REPORT OF THE INTERNATIONAL TRAINING COURSE

ON

THE USE OF TURTLE EXCLUDER DEVICES AND JUVENILE AND TRASH EXCLUDER DEVICES

25 August to 8 September 2003

Submitted to

The Project Coordinator of the FAO/GEF Global Project for the “Reduction of Environmental Impact from Tropical Shrimp Trawling, through the Introduction of Bycatch Reduction Technologies and Change of Management”.

SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTER
1. INTRODUCTION

Bycatch is an acknowledged component of fisheries management. Its recent development into a major issue in the management of fisheries can be attributed to increasing demand for fisheries resources and a growing recognition of the need to ensure that fisheries are conducted in a sustainable manner.

In recent years, the Southeast Asian Fisheries Development Center’s Training Department (SEAFDEC-TD), and the Food and Agriculture Organization of the United Nations (FAO) in cooperation with the Global Environment Facility (GEF), have been working towards the development and adoption of responsible fishing practices that aim to minimize bycatch in the fisheries of Southeast Asia. Much of this work to date has focused upon experimentation aimed at developing effective bycatch reduction devices, the provision of training to regional stakeholders, and the production of information and extension packages.

The FAO in cooperation with the GEF is implementing a global project for the “Reduction of Environmental Impact from Tropical Shrimp Trawling, through the Introduction of Bycatch Reduction Technologies and Change of Management”. Part of the overall work-plan for this project is to demonstrate in each participating country, to a first group of representatives of the fishing industry, and to some government Fisheries Officers, the potential benefits which can be achieved through the adoption of more responsible fishing gear and techniques, particularly shrimp trawls fitted with Turtle Excluder Devices (TEDs), Juvenile and Trash Excluder Devices (JTEDs), Thai Turtle-Free Devices (TTFDs), or various other Bycatch Reduction Devices (BRDs).

Similarly, the SEAFDEC-TD has been implementing a “Responsible Fishing Technologies and Practices” program in its Member countries since 1996, focusing first upon the introduction of TEDs, and since 1998 on experiments to evaluate the suitability of various types of JTEDs to Southeast Asian fisheries. SEAFDEC-TD also places significant emphasis on the promotion of the use of such responsible technologies by the shrimp-trawling industry through their introduction and demonstration at practical workshops, and the production and dissemination of relevant information to its stakeholders.

In support of the abovementioned FAO/GEF global bycatch reduction project, the FAO provided financial assistance to the SEAFDEC-TD to organize and conduct a training course in 2003 on the use of TEDs and JTEDs to a group of 10 officers from Indonesia (5) and the Philippines (5). Extension-methodology for transferring information about these devices to the end users (i.e. shrimp-trawl owners and operators) was also a desired curriculum area.

In response, the SEAFDEC-TD convened an International Training Course on the Use of TEDs and JTEDs from 25 August to 8 September 2003. The course was attended by a total of 16 participants from Brunei Darussalam (1), Cambodia (1), Indonesia (5), Malaysia (1), Myanmar (1), the Philippines (5), Vietnam (1) and Thailand (1). Detailed information about the course participants is provided in Annex 1.

This report details the conduct of the course including an overview of the course objectives, curriculum, activities, participants, instructors and conclusions drawn.
2. COURSE OBJECTIVES

The objectives of the International Training Course were to:

a) Provide participants with an understanding of the results of previous and ongoing experimentation involving the use of TEDs and JTEDs.

b) Enable participants to gain practical experience in the construction, installation and use of TEDs and JTEDs, both ashore and at-sea.

c) Build the capacity of participants to extend information about TED and JTED use in their respective countries.

d) Promote and encourage the use of TEDs and JTEDs in regional waters.

3. COURSE CURRICULUM

The course was comprised of both theoretical and practical components. The curriculum areas covered in both these components are detailed in Table 1.

**Table 1.** The theoretical and practical curriculum areas covered during the International Training Course on the Use of TEDs and JTEDs.

<table>
<thead>
<tr>
<th>Theoretical</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to TEDs and JTEDs</td>
<td>Construction of TEDs and JTEDs</td>
</tr>
<tr>
<td>International collaborative research for the development of selective fishing devices</td>
<td>Installation of TEDs and JTEDs into demersal trawl fishing gears</td>
</tr>
<tr>
<td>The distribution and conservation of marine turtle populations in Southeast Asian waters</td>
<td>Technique for cutting escape holes for the TED</td>
</tr>
<tr>
<td>Design and installation basics for TEDs and JTEDs</td>
<td>Maintenance of TEDs and JTEDs</td>
</tr>
<tr>
<td>Extension methodology and processes</td>
<td>Solving problems encountered during the operation of TEDs and JTEDs</td>
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</tbody>
</table>

The course curriculum was delivered by 15 expert and technical SEAFDEC training instructors. Information regarding these instructors is presented in Annex 2.
4. COURSE TRAINING ACTIVITIES

The International Training Course was conducted over a total of 15 days. The training program followed during the course is presented in Annex 3. Accounts of the key activities are presented below.

- LECTURE AND DISCUSSION

One day of the program was dedicated to theoretical instruction. This involved lectures and group discussions regarding a number of key topics. Participants were introduced to background information regarding the experimentation and use of TEDs and JTEDs, and training and extension programs associated with the implementation of these bycatch reducing technologies in regional waters. Specific theoretical instruction on the principles of TED and JTED design and use, the correct procedure for installing the devices into demersal trawl gears, and the benefits of TED and JTED use was provided.

This aspect of the course made use of multimedia technology including LCD PowerPoint and video presentations. Case studies on the successes and lessons learned from experimental fishing trials and demonstrations in regional waters were also used to provide participants with a realistic perspective on how this technology can be used to enhance the sustainability of their respective fisheries.

![Figure 1. A discussion during the theoretical component of the course.](image)

- PRACTICAL TRAINING

Significant emphasis was placed on the practical training component of the course. This involved two main sub-sessions in the marine engineering section and fishing workshop of the SEAFDEC Training Department. Participants were actively involved in the following practical activities:

a) The construction of TEDs and JTEDs
b) Installing TEDs and JTEDs into demersal trawl fishing gears
c) Cutting netting for extension sections and escape holes
d) The mechanics of TED and JTED function
e) Solving problems encountered during the operation of TEDs and JTEDs
Figure 2. Participants receiving instruction on TTFD frame construction.

Figure 3. Participants developing practical experience in the Fishing Workshop.

Figure 4. Participants constructing a JTED in the Fishing Workshop.
SEA-BASED DEMONSTRATION AND EXPERIMENTATION

A sea-based demonstration and experiment were successfully carried out onboard the SEAFDEC Training Vessel, M.V. PLALUNG. Trawling was conducted during the daytime at depths of 10-12 meters, with a towing speed of 2.5 knots. Participants were provided with an opportunity to observe the at-sea use of the TTFD and JTED (sorting grid type).

Figure 5. Preparation for the JTED demonstration

Figure 6 and 7. The operation of trawling with JTEDs (left) and TTFDs (right)
• OBSERVATION AND STUDY TRIP

During the course, participants were provided with an opportunity to visit the Sea Turtle Conservation Project at Sattaheep Naval Base, Chonburi Province. Kasetsart University’s Sriracha Marine Research Station was also visited. These visits were aimed at providing participants with an understanding of efforts in sea turtle conservation in Thailand and the broader region.

5. COURSE EVALUATION

All participants completed a questionnaire type evaluation of the training course. The consensus was that the course both satisfied the expectations of the participants, and greatly enhanced their ability to contribute to the adoption of TEDs and JTEDs in their respective countries. Some course participants recommended that M.V. PLALUNG was not sufficiently large enough to support all learners, and as a result the benefits derived from the sea-based training were not optimized. Other participants recommended that more time be devoted to sea-based demonstrations for the range of JTEDs that have previously been developed and tested in regional waters.

6. CONCLUSION

The importance of developing responsible and selective fishing practices in the Southeast Asian region was recognized by all course participants. The International Training Course on the Use of TEDs and JTEDs was effective in building regional capacity, especially that in Indonesia and the Philippines, for the ongoing extension of information to fishers about these responsible fishing technologies.
ANNEX
Annex 1

List of Participants

Brunei Darussalam

<table>
<thead>
<tr>
<th>Name</th>
<th>Mr. Bidin bin Suru</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Birth</td>
<td>20 June 1956</td>
</tr>
<tr>
<td>Educational Background</td>
<td>Certificate (Fishing Gear)</td>
</tr>
<tr>
<td>Position</td>
<td>Second Officer</td>
</tr>
<tr>
<td>Office Address</td>
<td>Department of Fisheries Ministry of Industry and Primary Resource. Jalan Menteri Besar Berakas, Brunei Darussalam Tel : 673-2-770066 Fax : 673-2-382069 E-mail : <a href="mailto:bruneifishers@brunet.bn">bruneifishers@brunet.bn</a></td>
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</tbody>
</table>

Cambodia

<table>
<thead>
<tr>
<th>Name</th>
<th>Mr. Chhan Sokha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Birth</td>
<td>28 June 1969</td>
</tr>
<tr>
<td>Educational Background</td>
<td>M.Sc. (Fish Technology and Fish Product)</td>
</tr>
<tr>
<td>Position</td>
<td>Vice Chief of Exploitation Bureau</td>
</tr>
<tr>
<td>Office Address</td>
<td>Department of Fisheries #186 Norodom Boulevard P.O. Box 582 Phnom Penh Cambodia Tel/Fax : (855) 23-210-565 E-mail : <a href="mailto:smallfish@online.com.kn">smallfish@online.com.kn</a></td>
</tr>
<tr>
<td>Indonesia</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td><strong>Name</strong>  : Mr. Suharman Ismail</td>
<td></td>
</tr>
<tr>
<td><strong>Date of Birth</strong> : 20 June 1956</td>
<td></td>
</tr>
<tr>
<td><strong>Educational Background</strong> : B.Sc. (Fisheries)</td>
<td></td>
</tr>
<tr>
<td><strong>Position</strong> : Head of Sub Directorate Engine and Auxiliary Facilities</td>
<td></td>
</tr>
<tr>
<td><strong>Office Address</strong> : Directorate General of Capture Fisheries Ministry of Marine Affairs and Fisheries Jl. Medan Merdeka Timur Gedung Dep Kelautan Dan Perikanan Lantai II Jakarta Pusat, Indonesia Tel : 62-21-351-2090 Ext. 1126 Fax : 62-21-352-0726 E-mail : <a href="mailto:sismail@telkom.net">sismail@telkom.net</a>,<a href="mailto:sismail@dkp.go.id">sismail@dkp.go.id</a></td>
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<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Name</strong>  : Mr. Muhammad Umar Kotarumalos</td>
<td></td>
</tr>
<tr>
<td><strong>Date of Birth</strong> : 20 January 1973</td>
<td></td>
</tr>
<tr>
<td><strong>Educational Background</strong> : B.Sc.</td>
<td></td>
</tr>
<tr>
<td><strong>Position</strong> : Staff</td>
<td></td>
</tr>
</tbody>
</table>
Name : Mr. Wilson Simanjuntak
Date of Birth : 9 January 1965
Educational Background : B.Sc. (Fishing Technology)
Position : Head of Fishing Technology Section
Office Address : Fisheries and Sea Service of North Sumatera Province, Jl. Seri Batugingging No. 6 North Sumatera, Medan 20154, Indonesia
              Tel : 62-61-45-68819
              Fax : 62-61-45-68819

Name : Mr. Jainur Manurung
Date of Birth : 30 July 1963
Educational Background : B.Sc.
Position : Head of Section, Engine and Auxiliary Equipment
Office Address : Directorate of Fisheries Facility, Directorate General of Capture Fisheries, Jl. Medan Merdeka Timur No. 16 Gedung Dep Kelautan dan Perikanan Lantai II, Jakarta Pusat, Indonesia
              Tel : 62-61-35-1907 Ext. 1121
              Fax : 62-21-35-20726
              E-mail : jainur-beta@plasa.com

Name : Mr. Mahiswara
Date of Birth : 24 January 1961
Educational Background : B.Sc. (Fisheries)
Position : Research
Office Address : Research Institute for Marine Fisheries, Jl. Muara Baru, Ujung, North Jakarta 14440, Indonesia
              Tel : 62-21-66-02044
              Fax : 62-21-66-12137
              E-mail : kanlutmb@indonet.id
Malaysia

Name : Mr. Ahmad Saktian Bin Langgang
Date of Birth : 4 October 1953
Educational Background : B.Sc. (Botany)
Position : Head of Resource Management
Office Address : Department of Fisheries
                Ministry of Agriculture
                Tingkat 8 & 9, Wisma Tani,
                Jalan Sultan Salahuddin
                50628 Kuala Lumpur, Malaysia
                Tel : 007-603-2617-5647
                Fax : 007-603-2991-0305
                E-mail : saktian@dof.moa.my

Myanmar

Name : Mr. Khin Maung Aye
Date of Birth : 17 September 1953
Educational Background : Diploma (Fishing Gear Technology)
Position : Fishery Officer
Office Address : Department of Fisheries
                Sinmin Road, Ahlone Township
                Yongon, Myanmar
                Tel : 095-01-680745
                Fax : -
                E-mail : myintzu@myanmar.com.mm
Name : Mr. Renato Buce Almonte
Date of Birth : 19 July 1955
Educational Background : B.Sc. (Marine Fisheries)
Position : Aquaculturist II
Office Address : Bureau of Fisheries and Aquatic Resources
860 Arcadia Building, Quezon Avenue,
Quezon City, Manila,
The Philippines
Tel : 372-50-51/371-11-73
Fax : 371-11-73
E-mail : -

Name : Mr. Marco Arante Perez
Date of Birth : 20 July 1956
Educational Background : B.Sc. (Marine Fisheries)
Position : Aquaculturist II
Office Address : Bureau of Fisheries and Aquatic Resources
860 Arcadia Building, Quezon Avenue,
Quezon City, Manila,
The Philippines
Tel : 372-65-70
Fax : 371-11-73/372-50-51

Name : Mrs. Myrna Benavidez Ramos
Date of Birth : 14 September 1953
Educational Background : B.Sc. (Public Administrative)
Position : Draftman
Office Address : Bureau of Fisheries and Aquatic Resources
860 Arcadia Building, Quezon Avenue,
Quezon City, Manila,
The Philippines
Tel : 372-50-51
Fax : 371-11-73
E-mail : mramos@bfar.da.gov.ph
Name: Mr. Salinas Pantaleon Remegio
Date of Birth: 4 August 1978
Educational Background: B.Sc. (Marine Fisheries)
Position: Marine Engineer/Training Assistant
Office Address: Bureau of Fisheries and Aquatic Resources
860 Arcadia Building, Quezon Avenue,
Quezon City, Manila
The Philippines
Tel: 372-50-51/373-74-45
Fax: 371-11-73

Name: Mr. Pierre Easter Ladrido Velasco
Date of Birth: 2 April 1972
Educational Background: B.Sc. (Marine Fisheries)
Position: Aquaculturist I
Office Address: Bureau of Fisheries and Aquatic Resources
860 Arcadia Building, Quezon Avenue,
Quezon City, Manila
The Philippines
Tel: 372-50-51/373-74-45
Fax: 371-74-45
E-mail: aquapolice_72@yahoo.com
### Vietnam

<table>
<thead>
<tr>
<th>Name</th>
<th>Mr. Phan Hong Dung</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Birth</td>
<td>13 October 1960</td>
</tr>
<tr>
<td>Educational Background</td>
<td>M.Sc. (Marine Science)</td>
</tr>
<tr>
<td>Position</td>
<td>Staff</td>
</tr>
</tbody>
</table>
| Office Address   | Research Institute of Marine Fisheries  
|                  | Ministry of Fisheries               
|                  | 170 Lelai Ngoquyen, Haipong      
|                  | Vietnam                           
|                  | Tel : 84-31-767244               
|                  | Fax : 84-31-836812               
|                  | E-mail : phdung1960@yahoo.com    |

### Thailand

<table>
<thead>
<tr>
<th>Name</th>
<th>Mr. Wiwithanon Boonyung</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Birth</td>
<td>21 April 1977</td>
</tr>
<tr>
<td>Educational Background</td>
<td>B.Sc. (Fisheries)</td>
</tr>
<tr>
<td>Position</td>
<td>Fisheries Biologist</td>
</tr>
</tbody>
</table>
| Office Address   | The Upper Gulf Marine Fisheries Research  
|                  | And Development Center,         
|                  | 49 Phrapadang, Samutprakarn     
|                  | Thailand                         
|                  | Tel : 662-8167636               
|                  | Fax : -                         
|                  | E-mail : wiwiththanon@yahoo.com  |
## List of Course Staff

1. Mr. Niwes Ruangpanit  
   **Course Leader**  
   Chief of the Training Department

2. Mr. Bundit Chokesanguan  
   **Course Director**  
   Fishing Instructor

3. Mr. Suppachai Ananpongsuk  
   **Course Coordinator**  
   Fishing Instructor

4. Mr. Worawit Wanchana  
   **Assistant Course Coordinator**  
   Fishing Instructor

5. Mr. Nopporn Manajit  
   **Assistant Course Coordinator**  
   Fishing Instructor

6. Mr. Nakaret Yassok  
   Assistant Fishing Instructor

7. Mr. Weerasak Yingyuad  
   Assistant Fishing Instructor

8. Ms. Raya Pethkam  
   Assistant Fishing Instructor

9. Mr. Suthipong Thanasarnsakorn  
   Marine Engineering Instructor

10. Mr. Thaweesak Timkrab  
    Marine Engineering Instructor

11. Mr. Apinan Taradol  
    Marine Engineering Instructor

## SEAFDEC/TD ship staff  (M.V. Plalung I)

1. Mr. Trakul Sangphuek  
   Skipper

2. Mr. Somphote Vudhipanyo  
   Fishing assistant

3. Mr. Somyos Pornprasert  
   Fishing assistant

4. Mr. Nimithr Pattamapranee  
   Oiler
# Training Program

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Activities/Subjects</th>
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<tbody>
<tr>
<td></td>
<td>1030-1200 hrs.</td>
<td>TD’s facilities observation</td>
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<tr>
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<td>1300-1630 hrs.</td>
<td>Countries paper presentation</td>
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<tr>
<td>26 Aug. 2003</td>
<td>0900-1200 hrs.</td>
<td>Lecture: Introduction of TEDs and JTEDs</td>
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<td>1300-1600 hrs.</td>
<td>Lecture: Training and Extension Program on the Use of TEDs and TEDs</td>
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<td>27 Aug. 2003</td>
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<td>Practice: Construction of TEDs and JTEDs</td>
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<td>31 Aug. 2003</td>
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<td>Visit Grand Palace, Bangkok</td>
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<tr>
<td>1 Sep. 2003</td>
<td>0900-1200 hrs.</td>
<td>Practice: Installation of TEDs and JTEDs</td>
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<td></td>
<td>1500 hrs.</td>
<td>TEDs and JTEDs sea-trial orientation</td>
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<td>2 Sep. 2003</td>
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<td>Leave TD for Chonburi province</td>
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<td>0900 hrs.</td>
<td>Visit Khoa Kheow Open Zoo</td>
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<td></td>
<td>1030 hrs.</td>
<td>Visit Sea-Turtle Conservation at Sattaheep Naval Base (Royal Thai Navy)</td>
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<tr>
<td></td>
<td>1400 hrs.</td>
<td>Visit Sriracha Marine Research Station</td>
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<tr>
<td>3-4 Sep. 2003</td>
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<td>Sea-trial on the Use of TEDs and JTEDs</td>
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<tr>
<td>5 Sep. 2003</td>
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<td>Return to TD</td>
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<td>6 Sep. 2003</td>
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<tr>
<td>7 Sep. 2003</td>
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<tr>
<td>8 Sep. 2003</td>
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<td>Course Evaluation</td>
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<td></td>
<td>1300 hrs.</td>
<td>Closing ceremony</td>
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