

**Report of the Regional Short-term Training Course
in Scientific Diving
12-26 December 1994**

**The Training Department
Southeast Asian Fisheries Development Center
Samutprakarn, Thailand**

TD/RP/34

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I. Introduction

The Regional Short-term Training Course in Scientific Diving was conducted by the Training Department from 12 to 26 December 1994. This was the first training course for regional of this type after the local short-term training course in 1993.

Invitations to nominate participants for the training course were sent to six countries, namely Brunei Darussalam, Malaysia, Singapore, Philippines, Viet Nam and Thailand. Five countries responded for the total of participants as follows:

Brunei Darussalam	2
Malaysia	2
Philippines	1
Viet Nam	2
Thailand	<u>9</u>
Total	<u>16</u>

A list of participants and instructors is given in Annex A.

II. Objectives

The objectives of the first Regional Short-term Training Course in Scientific Diving were:

1. To train participants in the concepts of underwater research and the practice of underwater research activities.
2. To familiarize participants with first aid procedures and SCUBA* gear maintenance.
3. To familiarize participants with underwater equipment for underwater research.

III. Training Subjects

3.1 Introduction to Scientific Diving

- Introduction to diving and science
- Revision of SCUBA diving techniques
- First aid tips for SCUBA diving gear maintenance
- Coastal navigation (Positioning at Sea)

* Self - Contained Underwater Breathing Apparatus

3.2 Equipment for Scientific Diving

- Underwater recorder (Camera VDO)
- Underwater photo techniques
- Oceanographic and underwater equipment

3.3 Scientific Diving and Underwater Survey

- Planning for underwater research
- Underwater searching techniques
- Underwater survey techniques of coral reefs and artificial reefs
- Underwater sampling

IV. Training Program

4.1 SCUBA ability test (3 hours)

Training was carried out SCUBA ability test for 14 participants, according to know their basic skill of the SCUBA ability. The response to their SCUBA ability test is given in Annex B.

4.2 Lectures (33 hours)

Training was given at the Training Department and the Eastern Marine Fisheries Development Center (EMDEC) facility. In the first day, six hours of lectures were given at Training Department on the background of SCUBA diving techniques and adjustment of equipment before going to EMDEC. Thereafter the regular daily sessions began at 9 a.m. with classroom lectures and discussion until 12 noon in preparation for the afternoon practice session.

4.3 Practice at Sea and Discussion

Practice was carried out at four diving sites near to EMDEC. Namely Samet Island, Talu Island, Man Nai Island and the artificial reef stations in Phe Bay. In the evenings after dinner, the results and problems of the underwater practice were discussed. The particular was show at Pages 3-6.

Practice at Sea and Discussion

15 December 1994 (Thu.)

- 1330-1730 hrs. : The instructor described the diving site at Talu Island to the class before participants were tested on their ability. The divers were trained on the underwater team-working.
- 1900-2100 hrs. : Discussion on the diving in the afternoon. The instructor pointed out the deficiencies of the team-diving and stressed on safety rules for diving.

16 December 1994 (Fri.)

- 1330-1630 hrs. : After lecturing on positioning at sea, divers practiced on the method of finding the position at the sea and trained in underwater team-working.
- 1900-2100 hrs. : Discussion on the afternoon's activity. Two movie films about the artificial reefs were shown.

17 December 1994 (Sat.)

- 1330-1630 hrs. : A lecture was given on cameras, VDO recorders, underwater cameras and underwater VDO with housing. The participants practiced on how to use the underwater camera and underwater VDO with housing, and made preparations before lunch. In the afternoon's, diver practiced underwater using camera and underwater VDO camera with housing.

1900-2100 hrs. : Discussion on problems encountered in underwater photography. Two movies from VDO tapes which were shot by participants in the afternoon diving session were shown.

18 December 1994 (Sun.)

0800-1800 hrs. : Participants went on an excursion tour of

- 1) Nongnuch Garden and Traditional Center
- 2) Aquarium in Burapa University

19 December 1994 (Mon.)

: The day was given to lectures. There was no practiced for this day.

20 December 1994 (Tue.)

1330-1630 hrs. : Lectures on advanced underwater photography techniques followed by diving to practice underwater photography using the underwater camera and underwater VDO recorder with housing. The diving site was Kew Bay, at Samet Island.

1900-2200 hrs. : Discussion on the picture made with the underwater camera and underwater VDO recorder with housing. Participants watched the movie from the VDO tape recorded by guest instructors and discussed various details of the movies. Participants prepared the camera and VDO with recorder with housing before the end of the discussion.

21 December 1994 (Wed.)

1330-1630 hrs. : The morning lecture was on underwater searching techniques. The training in afternoon was to practice underwater searching techniques and survey of sea bottom by searching method. The diving site was natural rock near artificial reef station No. 8 in Phe Bay.

1900-2100 hrs. : The result from the survey of sea bottom by searching technique performed were shown. Instructors discussed the mistakes of the afternoon's underwater searching practice. Also, there was discussion on the underwater slides which were taken during the diving on previous day.

22 December 1994 (Thu.)

1330-1630 hrs. : The morning's lecture was on coral reef survey techniques. The training in the afternoon was practice on coral reef survey technique and the basics of coral reef classification. The diving site was Kew Bay, Samet Island.

1900-2100 hrs. : Discussion was on the problem of coral reef survey techniques. The instructor stressed to participants the ways of reef checking and how to distinguish dead coral and live coral.

23 December 1994 (Fri.)

1330-1630 hrs. : The morning' lecture was on fish sampling techniques. The training in the afternoon was to practice fish sampling techniques and underwater photography with the underwater camera and underwater VDO recorder with housing. The diving site was Praw Bay, Samet Island.

1900-2100 hrs. : The discussion was about the problem of underwater sampling. A VDO tape movie on underwater fish sampling methods was shown. The class instructor leader ended the discussion session with a briefing on the research plan for the next day.

24 December 1994 (Sat.)

0900-1800 hrs. : Underwater research survey on artificial reef site in the morning. The participants were trained on how to perform underwater survey on coral reef surveys in the afternoon. The diving was conducted at Man Nai Island.

1900-2200 hrs. : Discussion was on the result and the problems of underwater survey. The evening rounded off with a small party to congratulate the participants finishing the diving safety.

V. Evaluation

A participant from Vietnam, Mr. Tu Minh Ha hasn't background in diving with any breathing apparatus before. Therefore, he could not pass his first test on SCUBA diving practice in swimming pool, and could only be an observer.

The course evaluation, in which participants cooperated by answering a questionnaire. Most of them were in favour of the present arrangements for the course. The results of the inquiry are shown in Annex D.

Most of the participants agreed that the course was beneficial to their work, they did mention that more time should be allocated to practical work. They also agreed that safety is very important in diving. They were very happy that there were no accidents.

They suggested that, although living condition and facilities at the Dormitory were satisfactory, but some more sports equipment should be provided and kept in good condition.

VI. Conclusion

In conclusion, it can be said that the Scientific Diving Course was conducted satisfactorily, and all the objectives were achieved.

Participants were satisfied with their 15 days of training and agreed that the course had imparted a valuable knowledge and could be applied to their work.

VII. Comments from Staff of the Course

1. Basic knowledge qualification of participant as mentioned in the announcement should be strictly concerned is otherwise a serious accident may occur and of course the participant will not be able to complete the program.

2. In order keep "Safty first" target, staff of the course should more carefully prepare the practice program, material and method, especially on diving program.

Thailand

1. Mr. Hassapong Somchanakij
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79/1 Wichianchom Road, Bo-Yang, Muang
Songkhla 90000
2. Mr. Thavon Himmina
Chumphon Marine Fisheries Development Center
Chumphon 86120
3. Mr. Yongyooth Soodmee
Eastern Marine Fisheries Development Center
Ban-Phe, Rayong
4. Mr. Wira Chitsuwan
Fisheries Patrol Phuket
Wichit, Muang
Phuket 83000
5. Mr. Teerapong Apaipacdee
Fisheries Patrol Unit
Paknam, Muang, Chumphon 86120
6. Mr. Nipon Thongyou
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9. Mr. Shettapong Meksumpun
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Bangkhen, Bangkok 10900

B. Instructors

I. Training Department Staff

Subject

- | | |
|---|---|
| 1. Mr. Aussanee Munprasit
Head of Ship Division | Course Advisor, planning and leading for underwater practices |
| 2. Mr. Worawit Wanchana
Assistant Fishing Instructor
Training Division | Course Coordinator, lecture on Oceanographic and Underwater Equipment |
| 3. Mr. Isara Chanrachkij
Assistant Fishing Gear Technologist
Research Division | Assistant Course Coordinator, SCUBA gear maintenance and leading for underwater practices |
| 4. Ms. Penjan Rojana-anawat
Assistant Researcher
in Fishing Ground Information
Research Division | Assistant Course Coordinator, lecture on oceanography and underwater equipment and leading for underwater practices |
| 5. Mr. Thaweesak Chanloi
Audio-Visual Officer
Training Division | Camera and Phototechniques |
| 6. Mr. Mekkara Phanchuen
Assistant Audio-Visual Officer
Training Division | Assistant on Camera and Photo-techniques |

II. Guest Instructors

Subjects

- | | |
|--|----------------------|
| 1. Dr. Hansa Chansang
Phuket Marine Biological and Fisheries Institute (PMBC)
Leam Punwa
Phuket 83000
Tel. : 076-391128
Fax. : 076-391127 | - Diving and Science |
|--|----------------------|

2. Mr. Niphon Pongsuwan - Coral Reef Survey Techniques
PMBC, Leam Punwa
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Tel. : 076-391128
Fax. : 076-391127

3. Mr. Ukrit Sataphumin - Underwater Sampling
PMBC, Leam Punwa Techniques
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Tel. : 076-391128
Fax. : 076-391127

4. Mr. Sunthorn Seingsuwan - First-aid tips for SCUBA
NAUI Instructor 9693 Gear Maintenance
AQUA-CLUB (Thailand)
812/1 Soi Tararom 2 - Underwater Phototechniques
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Bangkok 10110
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Fax. : 392-5592

5. Miss Sunudda Seingsuwan
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Annex B

Basic SCUBA ability test for Participants of
Scientific Diving Course 1994

Group	Name	Basic skill	Buddy breath	Free-ascend
A	Mr. Mohammad Mail	-	-	-
	Mr. Thavon Himmina	P	P	P
	Mr. Abdul Hamid Haji Zainin	-	-	-
	Mr. Narongsak Kongchai	P	P	P
B	Mr. Abdul Aziz b. Yusof	P	P	P
	Mr. Mohd Yazid Yahya	P	P	P
	Mr. Hassapong Somchanakij	P	P	P
	Mr. Shettapong Meksumpun	P	P	P
C	Mr. Valeriano Borja	P	P	P
	Mr. Phan Hong Dung	P	P	P
	Mr. Yongyooth Soodmee	P	P	P
	Mr. Nipon Thongyou	P	P	P
D	Mr. Wira Chitsuwan	P	P	P
	Mr. Teerapong Apaipacdee	P	P	P
	Mr. Sumrong In-Eak	P	P	P
	Mr. Tu Minh Ha	F	F	F

Schedules for Regional Short-Term Training Course on
Scientific Diving 12-26/12/1994

Date	0900-1200 hrs.	1300-1600 hrs.	1900-2100 hrs.	Place	Remarks
12 (Mon.)	Opening Ceremony (SG/TDC) Diving & Science (Aussanee)	Diving Equipment Check & Distribution (Isara & Staff)	VDO show (Isara & Staff)	SEAFDEC/TD	
13 (Tue.)	Background SCUBA techniques adjustment (Aussanee)	Test on basic SCUBA diving techniques (Aussanee & Staff)	Orientation for field study & practice (Aussanee & Staff)	"	Practice in Swimming pool
14 (Wed.)	Preparation for field study & practice	Leave SEAFDEC/TD for EMDEC, by SEAFDEC's bus	Free	Dormitory of EMDEC, Ban-Phe, Rayong	M.V. PLATOO, M.V. PLALING 1 leave for Ban Phe
15 (Thu.)	Orientation for SCUBA diving around Ko Samet (Aussanee)	Test Basic SCUBA diving techniques at sea (Aussanee & Staff)	Evaluation	Ko Talu	
16 (Fri.)	Positioning at Sea (Capt. Suradetch)	Practice on positioning at Sea and 1 dive (Capt. Suradetch & Staff)	VDO show	Ko Samet	Practice by M.V. PLATOO and M.V. PLALING 1
17 (Sat.)	Camera & Photo-techniques (Taweesak C.)	Underwater Camera (Isara & Staff)	Slide & VDO show	Ko Samet	
18 (Sun.)	Excursion to Nongnuch Garden and Traditional Center & Aquarium in Burapa University			Chonburi	
19 (Mon.)	Oceanographic and underwater equipment (Worawit & Penjan)	First aid tips for SCUBA gear maintenance (Sunthorn)	Slide & VDO show (Sunudda & Isara)	EMDEC	
20 (Tue.)	Underwater photo-techniques (Sunthorn)	Practice underwater phototechniques (Sunthorn & Staff)	Evaluation (Sunthorn & Aussanee)	Ko Talu	

Date	0900-1200 hrs.	1300-1600 hrs.	1900-2100 hrs.	Place	Remarks
21 (Wed.)	Underwater searching techniques (Sunudda)	Practice on underwater searching (Sunthorn & Staff)	Evaluation (Sunutda & Aussanee)	Ko Samet	
22 (Thu.)	Coral reef survey techniques (Hansa and Niphon)	Practice-coral reef survey (Niphon & Staff)	Evaluation (Niphon & Aussanee)	Ao Praow Ko Samet	
23 (Fri.)	Underwater sampling techniques (Ukrit)	Practice-underwater sampling (Ukrit & Staff)	Evaluation & Underwater survey planning (Ukrit & Aussanee)	AR. 8 Ko Samet	
24 (Sat.)	Underwater Survey Exercise at Artificial & Coral reef (All Instructors & Staff)		Party & Games (Isara & Staff)	Ko Man Nai	
25 (Sun.)	Evaluation and back to EMDEC	Return to SEAFDEC/TD	Free		M.V. PLATOO and M.V. PLALING 1 return to TD
26 (Mon.)	9000-1000 Course Evaluation 1100 Closing Ceremony	Return home		SEAFDEC/TD	

Evaluation Results

1. Course Expectation

1.1 Before attending this training course, were you experience concern the course?

Yes (14) No (0) Not sure (1)

1.2 Did the course meet your expectation?

Yes (14) No (0) Not sure (1)

Suggestion for improving the course

- The subject should be more specific which directly in research work.
- Every exercise should be more practice.
- Staff should have prepared the working area before dive.
- The working area should be more difference.
- The announcement should have detail about some equipment that participants should bring from their country.
- If impossible, SEAFDEC should open some course concerns Dive also : Navigation Dive, Environmental Dive etc. every year.

1.3 Would you recommend this type of training course to your colleagues?

Yes (13) No (0)
Not sure (0) No answer (2)

1.4 For whom, do you think this training course was design?

For someone with your experience	(7)
For someone with less experiences than you	(2)
For someone with more experiences than you	(4)
No answer	(1)
All of choice	(1)

2. Training programs and activities

2.1 Orientation program

How do you evaluate the course orientation program?

Excellent (3)	Good (11)
Satisfactory (0)	Poor (0)
No answer (1)	

2.2 Lecture and practice

2.2.1 Training duration

too short (7)	appropriate (6)
too long (0)	No answer (2)

Suggestion for training duration

- Time should be increase to be 30 days

2.2.2 Were all the topics relevant to the course?

Yes (13)	No (0)
Not sure (0)	No answer (2)

Suggestion for the topic

- The major subject for Scientific Diver are Underwater photography, VDO. Camera, Fish and Coral Taxonomy and also Oceanographic and Underwater Equipment, then should be more concentrate.

- Should have learned and practiced about Fish, Coral and Seaweed Taxonomy.
- Positioning at sea subject should be increase how to use GPS.
- Background SCUBA Techniques Adjustment and Test on Basic SCUBA Diving Techniques are unnecessary for the qualify diver.

2.2.3 How do you evaluate:

- Lecture in class

Excellent (2)	Good (13)
Satisfactory (0)	Poor (0)

- Training media e.g., lecture note

Excellent (1)	Good (14)
Satisfactory (0)	Poor (0)

- Discussion sites

Excellent (3)	Good (12)
Satisfactory ()	Poor ()

- Instructors concerns

Excellent (8)	Good (6)
Satisfactory (1)	Poor (0)

- Additional knowledge

Excellent (4)	Good (11)
Satisfactory (0)	Poor (0)

Suggestion for improving of the lecture and practice

- Practice should be more time and have more equipment.
- After lecture should have tested or mental exercised.
- Should be change time for evaluation from at night to be nextday in the morning and should be start at 0800 instant 0900.
- Instructors should have more examples for their lecture.
- Should have sheet for each exercise that summary plan and map of work for each workgroup.
- For safety, at the log sheet must have address of chamber.

2.3 Practical training on M.V. PLATOO

2.3.1 Training duration

Too short (5) Appropriate (10) Too long (0)

2.3.2 Were all the topics relevant to the practical?

Yes (14) No (0)
Not sure (0) No answer (1)

Suggestion for the practical on M.V. PLATOO

No suggestion

2.3.3 How do you evaluate M.V. PLATOO facilities?

- Cleanliness and sanitation

Excellent (4) Good (11)
Satisfactory (0) Poor (0)

- Services of staff

Excellent (8)	Good (7)
Satisfactory (0)	Poor (0)

- Medical

Excellent (1)	Good (14)
Satisfactory (0)	Poor (0)

2.3.4 How do you evaluate over-all coordination of M.V. PLATOO training activities and facilities?

Excellent (4)	Good (11)
Satisfactory (0)	Poor (0)

2.3.5 Suggestion for improving of the M.V. PLATOO training activities and facilities.

No suggestion

3. Excursion Program

Excellent (3)	Good (10)
Satisfactory (1)	Poor (0)
No answer (1)	

4. SEAFDEC/Training Department facilities

4.1 How do you evaluate:

- Lecture room

Excellent (6)	Good (8)
Satisfactory (1)	Poor (0)

- Library

Excellent (6)	Good (7)
Satisfactory (1)	Poor (1)

- Medical

Excellent (6)	Good (6)
Satisfactory (2)	Poor (0)
No answer (1)	

- Transportation

Excellent (9)	Good (6)
Satisfactory (0)	Poor (0)

4.2 Did you ever experience any trouble concerning services, interpersonal communication with SEAFDEC staff during your training course.

Never (13)	Sometime (2)	Always (0)
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If answer is sometime or always, please explain

- Got a little bit problems in using English

5. Accommodation and living at Dormitory

5.1 How will you rate the following, please indicate below the appropriate letter in the parentheses:

(a) Excellent	(b) Good	(c) Satisfactory	(d) Poor
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- Bedroom	a (6)	b (9)	c (0)	d (0)
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- Levatories	a (4)	b (11)	c (0)	d (0)
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- Canteen facilities

Food services	a (4)	b (11)	c (0)	d (0)
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Food qualities	a (5)	b (10)	c (0)	d (0)
Variety of food	a (4)	b (11)	c (2)	d (0) No answer (1)
Cleanliness	a (5)	b (10)	c (0)	d (0)
Service of staff	a (7)	b (7)	c (0)	d (0)
- Water supply	a (7)	b (8)	c (0)	d (0)
- Transportation	a (6)	b (8)	c (0)	d (1)
- Sports	a (4)	b (6)	c (4)	d (1)

5.2 Suggestion for improving the accommodation and living at dorm.

- Should brief for how to living at Dormitory
- Should be prepare all electrical in good condition
- Should be provide some sport equipment that in a good or playable condition

Note We didn't received a questionnaire



Fig. 1 Capt. Suradetch lectured on Positioning at Sea



Fig. 2 Participants practiced on Positioning at Sea



Fig. 3 Mr. Ukit (PMBC) lectured on underwater Sampling Techniques



Fig. 4 Mr. Nipon (PMBC) lectured on Coral Reef Survey Techniques



Fig. 5 Practiced underwater equipment on shore



Fig. 6 First aid tips for SCUBA gear maintenance



Fig. 7 Transferred air tanks from M.V. PLATOO to M.V. PLALUNG 1 before go to diving area



Fig. 8 Ready for underwater practice