail.com
Department of Marine Parks Malaysia	
14. Mr.Kamarruddin bin Ibrahim	Jabatan Taman Laut Malaysia Aras II Wisma Sumber Asli No. 25, Persiaran Perdana, Presint 4 Pusat Pentadbiran Kerajaan Persekutuan 62574 Putrajaya, Malaysia. ☎: 603-88861365 Fax : 603-88880481
SEAFDEC DEPARTMENTS	
SEAFDEC- Secretariat	
15. Mr.Tadahiro Kawata.	SEAFDEC Secretariat, P.O.Box 1046, Kasetsart Post Office Bangkok 10903, Thailand ☎: +66 2 940 6326 Fax : +66 2940 6336
SEAFDEC-TD	
16. Dr. Worawit Wanchana Senior Researcher	Capture Fishery Technology Training Department, Southeast Asian Fisheries Development Center P.O. Box 97, Phrasamutchedi Samutprakan 10290, Thailand ☎: 66-2425-6140 Fax: 62-2425-6110 e-mail: worawit.wanchana@gmail.com

SEAFDEC-MFRDMD	
17. Hajjah Mahyam bt. Mohd Isa Chief SEAFDEC-MFRDMD	Fisheries Garden Chendering, 21080 Kuala Terengganu, Malaysia. ☎: 609-617-5940 Fax: 609-617-5136 e-mail: mahyam@seafdec.org.my
18. Dr. Osamu Abe Deputy Chief SEAFDEC-MFRDMD	Fisheries Garden Chendering, 21080 Kuala Terengganu, Malaysia. ☎: 609-617-5940 Fax: 609-617-5136 E-mail: abe@seafdec.org.my
19. Mr. Syed Abdullah Syed A. Kadir Research Officer	Fisheries Garden Chendering, 21080 Kuala Terengganu, Malaysia. ☎: 609-617-5940 Fax: 609-617-5136 E-mail: sabdullah@seafdec.org.my
20. Ms. Wahidah Mohd Arshaad Research Officer	Fisheries Garden Chendering, 21080 Kuala Terengganu, Malaysia. ☎: 609-617-5940 Fax: 609-617-5136 E-mail: wahidah@seafdec.org.my
OBSERVER	
SARAWAK FORESTRY CORPORATION	
21. Mr. Tonny Ganyai Management Executive, Conservation	Protected Areas and Biodiversity Conservation Sarawak Forestry Corporation Level 11, Office Tower, Hock Lee Centre Jalan Datuk Abang Abdul Rahim 93450 Kuching, Sarawak, Malaysia. ☎: 6082-302-315 (DL) / 348-001 (GL) Fax: 6082-341-550 e-mail: tonnyg@sarawakforestry.com



SEAFDEC

The Southeast Asian Fisheries Development Center (SEAFDEC) is an autonomous intergovernmental body established as a regional treaty organization in 1967 to promote fisheries development in Southeast Asia. SEAFDEC aims specifically to develop the fishery potentials in the region through training, research and information services to improve the food supply by rational utilization and development of the fisheries resources. Its services cover the broad areas of fishing gear technology, marine engineering, fishing ground surveys and stock assessment, post-harvest technology as well as development and improvement of aquaculture techniques. SEAFDEC is currently made up of 11 Member Countries, namely Brunei Darussalam, Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam; and has the Council of Directors, composed of nominees from Member Countries, as policy-making body to provide directives and guidance on activities of the Center. The Center has a Secretariat as its administrative arm, and four technical Departments.



THE SECRETARIAT

P.O.Box 1046, Kasetsart Post Office
Bangkok 10903 Thailand
Tel: (66-2)940-6326 Fax: (66-2)940-6336
E-mail: secretariat@seafdec.org
<http://www.seafdec.net>



TRAINING DEPARTMENT (TD)

P.O.Box 97, Phramutchedi
Samut Prakan 10290 Thailand
Tel:(66-2)425-6100 Fax:(66-2)425-6110/11
Email:td@seafdec.org
<http://td.seafdec.org>



MARINE FISHERIES RESEARCH DEPARTMENT (MFRD)

2 Perahu Road, off Lim Chu Kang Road,
Singapore 718915
Tel:(65)790-7973 Fax:(65)861-3196
E-mail:mfrdlibr@pacific.net.sg
<http://mfrd.seafdec.net/>



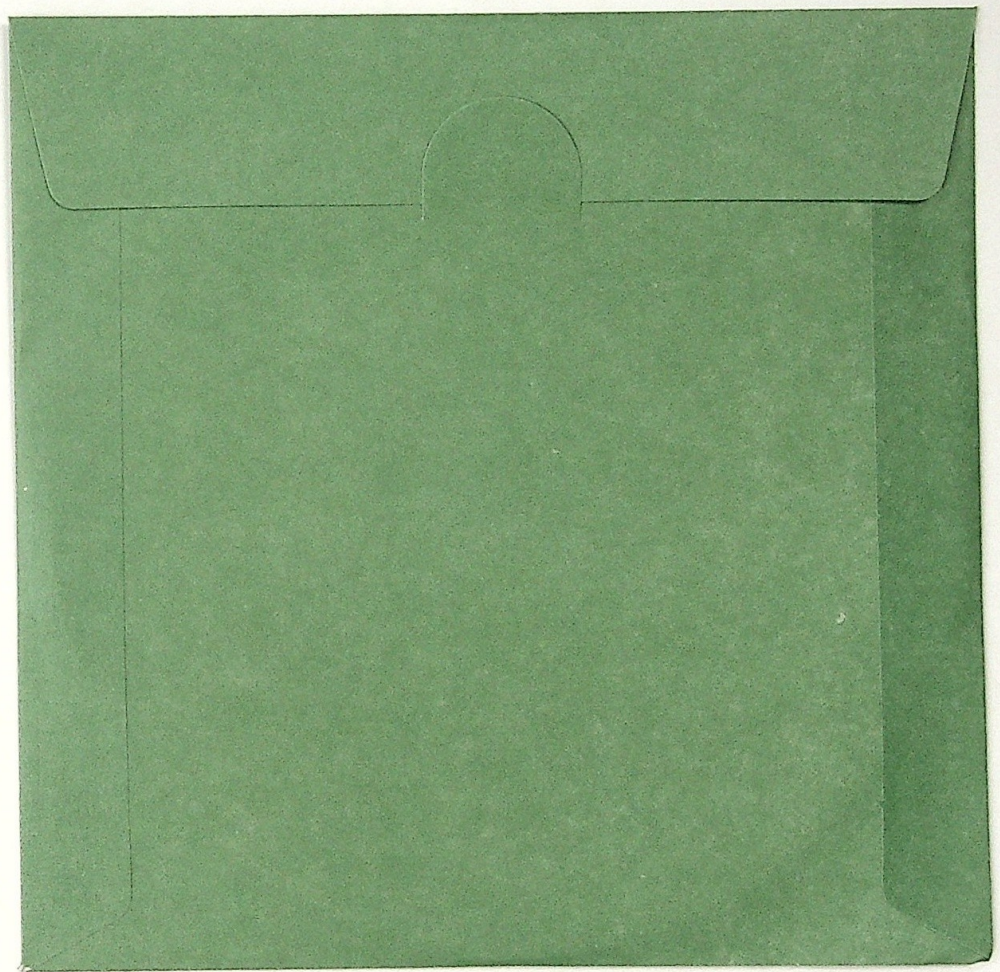
AQUACULTURE DEPARTMENT (AQD)

Main Office: Tigbauan, 5021 Iloilo, Philippines
Tel:(63-33) 511-9171, 336-2965
Fax:(63-33) 335-1008, 511-8709, 511-9070
E-mail: aqdchief@adq.seafdec.org.ph
<http://www.seafdec.org.ph>

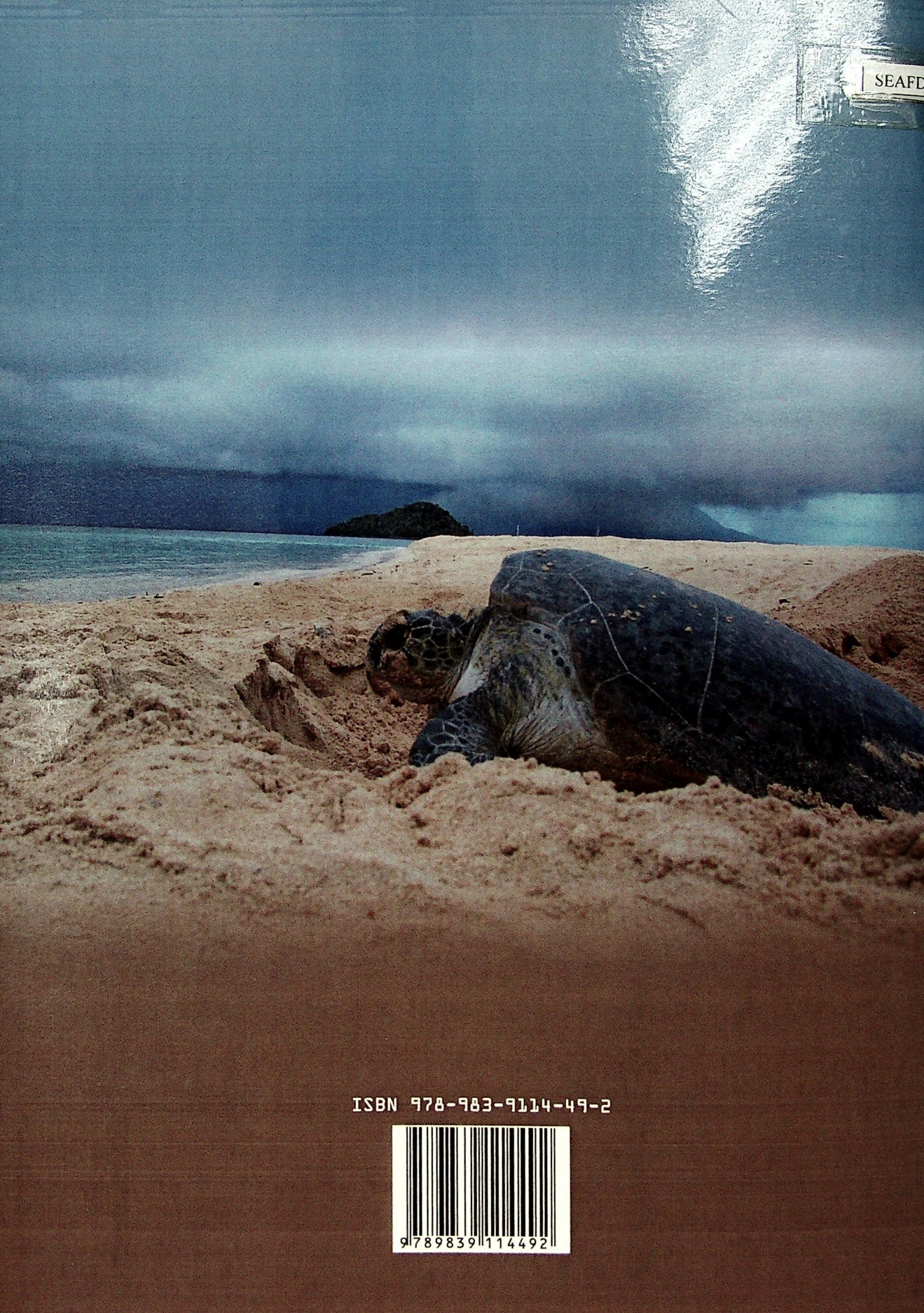


MARINE FISHERY RESOURCES DEVELOPMENT AND MANAGEMENT DEPARTMENT (MFRDMD)

Taman Perikanan Chendering,
21080 Kuala Terengganu.
Tel: (609) 617-5940 Fax: (609) 617-5136
E-mail: mfrdmd@seafdec.org.my
<http://www.seafdec.org.my>



SEAFD



ISBN 978-983-9114-49-2



9789839114492