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Reduction of Environmental Impact from Tropical Shrimp Trawling, through the introduction of By-catch Reduction Technologies and Change of Management
(EP/GLO/201/GEF)

Indonesia

Final Report

Demonstration and training on by-catch reduction devices

Reduction of environmental impact from Tropical Shrimp-Trawling through the introduction of By-Catch reduction technologies and change of management.

Merauke – Papua Province, November 28th – December 5th, 2005

Directorate General of Capture Fisheries
Ministry of Marine Affairs and Fisheries,
Republic of Indonesia
2005

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

FINAL REPORT

DEMONSTRATION AND TRAINING ON BY-CATCH REDUCTION DEVICES

REDUCTION OF ENVIROMENTAL IMPACT FROM TROPICAL SHRIMP TRAWLING, THROUGH THE INTRODUCTION OF By-CATCH REDUCTION TECHNOLOGIES AND CHANGE OF MANAGEMENT
(FAO Symbol EP/GLO/201/GEF)

Merauke – Papua Province, November 28th – December 5th, 2005

DIRECTORATE GENERAL OF CAPTURE FISHERIES
MINISTRY OF MARINE AFFAIRS AND FISHERIES
REPUBLIC OF INDONESIA
2005

ACKNOWLEDGEMENT

First of all, we would like to express our sincere thank to the honourable :

1. Mr. Wilfried Thielle (Senior Fishery Industry Officer, FAO-Rome)
2. Mr. Janne Fogelgren (Project Operations Coordinator, FAO-Rome)
3. Mr. Man Ho So (FAO Representative in Indonesia)
4. Mr. Bundit Chokesanguan (SEAFDEC/TD Bangkok)
5. Mr. Suppachai Ananpongsuk (SEAFDEC/TD Bangkok)
6. Mr. Thaweesak C (SEAFDEC/TD Bangkok)

for their valuable advices and participations with the workshop of demonstration and training on by-catch reduction devices which has successfully held from November 28th - December 5th 2005 in Merauke – Papua Province, Indonesia.

The workshop was aimed to disseminate the installation of TED/JTED for the trawl net. We expect by this kind of dissemination and training the fishers will be able on the BRDs instalment and operation.

The Workshop was successfully conducted as a result of collaboration among all of the committees (both steering and organizing committee), Directorate General of Capture Fisheries, FAO – Rome, FAO Rep in Indonesia, SEAFDEC/ TD Bangkok, and Fishing Technology Development Centre Semarang. Herewith we highly appreciate for them who have fully participated and supported in this workshop.

Jakarta, December 2005
Directorate of Fishing Vessels and Fishing Gears

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1. INTRODUCTION

1.1. Background

The trawl fishing technique in Indonesia was introduced for more than 30 years ago, but the development of the trawl gear has been toward ways to increase catch efficiency.

The U.S. shrimp import embargo that went into effect on May 1st, 1996, stipulates that fishing methods used in shrimp capture in harvesting countries should inflict no harm on marine turtles. Public law 101 – 162 section 609, enacted by Congress in 1989, requires nations who wish to export shrimp to the United States to adopt regulations governing the incidental taking of sea turtles comparable to those of the U.S., and that the average rate of incidental taking be comparable to the incidental rate of capture by U.S. vessels. The clear intent of this law is to encourage nations to adopt regulations requiring TEDs on all shrimp trawling vessels fishing in waters shared with five sea turtle species (keep's ridley, hawksbill, loggerhead, green and leatherback).

Particularly in tropic waters, trawl fisheries also produce enormous unwanted catch called "trash-fish", which are usually discarded back to the sea either dead or dying. Recently, trash fish are being retained and ground into fishmeal for export for feed in shrimp production in marine farms. It can be said that this is a loss of many tons of valuable food fish that might otherwise have satisfied vital local requirements for protein. The unwanted catch includes undersized commercially valuable fish, mostly in the juvenile stage, which contributes to a reduction of fish stock. It is now vital that the natural resources are harvested selectivity to eventually improve the yield.

Implementing The Code of Conduct for Responsible Fisheries (CCRF), some countries and international fisheries organizations have committed to put selective fishing gear as a priority in exploiting the fisheries resources. One way to reduce such undeliberated catch of species by installing By Catch Reduction Devices (BRDs: Turtle Excluder Devices/ Juvenile and Trash Excluder Devices).

Indonesian government through The Presidential Decree Number: 85 / 1982 has obligated the shrimp trawl fisheries to install By-catch Reduction Devices/ Turtle Excluder Devices. Nevertheless, it is necessary to keep on disseminating and training the regulation to fishers for being able to get the best performance. It is also necessary to introduce many other kind of BRDs which have been improved in the world, such as Juvenile and Trash fish Excluder Devices (JTEDs).

1.2. Objectives and Purpose

1.2.1. Objectives

Generally, this workshop was aimed some objectives, such as:

a. To explain the purpose of By-catch Reduction Devices (TEDs/JTEDs) installation on trawl net;
b. To introduce the types, designs, constructions and installation of By-catch Reduction Devices (TEDs/JTEDs);
c. To describe the benefits/advantages could be acquired by installing the By-catch Reduction Devices (TEDs/JTEDs);
d. To demonstrate and train the fishers on the installation of By-catch Reduction Devices (TEDs/JTEDs) in trawl net.

1.2.2. Purposes

The purposes of this workshop contains of:

a. The installation of BRDs, especially TED for the shrimp trawl net will avoid the caught of some endangered species, such as: turtles, mammals, etc;
b. The installation of BRDs, especially JTEDs for fish trawl net will reduce the caught of juvenile fish;
c. Introducing a responsible fishing technology by implementing demonstration and experiment of TEDs/JTEDs.

1.3. Funding

This workshop was financed by FAO/GEF Symbol EP/ GLO/ 201/ GEF Project.

2. MATERIALS AND METHODS

2.1. Training Materials

The workshop was focused the installation of By-catch Reduction Devices (TEDs/JTEDs). The materials, are (*both classical theory and outdoor practical*), such as:

a. The Technical aspect of fishing gears;
b. The Selectivity aspect of fishing gears;
c. The Sustainability aspect of fisheries resources;
d. The legal aspect of fisheries regulation.

Some of the training aids was used in the workshop, such as:

a. One unit of Turtle Excluder Devices (TED) type Bent Pipe
b. Juvenile and Trash Fish Excluder Devices (JTEDs) type semi-curve rigid sorting grid with grid distance, such as: 1 cm; 1,5 cm; 2 cm; and 3 cm.
c. Two units of shrimp trawl nets were operated to support the fishing trial. The devices on which demonstrated were TED type Bent Pipe and JTED type semi-curve rigid sorting grid with grid distance: 1 cm; 2 cm.
d. One unit of stern trawl net was operated to support the fishing trial. The devices on which demonstrated were JTED type semi-curve rigid sorting grid with grid distance: 1 cm; 1,5 cm and 3 cm.
e. Two units of fishing vessels were operated during the sea demonstration, such as: *1).* MV. Mahachainavee 2, stern trawl fishing vessels, 213 GT and *2).* MV. Arafura Pearl, double rigged shrimp trawl fishing vessel, 151 GT.

2.2. Training Methods

Generally, the methods used for the workshop as follows:

a. Class meeting
   As a provision materials for the workshop trainees was remarked at the opening and closing ceremony speech.
   The technique and advantages of the BRDs installation, etc were introduced theoretically by the trainers during the class meeting.
b. In-land Practical
   This part of the workshop was guided by trainers who demonstrate and practise trainees on the installation of TED and JTED on trawl net. The activities were consist of: net cutting, TED/JTED installing, net connecting and elevation measuring.
c. On-board Demonstration and Training
   This part of workshop will will practise the trainees of this workshop how to install the BRDs on trawl net, identify the kinds of caught species, put a part of the caught species as sample, weight and scale the fork length of each species and compare the differences between cod-end and cover net.

3. DEMONSTRATION AND TRAINING IMPLEMENTATION

The demonstration and training on by-catch reduction devices was conducted under The Director of Fishing Vessels and Fishing Gears, DGCF Decree No. 4103/DPT.2/PI.340.D2/VIII/05, dated on August 5th, 2005. The secretary address: Jl. Medan Merdeka Timur No. 16 Jakarta Pusat.

3.1. Time and Place

The Demonstration And Training On By-Catch Reduction Devices "Reduction of Environmental Impact From Tropical Shrimp Trawling, Through The Introduction of By-Catch Reduction Technologies And Change of Management" was held either in-land and on-board training from November 28th – December 5th , 2005.

The opening ceremony was officially held on November 29th, 2005 Asmat hotel Merauke, Papua Province. Meanwhile, the on-board demonstration and training had been in the adjacent of Komoran waters, Arafura Sea *(as shown in figure 1)*.

Figure 1. On-board Demonstration and Training location

3.2. Opening

The demonstration and training was officially opened by The Head of Merauke District, Papua Province (Drs. Jhon Gluba Gebze), on:

Day / time : Tuesday, November 29th, 2005
Time : 19.00 - 22.00 WIT (Eastern Indonesian Time)
Place : ASMAT Hotel, Merauke – Papua Province

The Opening ceremony was officially marked with sounding the traditional music equipment "Kendara" by the head of Merauke District. Besides, other speeches were also remarked by:

a. SEAFDEC's team leader (Mr. Bundit Chokesanguan);
b. FAO – Rome (Mr. Wilfried Thielle);
c. Director of Fishing Vessels and Fishing Gears on behalf of Director General of Capture Fisheries (Mr. Dedy H. Sutisna);

3.3. Trainers and Trainees

The trainers of this workshop, are :

a. Fishing Technology Development Centre, Semarang	:	2 persons
b. Directorate General of Capture Fisheries, Jakarta	:	3 persons
c. SEAFDEC, Thailand	:	3 persons
d. FAO – Rome	:	2 persons

The trainees of this workshops, are *(detail as attached)*:

a. Trainees from Merauke	:	13 persons
b. Trainees from Jayapura	:	12 persons
c. Trainees from Jakarta	:	15 persons

3.4. Class Meeting

This section consist of :

a. Specification and selectivity of BRDs (TEDs/JTEDs)
b. Design and Construction of BRDs (TEDs/JTEDs)
c. Identification of Fisheries Resources
d. Methodology on Data Collecting and Analysis
e. Construction and Installation of BRDs (TEDs/JTEDs)
f. Law Enforcement on TEDs
g. Recognition and Fill The Worksheet (Fisheries Log Book)
h. Evaluation of The Activities
i. Arrangement of Plan for The Future

All of the topics were presented in 2 (two) sessions, were: *1).* The Explanation Session, on which those topics were presented by the trainers; and *2).* The Discussion Session, on which the trainees could ask more explanation on the above topics. This methods were aimed to give more chance for the trainees to understand the topics. It's hoped to fully help the practical activities (both in-land and on-board).

3.5. In-land Practical

This part of the workshop was started by giving the explanation of the theory for BRDs' (TEDs/JTEDs) construction and installation on trawl net. The trainers demonstrated and practised trainees on the installation of TED and JTED on trawl net. The activities were consist of: net cutting, TED/JTED installing, net connecting and elevation measuring.

This practical was supported by the display as models of the net (had been installed each kind of the BRDs). So that, the trainees could

directly see the performance of the installed BRDs on trawl net. It was held in Fisheries Service Office of Merauke – Papua Province.

3.6. On-board Demonstration and Training

This practical activity was held on the adjacent of Komoran waters, of Arafura Sea. During the sea demonstration, the trainees were divided into 2 (two) groups. The group (1) operated shrimp trawl net on which had been installed TEDs and JTEDs on double rigged shrimp trawl fishing vessels (MV. ARAFURA PEARL). The group (2) operated fish trawl net on which had been installed JTEDs on stern trawl net (MV. MAHACHAINAVEE 2).

This activity had been conducted since December 1st to 2nd, 2005. MV. Arafura Pearl shooted the shrimp trawl net for 3 (three) times. Meanwhile, MV. Mahachainavee 2 shooted the fish trawl net for 4 (four) times. The result of the fishing trial as the fishing operational sheet (Table 1) as follows:

Tabel 1. Fishing Operation Sheet

1. NAME OF VESSEL : MAHACHAINAVEE 2 **NAME OF CAPTAIN :**

GROSS TONNAGE /POWER : 213 GT/ 1300 HP **FISHING AREA : ARAFURA SEA (SOUTH OF COMORAN)**

NO	DATE	TIME		POSITION		TOWING		DEPTH	WIND DIR/ FORCE	WARP	CATCH OF JTED			CATCH OF TED	TYPE of JTED
		SET	HAUL	SET	HAUL	SPEED (knot(	DIR	(m)		(m)	Cod end ((kg)	Cover ((kg)	Total ((kg)	((kg)	
1.	01 Des 2005	19.55	20.55	09-19,1 0 S 139-40,47 E	09. 19,17 S 139. 35,46 E	4,3	214	30,6	S/1	125	100,5	5	105,5	-	JTED 1,5 cm (BPPI Semarang)
2.	01 Des 2005	22.56	23.56	09-18,64 S 139- 34,71 E	09. 18,36 S 139. 39,16 E	4,6	67	27	S/1	125	272	4	278	-	JTED 1 cm (SEAFDEC)
3	02 Dec 2005	00.35	01.35	09-17,28 S 139-39.80 E	01-33,00 S 139-41,00 E	4.1	31	21.5	S/1	100	245,5	9,5	255	-	Idem ditto
4	02 Dec 2005	02.55	03.55	09-15,60 S 139-57,20 E	02-55,00 S 139-33,00 E	3,4	242	29,9	S/1	125	154	45	200	-	JTED 3 cm (SEAFDEC)

2. NAME OF VESSEL : ARAFURA PEARL **NAME OF CAPTAIN : THAMRIN**

GROSS TONNAGE/POWER : 151 GT/ 1100 HP **FISHING AREA : ARAFURA SEA (SOUTH OF COMORAN)**

NO	DATE	TIME		POSITION		TOWING		DEPTH	WIND DIR/ FORCE	WARP	CATCH OF JTED			CATCH OF TED (kg)		TYPE of JTED
		SET	HAUL	SET	HAUL	SPEED (knot)	DIR	(m)		(m)	Cod end ((kg)	Cover ((kg)	Total ((kg)	Cover net	Cod end	
1.	01 Des 2005	23.30	00.30	08.36,27 S 138.43,24 E	08.36,41 S 138.40,91 E	3,5	269	37,4	S/1	185	-	-	-	62,5	10	JTED 2 cm/ lost (BPPI Smg)
2.	02 Des 2005	03.15	04.13	08.36,00 S 138.44,71 E	08.36,06 S 138.41,16 E	3,5	270	37,4	S/1	185	78	1,02	79,02	-	81	JTED 1 cm (BPPI Smg)
3	02 Dec 2005	04.27	05.15	08.36,08 S 138.41.20 E	08.36,05 S 138.44,00 E	3,2	89	36,0	S/1	180	85	1,60	85,60	-	79	JTED 1 cm (BPPI Smg)

The above Table 1. Fishing Operation Sheet described the result of caught in kilograms, either in cod end or in cover net. According to the whole caught species the percentage of the escapement rate could be calculated both for the shrimp trawl net and fish trawl net equipped with many types and sizes of the JTEDs. The formula to calculate the escapement rate, are:

$$Escape\ (\%) = \frac{W_{COVER\ NET} \times 100}{(W_{COD\ END} + W_{COVER\ NET})}$$

Note:

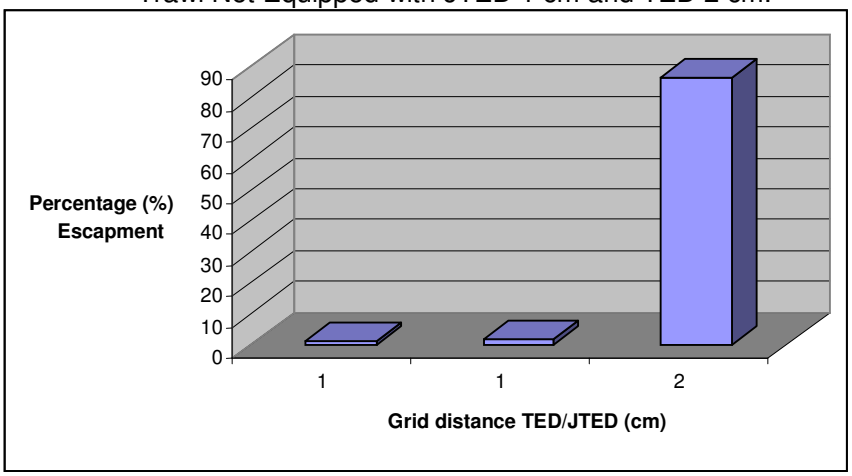
$W_{COVER\ NET}$: The caught species in cover net (Kgs)
$W_{COD\ END}$: The caught species in cod end (Kgs)

The percentage of the escapement rate performed by double rigged shrimp trawl net (MV. Arafura Pearl) as Table 2 and Picture 1 as follows:

Table 2. Percentage (%) of The Escapement Rate for Shrimp Trawl Net

No	Grid Distance TED/JTED (cm)	% Escapement
1	1	1.290812453
2	1	1.847575058
3	2	86.20689655

Picture 1. Graph on Percentage (%) of The Escapement Rate for Shrimp Trawl Net Equipped with JTED 1 cm and TED 2 cm.



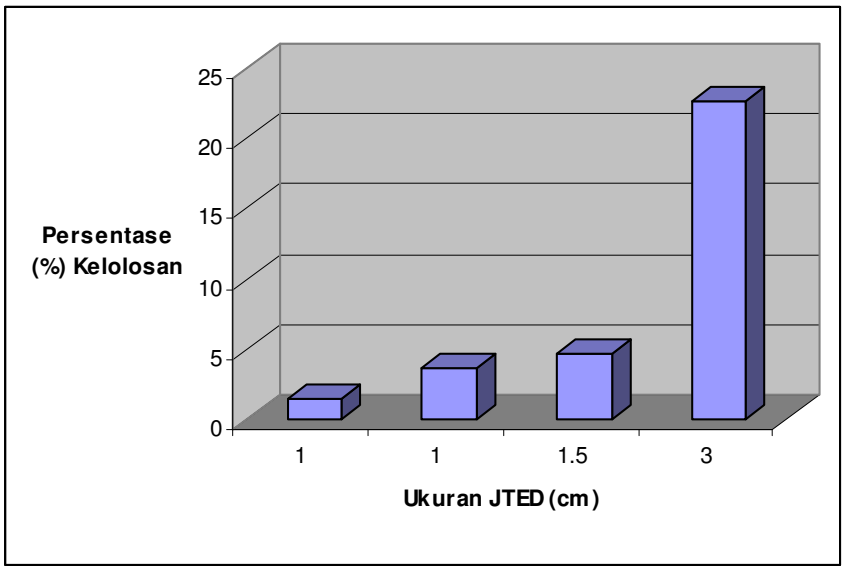
The table 2 and Picture 1 show the percentage (%) of the escapement for JTED 1 cm is 1.29 % and 1.85 %. The percentage (%) of the escapement for TED 2 cm is 86.21 %.

Meanwhile, the percentage of the escapement rate performed by stern trawl net (MV. Mahachainavee 2) as Table 3 and Picture 2 as follows:

Table 3. Percentage (%) of The Escapement for Stern Trawl Net

No	Grid Distance JTED (cm)	% Escapement
1	1	1.449275362
2	1	3.725490196
3	1.5	4.739336493
4	3	22.61306533

Picture 2. Graph on Percentage (%) of The Escapement Rate for Stern Trawl Net Equipped with JTED 1 cm, 1.5 cm dan 3 cm.



The table 3 and Picture 2 show the percentage (%) of the escapement for JTED 1 cm is 1.45% dan 3.73%, . The percentage (%) of the escapement for JTED 1,5 cm is 4.74%, for JTED 3 cm is 22.61%.

3.7. Closing

The demonstration and training on by-catch reduction devices was officially closed by the Head of Marine Affairs and Fisheries Services, Papua province, at:

Day/Date : Sunday, December 4th, 2005
Time : 12.00 – 13.00 WIT (Western Indonesian Time)
Place : Asmat Hotel Merauke, Propinsi Papua

4. DISCUSSIONS AND EVALUATION

4.1. Discussions

Referring to the evaluation sheets and based on the trainees' participation during the workshop, we could see their antusiastic. As all of the trainees are the person who have direct relation to the installation on BRDs. Their institutions are; Fisheries compliance officers, Polices, Indonesian Navy, Fisheries Service officers, Skippers (Fisheries Trawl Industry) and NGOs.

The trainees focused on some issues relating to their daily job and task:

a. The mortality of espacees of the released caught species;
b. The enforcement of TED regulations and the punishment;
c. Another problem to solve is that by-catch also become important income.

The trainers both from FAO and SEAFDEC highlight the importance of TEDs and JTEDs installation on trawl net. It will release the endangered and juvenile species such as: marine mammals, turtles, shark, etc. Besides, as being informed by Mr. Willfred Thielle that long-term fisheries resources sustainability will cover the direct economic income.

The compliance for TED installation as being regulated by The United States of America (NOAAF) need to be fully enforced. It is also will help the Indonesian shrimp trawl Industry to export the product to The USA.

The indications found that the TED didn't properly installed on shrimp trawl net of the MV. Arafura Pearl used for the demonstration and training by FAO-GEF trainers, give not so good image for the whole shrimp trawl industry especially in Merauke.

So that, it was well suggested by Mr. Thielle dan Mr. Fogelgren to arrange the next meeting together with the managers of shrimp trawl industry. This meeting is arranged to be held on beginning of February – middle of March 2006.

4.2. Evaluations

1) Conducting the sustainable fisheries management, it is necessary to keep on conducting the demonstration and training as specially for the commercial fisheries.
2) Further research should be held to improve the appropriate design and construction/prototype of BRDs which appropriate with Indonesian water.

3) In order to improve the compliance and surveillance, it is important to keep on involve the fisheries surveillance officer (also local fishing port and local fisheries service officers);
4) The adequate budget is needed to support such the above mentioned activites.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The Demonstration and Training on By-catch Reduction Devices had been conducted in Merauke – Papua Province since November 28th – December 5th, 2005. The trainees participate this workshop consist of: Fisheries Services officers, Compliance officers, Trawl fisheries industry.

The curriculum of the workshop is explained in classical meeting, in-land practical and on-board sea demonstration and training.

The on-board sea demonstration and training were supported by shrimp trawl net on which had been installed TEDs and JTEDs on double rigged shrimp trawl fishing vessels (MV. ARAFURA PEARL) and fish trawl net on which had been installed JTEDs on stern trawl net (MV. MAHACHAINAVEE 2).

This activity had been conducted since December 1st to 2nd, 2005. MV. Arafura Pearl shooted the shrimp trawl net for 3 (three) times. Meanwhile, MV. Mahachainavee 2 shooted the fish trawl net for 4 (four) times. According to the result of the sea demonstration, trawl net being installed JTED with 10 mm and 15 mm grid distance could release small species (non-economically important size). Meanwhile, the trawl net being installed JTED with 30 mm grid distance could also release big species (economically important size).

5.2. Recommendations

1) To reduce the environmental impact from trawl net, a better collaboration and coordination between stake holders; government, researchers, fisheries trawl industry, fishermen, NGOs need to be improved;
2) To prepare The Minister Decree on TEDs/JTEDs installation both on shrimp trawl net and fish trawl net for the sustainable fisheries management;
3) To improve the dissemination and compliance on TEDs/JTEDs installation on trawl net to enlarge the export market.

ANNEXES

Annex 1 : Name of Trainees and Trainers

No	Name of Trainees	Institution
1	Susanto M	Fisheries Surveillance Officer of Papua Merauke District
2	Liza Lazuardy	Fisheries Surveillance Officer of Papua Merauke District
3	Jakob Bothmir	Coastal Guard, Merauke
4	Nofian Kubalang	Coastal Guard, Merauke
5	Marisi N Sibarani	Marine Affairs and Fisheries Officer of Merauke District
6	Lukas	Marine Affairs and Fisheries Officer of Merauke District
7	Son Hedji	NAVY, Merauke
8	Marthen J Salakory	NAVY, Merauke
9	I. Kelanit	Police, Merauke
10	Daniel Ayer	Police, Merauke
11	Mide	KPLP
12	Suryadi	Fisheries Surveillance Officer of Papua Merauke District
13	Gab Laiyan	Marine Affairs and Fisheries Officer of Merauke District
14	John	Fisheries Surveillance Officer of Papua Province, Jayapura
15	Ino Sainc	Fisheries Surveillance Officer of Papua Province, Jayapura
16	Rumadi	Fisheries Surveillance Officer of Papua Province, Jayapura
17	Agus	Fisheries Surveillance Officer of Papua Province, Jayapura
18	Hamma Rappe	Marine Affairs and Fisheries Officer of Papua Province, Jayapura
19	Slamet S	Marine Affairs and Fisheries Officer of Papua Province, Jayapura
20	Mashuri	Marine Affairs and Fisheries Officer of Papua Province, Jayapura
21	Suena	Marine Affairs and Fisheries Officer of Papua Province, Jayapura
22	La Ayama	Fisheries Surveillance Officer of Jayapura Town
23	Budi	Fisheries Surveillance Officer of Jayapura Town
24	Elly L	Marine Affairs and Fisheries Officer of Jayapura Town
25	W. Wohel	Marine Affairs and Fisheries Officer of Jayapura Town
26	Suyatmi	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta
27	Toton D. Efkipano	Directorate of Fishing Port -DGCF, Jakarta
28	Tri Antoro	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta
29	Muklis	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta
30	Darkum	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta
31	M. Idnillah	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta
32	Agus Wahyu	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta
33	Eko Wibowo	Directorate of Fishing Development Bussiness -DGCF, Jakarta
34	Bachtiar Maswir	Directorate of Fishing license-DGCF, Jakarta
35	Rita Astuti	Directorate Fisheries Resources - DGCF, Jakarta
36	Hendrijanto	Directorate of Fishing license-DGCF, Jakarta
37	Luitfianty	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta
38	Yusuf Fathanah	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta
39	Adrie	Directorate of Fishing Port -DGCF, Jakarta
40	P. Simanjuntak	Directorate of Fishing Vessels and Fishing Gears -DGCF, Jakarta

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No	Name of Trainers	Institution
1	Mr. Wilfried Thiele	National Coordinator
2	Mr. Jeanne Fogelgren	National Steering Committee
3	Bundit Chokesanguan	SEAFDEC, Thailand
4	Suppachai Ananpongsuk	SEAFDEC, Thailand
5	Thaweesak C	SEAFDEC, Thailand
6	Dedy H Sutisna	National Coordinator
7	Tyas Budiman	National Steering Committee
8	Baithur Sjarief	Directorate General of Capture Fisheries
9	Margiu H	Directorate General of Capture Fisheries
10	Suharyanto	Fishing Technology Development Centre, Semarang
11	Salatun	Fishing Technology Development Centre, Semarang

Note:
Trainers: No. 6 – 11 were funded by FOA Symbol EP/GLO/201/GEF.

Annex 2: Description of Activities

The Demonstration and Training on By-Catch Reduction Devices
On November 28th – December 5th 2005, Merauke - Papua

No	Day / Date	Activity	Remark
1	**Sunday, November 27th 2005**		
	19.30	All of committees, SEAFDEC, BPPI Semarang, Participants from Jakarta Depart from Jakarta - Merauke	Committee
2	**Monday, November 28th 2005**		
	……. - 07.00	Arrive in Merauke	Committee
	14.00 – 18.00	Preparation	Committee
	19.30	DG of Capture Fisheries, Dir. Of Fishing Vessels and FG, FAO depart from Jakarta - Merauke	Mr. Husni M, Mr. Dedy HS, FAO
3	**Tuesday, November 29th 2005**		
	……. - 07.00	DGCF, Dir and FAO Arrive in Merauke	
	14.00 - 18.00	Participant Registration	committee
	19.00 - 21.00	Opening ceremony	
		- Acknowledge	Head of Merauke district - Papua Propince
		- Reporting of Preparation committee	Mr. Dedy H. Sutisna/ Mr. Tyas Budiman
		- SEAFDEC's / FAO's speech	Mr. Bundit Chokesangun
		- FAO Representative speech	Head of FAOR
		- Director General of Capture Fisheries - MOMAF (inaugural speech)	Mr. Husni Mangga Barani
4	**Wednesday, November 30th 2005**		
	08.00 - 09.00	Specification and selectivity of BRD's	trainers
	09.00 - 10.00	Construction and installation of TED	trainers
	10.00 - 10.30	Break	committee
	10.30 - 11.30	Construction and installation of TED	Trainers
	11.30 - 13.00	Construction and installation of JTED	Trainers
	13.00 – 1400	Break	committee
	14.00 - 16.00	Practice installation of BRDs	Trainers
	19.00	Dissemination of UU No. 31/2005	Law Dept. of DGCF - MOMAF
	22.00 - …	Go to fishing ground	
5	**Thursday, December 1st 2005**		
	…	Sea Demonstration and Training on TED	Trainers
6	**Friday, December 2nd 2005**		
	… - 19.00	Back to Merauke fishing port	Trainers
	19.00 -…	Break after Sea Demonstration	committee
7	**Saturday, December 3rd 2005**		
	08.00 - 10.30	Low enforcement of BRD	DG of PSDKP, MOMAF
	10.30 – 11.00	Break	committee
	11.00 - 13.00	Identification of fisheries resource	Trainers
	13.00 - 14.00	Break	committee
	14.00 - 15.00	Recognition and fill the worksheet	Trainers
	15.00 – 17.30	Design and construction of TEDs and JTEDs	Trainers

8	**Sunday, December 4th 2005**		
	08.00 – 09.00	Evaluation of activity	Trainers
	09.00 – 10.30	Arrangement of plan for the future	committee
	10.30 – 11.30	Closing (Director of Fishing Vessels and Fishing Gears)	Mr. Dedy H. Sutisna
9	**Monday, December 5th 2005**		
	09.00 - ……	Go back home	

Annex 3: Documentation of the Demonstration and Training on TEDs/JTEDs in Merauke – Papua Province

The Trainees Registration

The Opening Ceremony

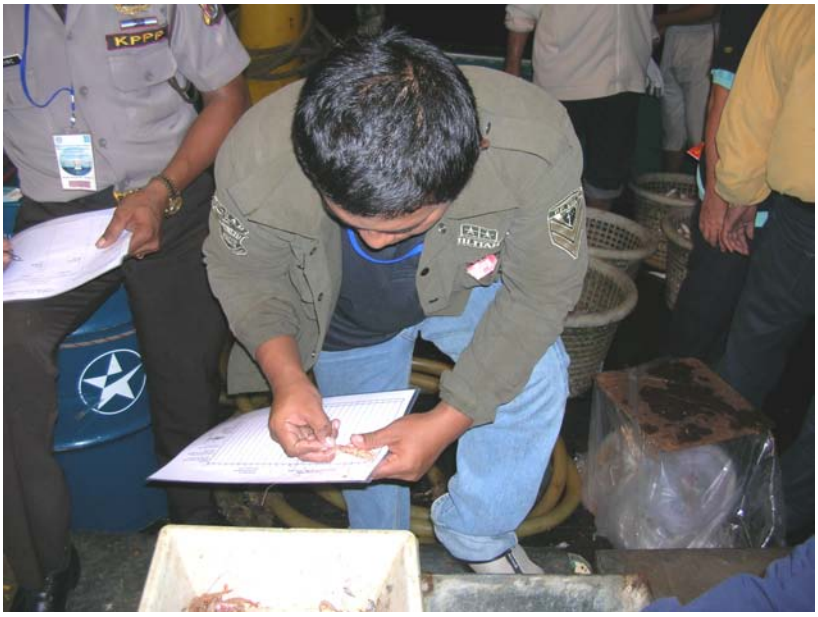
Inaugural Speeches

In Class Meeting

TEDs and JTEDs Installation

On-Board Demonstration and Training

The Species Caught



Data Collecting: Fork Length Measuring and Weighting

Closing Ceremony

Annex 4: Demonstration and Training on TEDs/JTEDs Publications

Annex 5: Hand Out of the Demonstration and Training on TEDs/JTEDs

Hand Out