

## Biannual Project Progress Report

- Project title** : **Integrated Coastal Resources Management in Pulau Langkawi (ICRM – PL)**
- Program Categories** : Programs under the ASEAN-SEAFDEC FCG Mechanism
- Program Title** : Capacity Building of Human Resources and Participation in Integrated Coastal Resources Management
- Duration of Project** : 1<sup>st</sup> Phase: 17 months (August 2003 – December 2004 under TF-1)  
2<sup>nd</sup> Phase: 24 months (January 2005 – December 2006 under TF – 4)
- Executing Agency** : The Department of Fisheries, Ministry of Agriculture, Malaysia
- Collaborating Agency** : SEAFDEC/TD
- Funding Agency** : The Japanese Trust Fund (FCG Scheme and Special 5-year Program)  
DOF Malaysia (Co-financing)
- Proposed Budget (2005 only)** : USD 38,810 (Under the Japanese Trust Fund)  
USD 10,000 (Special 5 year program – SDI-4)  
USD ? (DOF Malaysia Input)
- Reporting period** : **January to June 2005**

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10<sup>th</sup> July 2005

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## **1. GENERAL ACCOUNT**

The project began operation in August 2003 and thereafter the progress has been made on the right track compatible with the project work plan until 26<sup>th</sup> December 2004, when the devastating tsunami damaged the project site in Langkawi. Most fishing boats and fishing gear were destroyed or lost, and the fish landing facilities were ruined. Many fishermen's houses collapsed. The Malaysian authorities together with NGOs and foreign aid organizations immediately started the rehabilitation of the tsunami stricken fisheries sector, but it is still too damaged to resume the fishing and related social activities as they were before. This unexpected natural calamity caused the project great change and delays in approach and progress. The degree of damage suffered by the fishing community of the project area was dealt with at length in the Travel Report – Langkawi and Kuala Lumpur, Malaysia (Etoh S. Jan. 2005) in Annex 2.

The women's group activity was reactivated soon after the facilities were repaired. The processing yard was further expended.

The training course aimed at diversifying the product lines was held at the IPM.

The first meeting on zoning arrangement participated by the representatives of neighbouring villages was organized.

The 5 day-study tour by the leading KEN members was made to the sister project in Chumphon , Thailand, in June to inspect the crab bank scheme, zoning arrangements and fisheries enforcement activities.

The LKIM installed 900 ARs in the project site.

The training course in repairing damaged fishing boats with FRP materials was conducted.

The study tour to Chumphon and Prachuap Khiri Khan, Thailand, was made by the leading KEN members.

The 1<sup>st</sup> project Implementation Coordination Committee meeting (ICC) and the 3<sup>rd</sup> project Steering Committee (SC) meeting were held.

## **2. ACTIVITIES**

### **2.1. Monitoring survey**

After the devastation by the Tsunami, fishing activities are collapsed to a great extent and naturally the fish landing survey and marine biological surveys were suspended pending the reactivation of fishing activities. It is anticipated to resume the fish landing survey in early August.

### **2.2. Encourage and extend the CBRM concept**

In the light of the suggestions made at the 1<sup>st</sup> ICC meeting on 1<sup>st</sup> March 2005, the first occasion to discuss the issue of the zoning arrangement was organized in Langkawi and to which the representatives from neighboring villages; i.e. Kubang Badak and Kuala Chenang and responsible

DOF Officers attended. This meeting was a preliminary meeting to inform about the basic concept of zoning arrangements among the stakeholders. All the representatives understood that such an arrangement was useful and beneficial in coastal resources management and looking forward to realization. It was agreed at this meeting to establish a joint technical committee with the regular members representing DOF HQ, DOF Kedah State, the District Fisheries Office in Langkawi and three fishing communities (i.e. Kuala Teriang, Kuala Chenang and Kubang Badak worked out the draft framework of the management plan. The detailed description of this meeting is seen in the minutes of the meeting in Annex 5: Minutes of the Zoning Meeting of the ICRM Project.

Meantime, in a bid to study the zoning arrangement in other parts of the region, a study tour was made in June to sister projects in Chumphon and the Bang Saphan project in Prachuap Khiri Khan, Thailand.

During the study tour, an inspection of the crab bank scheme was made at the village number 7 of the project ICRM-PD. The study tour mission was so impressed about the impact given by the scheme motivated by the fishermen themselves that the introduction of a similar system was discussed on the spot with the leader of the crab bank. A request was made to him to make a visit to Langkawi to give technical advice when they initiate the scheme in the future. The surroundings in Langkawi are so different from Chumphon that an application of the system in the same way would not be easy and needs some modification to meet the local conditions.

Also, aimed at studying the establishment of a local enforcement unit (LEU), visits to the Phakklong Fishers' Group (PFG) and the Bang Saphan Fisheries Resources Management Project were made. An attempt to establish the LEU in the former group is still under preparation and the actual activity is expected to begin in October 2005, while the latter one started the LEU activity in 2002 with the fishermen's volunteer group. The study tour team was impressed by both the project activities in the establishment of local enforcement unit and the zealous exchange of views between fishermen from Malaysia and Thailand was evident. The description of this study tour is seen in Annex 6: Report on Study tour to Chumphon by KEN members.

When envisaging CBRM exercises, it is inevitable to maintain mutual benefits and a coherent relationship with the neighbouring communities to avoid unnecessary friction among them. To do that, close communication and coordination among them is necessary. In this sense, it was an opportune occasion that an NGO group called WWF-Malaysia who was deploying the community development tasks including similar CBRM approaches in the neighbouring village, i.e. Kubang Badah, participated in the 1<sup>st</sup> ICC meeting as observers. At this meeting, the future collaborative work concerning the joint CBRM approach, especially over zoning arrangements, was discussed and the continued relationship was confirmed.

### **2.3. Encourage local businesses**

The facilities and equipment for producing fish products had suffered relatively little damage by the tsunami and the activity by the women's group could reactivate soon after minor repair work on the facilities and equipment. As pointed out at the 1<sup>st</sup> ICC meeting on 1<sup>st</sup> March, it should be promoted to diversify more product lines anticipating an expansion of marketing opportunities. Coping with this need, the training course in fish processing was conducted in the Fisheries Institute of Malaysia (IPM), Kuala Terengganu, for one week from 9<sup>th</sup> to 14<sup>th</sup> April 2005. The training course started from the basic concept of food hygiene and covered minced fish meat production using underutilized species of fish like surimi products. In this training course, 15

members of the women's group from the project area participated. The detailed description of this training course is seen in the report of Annex 4: Report on the Fish Product Processing Course.

After the tsunami, the vital women's group activity gave momentum to a mood for rehabilitation in the area, and responding to that the DOF and LKIM contributed 60,000 RM to expand the processing yard to cope with the need to increase the processing capacity.

#### **2.4. Enhance human resources capacity building and participation**

After suffering the tsunami attack on the project operational area in Langkawi, various project activities have been resumed step by step, especially those by the women's group are striking. They have reactivated fish processing using anchovy which was derived from lessons learned in the study tour in Chumphon and the attempt to expand the processing lines. In parallel with these efforts, in 2004 the project introduced simple bookkeeping and accounting methods aimed at maintaining transparent accounting and business transactions, which were entirely new to them. They have applied this system in practice, but still the project needs to closely monitor on their newly introduced system. At the 1<sup>st</sup> project Implementation Coordination Committee (ICC) meeting on 1<sup>st</sup> March 2005, this issue was discussed and DOF Malaysia agreed to conduct a further brush-up training course in simple book-keeping in the use of a PC for the women' group. The SEAFDEC/TD provided a simple PC and the training course was conducted in Langkawi for two days in June. This training course mainly focused on the basic manipulation of the PC and application of the basic accounting software. In this course, only 3 selected members participated as it was an intensive training course. The follow-up monitoring in data-input in a correct way will be necessary.

In April, The Malaysian mission to participate in the 3<sup>rd</sup> SC meeting observed with keen interest the activity of the Crab Bank within the project activity of ICRM-PD in Chumphon. They suggested in the SC meeting the possibility of transferring such technology to Langkawi. The meeting endorsed this proposal. The TD made an arrangement to send a study tour team comprising 5 fishermen' representatives from KEN, an extension officer from the District Fisheries Office in Langkawi and an officer from the Extension Division of DOF Malaysia to the project site of ICRM-PD on 26<sup>th</sup> – 30<sup>th</sup> June. The major objectives of the study tour lay in (1) to study the applicability of a crab bank scheme which had been successfully implemented in Chumphon to Langkawi, (2) to study the newly challenging activity in the field of fisheries enforcement in the demarcated zones with ICRM-PD by the Phakklong Fishermen's Group (PFG) and (3) to observe the *Babylonia* shell culturing, which is possibly to be introduced to Malaysia in future as a lucrative small scale venture. This occasion was so practical and fruitful to the fishermen who participated in the study tour in the sense that they could have a chance to discuss, exchange and share the views on the many issues, which were commonly encountered in both areas.

#### **2.5. Fishing gear technology improvement**

At the 1<sup>st</sup> ICC meeting held on 1<sup>st</sup> March, the SEAFDEC/TD side suggested to hold a training course for repairing the wooden boats that were damaged by the tsunami, since the planned training courses for improved fishing technology were unlikely to be appropriate for the time being. Instead, the meeting and the representatives of the KEN were willing to conduct such a training course as meeting an urgent requirement for the fishermen in Langkawi. SEAFDEC/TD suggested conducting a training course in repairing damaged wooden boats with FRP material.

The proposal was approved by the meeting. The training course for 13 trainees was conducted from 23<sup>rd</sup> to 26<sup>th</sup> May at the project site. SEAFDEC/TD assigned two trainers and a coordinator. The outcome of the training was so fruitful and practical for the fishermen that a repetition of the course was requested. The content of the training is dealt with at length in the report of Annex 7: Report on the Training Course in FRP Work in Kuala Teriang.

According to the work plan, it was envisaged to conduct a training course in squid trap fishing. However, it was found after experimental fishing was carried out in December 2004 that this fishing method competed with the gill net fishing and on the whole had a negative impact in the fishing ground. Taking such a reaction from fishermen into account, it was decided not to conduct the planned training course.

## **2.6. Rehabilitate and enhance coastal resources**

The installation of 900 ARs was made by LKIM on 23<sup>rd</sup> February. The location was the same area where a previous installation was made; i.e. longitude 099\_36.366E and 06\_18.748N.

All of the FADs installed by the fishermen were destroyed by the tsunami waves, but the ones installed by SEAFDEC/TD and KEN in December 2005 during the training course remained intact. However, it was reported toward the end of this reporting period that three units out of four were found to have disappeared by some cause other than trawlers' invasion. It should be investigated to discover whether structural defects or external forces caused the disappearance.

## **2.7. Implementation Coordination Committee (ICC) meeting**

In the project framework, there are three committee meetings; i.e. the Steering Committee (SC) meeting, the Project Implementation Coordination Committee (ICC) meeting and the Project Implementation Working Group (PIWG) meeting. However, it was noticed that the attendees of the ICC and PIWG meetings were more or less the same as were the issues for discussion. Thus, it was proposed at the PIWG meeting on 23<sup>rd</sup> December 2004 to merge these two meetings into one and the proposal was approved and retained the name of ICC. This change was further endorsed at the 3<sup>rd</sup> SC meeting on 27<sup>th</sup> April 2005. Hence, only one meeting called "ICC meeting" which covers two levels of issue, i.e. the state level and the district level meeting, is to be held from 2005 onward.

The first ICC meeting was held on 1<sup>st</sup> March 2005. This meeting was summoned after the discussion held with the Malaysian National Coordinator to SEAFDEC on 6<sup>th</sup> January in Kuala Lumpur. It was agreed at the meeting that it was appropriate to hold the ICC meeting after two months by which time the government position on the rehabilitation strategy and tactics would become definitive, and meantime the proposed project activity in 2005, which was discussed thoroughly at the last ICC/PIWG meeting on 23<sup>rd</sup> December 2004 in Langkawi would be temporarily suspended except for the women's group activity. It was stressed at this meeting that the activity by the women's group should be resumed immediately and some activities for fishermen like training should be reactivated step by step as the rehabilitation work has been progressing faster than anticipated. It was further agreed that the revised work plan incorporating the above necessary changes in activity should be prepared and endorsed at the SC meeting in April. A detailed description of the discussion at the meeting appears in the minutes of Annex 3.

## **2.8. Steering Committee (SC) meeting**

The 3<sup>rd</sup> SC meeting was held in Surat Thani on 27<sup>th</sup> April 2005 under the chairmanship of the Malaysian National Coordinator for SEAFDEC. The major discussions centered on the revised project work plan after the tsunami disaster. It was also highlighted in the discussion that the project activity in 2005 should be well synchronized with various rehabilitation efforts to be contributed by DOFM, LKIM and other organizations like Japanese Aid. A detailed description of the meeting appears in the attached Annex 8 "Minutes of SC meeting".

Prior to the SC meeting, a field trip to the project site of a sister project "ICRM-PD" in Chumphon was made. This visit was conducive for the Malaysian mission in many ways to observe the activities, some of which were identical in approach with the project in Langkawi.

## **3. OUTCOMES**

The major outcomes of the project activities during this reporting period are:

### Baseline surveys

- All the activities pertinent to this activity are suspended in the wake of the tsunami.

### Encourage and extend locally-based fishery resources management

- The consensus on the necessity of the zoning arrangement was built up among neighboring fishermen through a preliminary discussion among the fishermen concerned.
- To study the success case in the region, a study tour was conducted in Thailand to inspect the zoning arrangement approach.
- During the above study tour, the approach to establishment of a crab bank and a local enforcement unit was studied.

### Promotion of fish based businesses

- Production of fish based products was resumed in February after a closure of two months by the tsunami.
- The processing yard was expanded by DOF Malaysia and LKIM to cope with increased processing capacity.
- In a bid to diversify the product lines, a processing training course was conducted in the Fisheries Institute of Malaysia, Terengganu, for a week.

### Enhance human resources capability

- The women's group learnt to diversify their product lines.
- The women's group was introduced to a bookkeeping and accounting system using a computer.
- Through a study tour, the leading members of KEN learnt of the success approaches to CBRM made by the fishermen in Chumphon and Bang Saphan, Thailand.

### Fishing gear technology development

- Fishermen gained knowledge and techniques on repairing fishing boats using FRP materials through a fisherman training course.

### Rehabilitation and enhancing coastal resources

- 900 ARs were installed.

### Committee meetings

- The 1<sup>st</sup> ICC meeting was held.
- The 3<sup>rd</sup> SC meeting was held.

### Others

- The rehabilitation of the tsunami damage has been going on with inputs from the Malaysian government and other donors and NGOs, in particular about RM 211,683 (USD 55,706) was earmarked for rehabilitation in the project area by the Japanese Grass-root Technical Assistance Scheme.
- The collaborative activity tie with an NGO called WWF-Malaysia in relation to the CBRM approach with neighbouring fishing villages especially in Kubang Badah was formulated.

## 4. MAJOR CONSTRAINTS

### Rehabilitation of the Tsunami damage

The project activity has progressed more or less compatibly with the project design until 26<sup>th</sup> December when the tsunami assaulted the project site. This caused extensive damage to the fisheries industry. The degree of the damage is as follows.

#### Status of damages in Kuala Teriang

1). Casualties: 1 person

2). Damage to houses:

<u>Number of houses existed*</u>	<u>Damaged houses</u>		<u>Non or slightly-damaged</u>
	<u>Unrepairable</u>	<u>Repairable</u>	
122	12	30	80

3). Loss of fishing boats

<u>Type of boats</u>	<u>Existed*</u>	<u>Lost</u>	<u>Usable</u>
- Inboard engine boat	16	14	2
- Outboard engine boats	250	175 <sup>1</sup>	30

4). Loss of fishing gear (mostly fishing nets): 115 sets

5). Loss of outboard engines: 111 pcs.

6). Loss of insulated fish boxes: 31 pcs.

7). Loss of jetties: 21 places

8). Loss of cages for fish culture: 3 cages

9). Total value of damages: RM 1,927,400

(\* Source of data: Base line survey carried out in October 2003)

Note: In the fish landing center of Kuala Teriang, all wooden structures including the KEN's community building and the fish purchasing yards belonging to the fish middlemen were completely destroyed. The KEN's office was damaged but is repairable. The height of the tsunami was 2 meters and the ice-making machine was rendered unusable.

The damage by the tsunami is so devastating that it is foreseen that the rehabilitation of the

<sup>1</sup> The number of 105 boats out of 175, are reported damaged while 70 were undamaged.

structures, facilities and equipment will take a considerable time. The Malaysian authorities and the foreign aid organizations started to take swift action to relieve the situation, but it was most unlikely to be rehabilitated such to be able to continue the project activity as planned. In the meantime, it was inevitable to suspend most on-going activities or modify the courses of action. This issue was discussed in depth at the 1<sup>st</sup> ICC meeting on 1<sup>st</sup> March and an amendment of the work plan was proposed. Further, the revised work plan was endorsed at the 3<sup>rd</sup> SC meeting on 27<sup>th</sup> April.

## **5. THE WORK PLAN FOR THE NEXT REPORTING PERIOD**

Immediately after the tsunami disaster, it was unrealistic to rehabilitate so soon as the damages were so extensive and the fishermen were badly depressed. Therefore in January, it was decided to suspend all project activity for the time being until the time comes when DOF Malaysia and the fishermen in Kuala Teriang become convinced of resuming the project activity. However, the pace of rehabilitation has been progressing much faster than being thought possible thanks to swift contributions by the Malaysian authorities and other NGOs and also tenacious efforts exerted by the fishing community. Among others, an enthusiasm toward the resumption of activity by the women's group was noteworthy. Complying with their high motivation, it was decided to continue the fish processing activity without disturbance. All the facilities were completed in early December 2004 and some remained intact and ready to reopen production. Taking such a pace of rehabilitation, the following activity will take place consistent with the revised work plan.

### Baseline survey

- Fish landing data collection will be resumed.
- Marine resources survey will be resumed.

### Encourage and extend the CBRM concept

- Promotion of zoning arrangement
- Training for fishermen in the basic approach toward CBRM
- Identifying an effective approach for local enforcement
- Identifying an effective approach for the establishment of a crab bank

### Promotion of fish-based businesses

- Training in product development
- Demonstration in new job opportunities
- Support to expand production capacity

### Enhance human resources capability and participation

- Workshop on community development in a particular condition
- Fishermen training course in the basic approach of CBRM

### Fishing gear technology improvement

- Fishermen's seminar on reviewing the fishing gear technology improvement, if time permits

### Others

- Project mid-term evaluation (it is scheduled in December 2005)
- ICC meetings in early August and middle November

## **6. REPORTS PREPARED**

Reports and documents prepared under the project during to this reporting period are listed below.

<u>No.</u>	<u>Title of the report</u>	<u>Name of author</u>	<u>Date of issue</u>
01.	Travel Report - Langkawi and Kuala Lumpur, Malaysia	Etoh S.	Jan. 2005
02.	Minutes of the Zoning Meeting of ICRM Project	Rahaman W.	Mar. 2005
03.	Report on Fish Product Processing Course in IPM	Sumitra R.	April 2005
04.	Report on Training Course in FRP Work for Local Fishermen in Kuala Teriang	Sumitra R., Suttipong T., & Thaweesak T.	June 2005
05.	Minutes of the 1 <sup>st</sup> ICC Meeting in March	Rahaman W. & Etoh S.	March 2005
06.	Minutes of the 3 <sup>rd</sup> SC Meeting in April	Rahaman W & Sumitra T.	May 2005
07.	Report on Study Tour to Chumphon by KEN Members of Kuala Teriang	Saivason K.	June 2005









## Annex 2

# Travel Report – Langkawi and Kuala Lumpur, Malaysia

Sei Etoh  
Project Leader  
SEAFDEC/TD  
5<sup>th</sup> January 2005

## 1. Background

SEAFDEC/TD has been deploying the Integrated Coastal Resources Management project in Langkawi (ICRM-PL) since August 2003 in the form of collaborative project operation with the DOF Malaysia. Its second phase began in January 2005 with a project duration of 2 years. The work plan for 2005 was formulated after thorough consideration at the Project Implementing Coordination (PIC) meeting held in Langkawi on 23<sup>rd</sup> December 2004. However, the natural disaster of the tsunami that assaulted many Asian and East African countries on 26<sup>th</sup> December 2004 damaged the project operational area to a great extent. This happening certainly affects the execution of the planned project activity. Aimed at investigating the extent of damage to the site sustained by this disaster and discussing the future course of project operation with the Malaysian authorities, a duty journey to Langkawi and Kuala Lumpur was made.

## 2. Objectives of the field trip

The duty trip was undertaken to;

- visit the project sites in Pulau Langkawi and investigate the extent of the damage suffered because of the tsunami
- investigate the status of rehabilitation from the disaster
- discuss the possibility of the continuation of the project with the KEN and women's group members
- report the result of the observation in Langkawi to the DOF Malaysia in KL and upon which base to discuss the future course of the project operation with the DOF

## 3. Itinerary

### 4 January 2005

- Leave BKK for Langkawi through KL
- Briefing by the District Fisheries Officer
- Visit the project site and investigate the degree of damage

### 5 January 2005

- Visit the project site and investigate the degree of damage
- Discussions with KEN and Women's group members
- Leave Langkawi for KL

### 6 January 2005

- Meet the National Coordinator for SEAFDEC, DOF Malaysia, and discuss the future course of the project
- Leave KL for BKK

#### 4. Observations and findings

The Author was invited at first to the ceremony of donation by the government with the principle guests of the Deputy Prime Minister and Chief Minister of Kedah held in Kuala Teriang where the project site is located. At this event, RM 1,000 and 3,000 were donated by the Federal Government to the fishermen who lost out-board engine boats and in-board engine boats respectively.

The Author was briefed by the District Fisheries Officer in Langkawi on the extent of the damage and the present situation in the Kuala Teriang. It was explained that the major part of Langkawi Island escaped the high waves as it was physically protected by many small islands located in front of it, except the southwestern part where the land was directly exposed to the tsunami. The project site is situated in this place and therefore the damage was the worst as demonstrated in the following figures of damage. The number of 105 small fishing boats (outboard engine boats) was lost in Kuala Teriang out of 390 in the whole of Langkawi, this amounts to 26.9%. While, for the number of larger fishing boats (inboard engine boats) is 14 out of 22 in total, amounting to 63.6%. The following is the information with regard to the damage suffered through the tsunami in Kuala Teriang. These figures were obtained from the District Fisheries Officer and through interviews with the fishermen.

##### Status of damages in Kuala Teriang

1). Casualties: 1 person

2). Damage to houses:

<u>Number of houses existed*</u>	<u>Damaged houses</u>		<u>Non or slightly-damaged</u>
	<u>Unrepairable</u>	<u>Repairable</u>	
122	12	30	80

3). Loss of fishing boats

<u>Type of boats</u>	<u>Existed*</u>	<u>Lost</u>	<u>Usable</u>
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4). Loss of fishing gear (mostly fishing nets): 115 sets

5). Loss of outboard engines: 111 pcs.

6). Loss of insulated fish boxes: 31 pcs.

7). Loss of jetty: 21 places

8). Loss of cages for fish culture: 3 cages

9). Total value of damages: RM 1,927,400

(\* Source of data: Base line survey carried out in October 2003)

In the fish landing center of Kuala Teriang, all wooden structures including the KEN's community building and the fish purchasing yards belonging to the fish middlemen were completely destroyed. The KEN's office was damaged but is repairable. The height of the tsunami reached as high as 2 meters and the ice-making machine was left unusable. The mechanical workshop constructed with a concrete wall remained intact but all machinery like the compressor was damaged. This shed is now used by one of the middlemen for purchasing fish.

It was amazing to find that the newly built fish processing yard was already cleaned by the

<sup>1</sup> Out of 175, the number of 105 boats was reported damaged while 70 were unreported.

women's group in spite of their heavy work in their own houses although it had been covered with thick layers of mud. It was ready to work. The drying oven was out of order and needed repair, but surprisingly the cabinet freezer was working.

Some fishermen's houses were completely destroyed and others were partially damaged. The people were still busy with cleaning the houses and locating their belongings.

#### Discussions with the committee members of KEN

The meeting was held with the leading members of KEN including the vice-chairman and the secretary on 5<sup>th</sup> January. Naturally, they looked depressed. But, they requested that the project be continued after a few months suspension by that time they may have recovered from the trauma. Some activities planned to take place in January and February like the fishermen's training course should be postponed. They said that the most serious problem is the loss of fishing boats. Most of them were destroyed to the extent of being irreparable. The government gave compensation of 1,000RM and 3,000RM for outboard and inboard engine boats, but this is only equivalent to 10% of the replacement costs.

Under this pessimistic situation, only 4 fishing boats have resumed fishing since 4<sup>th</sup> January, which is an encouraging sign. They said that the fish enhancing devices installed by SEAFDEC/TD on 21<sup>st</sup> December remained intact although some of the local FADs were lost and these were of great help to fishers.

#### Discussions with the Women's Group members

The meeting was held with the leading women's group members on 4<sup>th</sup> and 5<sup>th</sup> January. Contrary to the fishermen, they seemed to be optimistic and active, asking to continue the project activity with regard to the component of product development as scheduled. They had cleaned the processing yard as it was and were ready to restart production pending repair of the drying oven. They said that the production should be resumed as soon as possible as no income from fishing activity could be expected for the time being.

### **5. Conclusion**

With the result of the findings and observations in Langkawi, the meeting with the National Coordinator (NC) for SEAFDEC, Mr. Mohamed Shaupi Derahman, was held at his office in the DOF Malaysia, KL on 6<sup>th</sup> January 2005. The following are the decisions made at the meeting.

- 1). The planned activity except the component of product development in January to March will be frozen. The rehabilitation program by DOF Malaysia is just put in place and would deploy in full swing soon. Therefore, the NC suggested to review the situation in February 2005, by then the DOF Malaysia can foresee precisely the stage of recovery of the disaster stricken fisheries in Langkawi. To do that, the 1<sup>st</sup> PIC meeting in 2005 should be held at the end of February. A rescheduled work plan will be formulated based upon the discussion and should be endorsed by the Steering Committee meeting to be held in March/April.
- 2). The planned activity of product development for the women's group should be continued in accordance with the schedule. One of the action plans is a one-week training course in the IPM (Fisheries Training Centre) in Trengganu and it was agreed to conduct this as scheduled.

- 3). Considering the urgent need to repair the drying oven of the fish processing yard for the women's group and inspect the damage, the Author suggested to the NC to urgently dispatch the Senior Fisheries Officer to Langkawi to look into the possibility of resuming fish processing as soon as possible. In line with this proposal, he instructed the Senior Fisheries Officer (in charge of fish technology) to visit the site immediately on 7<sup>th</sup> January 2005.

Annex 3

**Minutes of the 1<sup>st</sup> ( Project Implementation and Coordination Committee)**  
**ICC Meeting of Intergrated Coastal Resource Management- Pulau**  
**Langkawi**

1. Date : 1<sup>st</sup> March 2005
2. Venue : Aquaculture Project Office of DOF, Langkawi
3. Participants : As listed
4. Chairman : Mr Mohd Shaupi Derahman  
Director of Planning & International  
( SEAFDEC's National Coordinator )

**Endorsement of the Minutes of 3<sup>rd</sup> Project Implementation Working Group (PIWG) Meeting**

1. The chairman welcomed all members of the meeting and invited everyone to first and foremost adopt the minutes of the previous meeting. The meeting was subsequently called upon to deliberate the matter arises from that meeting.

**Matter Arises**

2. The meeting was informed of the successful launching of 900 units of ARs on the 23<sup>rd</sup> January 2005 by LKIM. LKIM and KEN are urged to efficiently coordinate for any possible launching of similar work in future so as to ensure ARs are properly placed in accordance to the proposal by SEAFDEC/TD.

3. The meeting was informed on the recent approval of RM100,000 allocation by LKIM in view to assist the rehabilitation effort in the stricken Kuala Teriang. The meeting requests for possible inclusion of repair work of the damaged working garage by making use of this budget.

4. KEN has expressed its satisfaction to what it considered as the successful installation of ARs by SEAFDEC. The presence of marker on the water surface has acted as deterrent to trawlers encroachment. The chairman has instructed the Extension Division to further explore the possibility and practicality of using wire mesh cutter introduced briefly by SEAFDEC/TD. Wire mesh cutter would greatly deter trawlers from encroaching the ARs areas as it would pose serious threat to their nets.

5. As enforcement work is equally important, State Extension Officer is advised to closely coordinate working schedule with Fisheries Enforcement Unit to patrol and monitor the project areas on regular basis. Under this circumstance, in view to conduct assessment of the installed ARs, assistance can be sought from its Diver unit. Worldwide Fund for Nature (WWF) has expressed its willingness to provide assistance to dispatch its diver team.

6. In deliberating the issue of zoning concept, it was suggested that a meeting to be called involving the neighboring villages and KEN to anticipate conflict of fishing ground etc. Views from all fronts involving legal advisor, marine biologist, ecologist and resource managers point

of views will also be sought to formulate a practical and widely acceptable zoning system of this project.

### **Workplan for 2005**

*7. Only SEAFDEC/TD is currently involved in the activities of the fish landing survey (1.1.) and the marine resources survey (1.2.) although it was agreed from the outset that these activities were jointly conducted with FRI of DOF, Penang, and SEAFDEC/TD. The meeting noted that the involvement of FRI in this work is vital if thinking in terms of sustainability of the project activities and requested DOF to ensure their participation from the year 2005.*

The FRI was called for this meeting but did not appear. Their participation will be ensured for the next meeting.

*8. The meeting noted that the training in bookkeeping and accounting (3.2.1.) is vital for the sound management of the women's group and the DOF is considering supplemental training in a simple computerized accounting system by providing a computer to support this activity.*

The meeting requested The Extension Division of DOF to make possible arrangements to send a few members of the Women's Group for a simple computerized accounting course, which is known to be conducted by the MOA. SEAFDEC/TD is requested to provide the Women's Group with a workable Personal Computer (PC) set including a printer amounting to around 2,000RM.

*9. With regard to the activity on "Expansion of local business within fisheries related professions (3.3.), the meeting was informed that the possibility of initiating cage culturing became remote as LADA was adamant in not granting permission for the proposed space and KEN envisaged developing tourism business.*

The meeting agreed to abandon the idea for initiating cage culturing at this stage instead, noted the potential for venturing into eco-tourism. To realize that, KEN explained their plan to use ARs and FA(E)Ds for sports fishing. However, by virtue of legality, Marine Department would not compromise fishing boats to be used for ferrying passengers as it involves human lives.

*10. Various fishermen's workshops are planned but for the sake of convenience for the fishermen, it was suggested that some of workshops should be combined. The meeting took note of this point and would amend the training schedule accordingly.*

The meeting suggested that the proposed work plan for 2005 should be thoroughly revised and reconstructed in view to be more reflective of the real needs and requirements of the KEN and Women's Group. It should be comprehensive, short and covering various areas of interest without jeopardizing the program or training quality. A revised version of the work plan will be disseminated by e-mail for comments which subsequently to be tabled at the Steering Committee Meeting in Thailand.

*11. Mr. Isara proposed to include the course of FRP boat repair in the fishermen's training program. The meeting agreed to include this course in the schedule.*

The KEN has expressed the urgency for SEAFDEC/TD to conduct the course on FRP boat

repair some time in April .

*12. Mr. Etoh suggested to the meeting that the same people participated and the same level of topics were discussed at both the Project Implementation Coordination Committee (PICC) meeting and Project Implementation Working Group (PIWG) meeting during the last year so that it is more effective and relevant to merge these two meetings into one. The meeting agreed to this proposal and the merged meeting would be called the Project Implementation Coordination Committee and the existing PIWG meeting would be merged into this meeting.*

The meeting agreed to this proposal and the meeting today should be the 1<sup>st</sup> ICC meeting in 2005 and planned to convene it on quarterly basis. The next ICC meeting is scheduled toward the end of May.

*13 The meeting agreed to hold the 3<sup>rd</sup> Steering Committee meeting in Hua Hin around 24<sup>th</sup> January 2005 including a day trip to the project site of Chumphon.*

This was postponed due to Tsunami, instead it will be held from the 26-28 April 2005 in Hua Hin, Thailand and DOF requested that SEAFDEC/TD to incur the cost of six (6) DOF staff to attend it.

#### **Other matters**

*13. Mr. Etoh mentioned that the project envisaged sending the leaders of KEN to observe the successful CBRM exercise in Malaysia under the study tour scheme. Mr. Shaupi recommended a part of Penang where the fishermen's group was successfully preventing from encroachment of trawlers in the coastal fishing zones.*

The meeting agreed that this study tour should be implemented as scheduled.

*14. Mr. Shaupi mentioned that the DOF Malaysia appreciated the project for successful operation which has vitalized the fishing community in many ways. He added that the DOF Malaysia envisaged disseminating this type of approach in other parts of Malaysia.*

Endorsed as it is.

*15. The Extension Head of DOF stated that the KEN of Kuala Teriang was recognized as one of the best ten KENs in Malaysia which were most active in various aspects and requested them to continue their dedication in exerting efforts.*

Endorsed as it is.

*16. Mr. Shaupi expressed his appreciation to SEAFDEC/TD for supporting this project technically and financially, which will demonstrate the effective and workable CBRM approach in Malaysia.*

Endorsed as it is.

*17. Damages by the tsunami disaster*

Mr. Rahman explained the extent of damages but its figures are more or the less same as those

described in the Travel Report prepared by Mr. Etoh on 5<sup>th</sup> January 2005. It is reported that the total damage of the fisheries component in the project area was estimated at RM48,280 and RM27,250 for KEN and the Women's Group respectively, which amounting to RM 75,530RM in total.

#### *18. Rehabilitation efforts*

Ms. Sabidah on behalf of District Fisheries Officer explained the efforts exerted for rehabilitation by the various authorities including the current status as follows;

- The first hand aid for sympathy was given by the Malaysian government to the tsunami victims at 500RM each family and, in addition to that 1,000RM and 5,000RM were provided to those who lost out-board and in-board engine boats.
- The DOF provided KEN and Women's Group with the amounts of 10,000RM and 15,000RM respectively to repair damaged machinery and equipment.
- 18 fishing boats are repaired so far and joined the fishing fleet with 15 boats, which were not damaged during the tsunami.

19. The meeting was briefed by WWF representative that it is also conducting a similar CBFM project in the neighboring Kubang Badak but have yet be very clear on the detail part of the program. The meeting welcomed the possibility of exchanging experience and information with WWF.

#### *20. Possible Japanese Assistance*

Mr. Shaupi explained to the meeting that the Japanese grant aid may be available in relation to the rehabilitation of the tsunami stricken area and contact to the responsible officials in the Japanese Embassy in KL was made. The DOF Malaysia placed the highest priority on Langkawi among other affected areas. Mr. Etoh suggested to the meeting that the DOF should urgently prepare a proposal for submission to Japan for their consideration. To do that, a task force should be organized with marine biologists, socio-economists, fishing gear technologists and planners and a comprehensive rehabilitation blue print should be drawn up. This rehabilitation plans should not be just replacement of lost equipment and facilities but prepared based upon the execution of the prospective CBRM program. Mr. Etoh may assist in the compilation of the proposal. To begin with, he promised to draw up the outline of the rehabilitation plan and send to Mr. Shaupi within a week for study.

#### *21. Desk Officer/ National Project Coordinator*

The meeting noted the appointment of Mr Abdul Rahman B Abdul Wahab , of Sectoral Planning Section , DOF as focal point or rather the National Project Coordinator

## Annex 4

**Report on  
Fish Product Processing Course  
Fisheries Institute of Malaysia (IPM), Kuala Terengganu, Malaysia  
9<sup>th</sup> –14<sup>th</sup> April 2005**

Sumitra Ruangsivakul  
16 April 2005

### 1. Objectives of the Training

- 1). To develop skill in fish processing and packaging in the women's group
- 2). Provide the GMP regulations to the women's group
- 3). Introduce new products to the women's group

### 2. Training Program

#### 10.04.2005

0815-0915	Registration
0915-1015	Familiarization in the institute and hotel rules
1015-1045	Tea break
1045-1145	Introduction to fish product processing
1145-1245	Packaging
1245-0215	Lunch
0215-0315	Sanitation and Premise Cleanliness and GMP

#### 11.04.2005

0815-1015	Practical Preparation of Otoshimi & Surimi
1015-1045	Tea break
1045-1245	Practical Preparation of Otoshimi & Surimi
1245-0215	Lunch
0215-0315	Practical Preparation of Otoshimi & Surimi

#### 12.04.2005

0815-1015	Practical (Fish Cracker & Fish Burger)
1015-1045	Tea break
1045-1245	Practical (Fish Ball & Fish Cake)
1245-0215	Lunch
0215-0315	Practical (Fish Finger & Fish Nugget)

#### 13.04.2005

0815-1015	Practical Product Development
1015-1045	Tea break
1045-1245	Product Evaluation
1245-0215	Lunch
0215-0315	Practical Premise Cleaning

#### 14.04.2005

0815-1015	Entrepreneurship & Cost Estimation
1015-1045	Tea break
1045-1245	Course Evaluation & Closing
1245-0215	Lunch
0215-0315	Visit

7. For Otoshimi, made from sadine fish, only remove heads and clean using the fish cleaning machine, and separate the meat and bone by a meat-bone separator. The meat will be kept in the refrigerator.

#### Tilapia Fillet Products

8. Tilapia Fillets, this product is sliced fish meat, of the Tilapia and snake fish from culturing. This meat will be made into fillets.
9. Tilapia Fillet, remove Tilapia from ice box and weigh, then prepare material to cover the Tilapia, and pack all into a refrigerator.

#### Fish ball and Fish cake Products

10. Fish ball and fish cake, these products are made from Surimi. The methodology of making fish balls, the percentage of each ingredient depends on the weight of Surimi.
11. Start by weighing the Surimi and all ingredients, put the Surimi into the Silent Cutter machine for fine meat and put the ingredients in step by step. Altogether about 30 minute.
12. After mixing, these will be passed to fish ball moulding, and the fish balls put into warm water (40 C) for around 10 minutes. The next step will be to bring the fish balls to the boil in water.
13. The remaining meat from the fish ball will be used to make fish cakes, this product will be put onto trays and put into to warm water (40 C) and cut into small pieces and boiled.

#### Fish Nugget and Fish Finger Products

14. Before lunchtime, all participants were preparing the materials and ingredients for this product.
15. After lunch, they started by putting the Surimi in the silent cutter for about 2-3 minutes and then putting the ingredients together, about 15 minutes. This is then taken to the Nugget Moulding or Forming Machine for make pieces of nugget, this will be then covered by bread crumbs.
16. For Fish Finger, the same method is used, but using different ingredients and shapes.

#### Burger and Keropok Lekor

17. Burger Product, starts by putting Otoshimi in the silent cutter and putting all the ingredients together. After about 30 minutes in the silent cutter, it is moved to the box to make burgers and steamed for about 10 minutes.
18. Keropok lekor, starts by using a Paddle Mixer and mixing the ingredients together, these are made especially fine by passing through a sieve before putting into the mixer.
19. After about 20 minutes, this part is into make pieces, one piece is 45 gram, there are 2 types of cooking, either by boiling or frying.

#### Present and Product Evaluation

20. All products have a cooking stage and will be arrange on plates, all participants tested and marked in the evaluation form, the total number of products is 7.

### **3. List of Participants from KEN Kuala Teriang, Langkawi**

1. Ms. Aminah bt. Morak
2. Ms. Azizah bt. Hashim
3. Ms. Che Sham bt. Puteh
4. Ms. Ishah bt. Saidun
5. Ms. Jelial bt. Din
6. Ms. Su Jaharah by. Ku Ahmad
7. Ms. Lembut bt. Hassan
8. Ms. Mahani bt. Mansor
9. Ms. Nurzan bt. Saad
10. Ms. Rajemah bt. Ahmad
11. Ms. Sekamah bt. Husin
12. Ms. Tempawan bt. Abdullah
13. Ms. Jahlah bt. Abdul Jalil
14. Ms. Zoyah bt. Yaakob
15. Ms. Nordawati bt. Md. Napiah

### **4. Content of the Training**

#### Introduction before practice

1. Registration, all participants will enter their history and transportation costs in the registration form, after that everybody will introduce herself. Total participants are 25, 15 participants come from KEN Kuala Teriang, 5 participants from KEN Kuala Kilim and the remainder from Kuala Terengganu.
2. The IPM duty and regulations of the dormitory. This Institute has many training courses in a year, Engines, Navigators, Processing and Fishing Technology. Their courses are both local and international courses.
3. Introduction to fish processing and packaging, this part is to show how to select fish for processing, for surimi the white fish meat is used.
4. Sanitation & Premise Cleanliness & GMP, this part explains the law and regulations of factories and how to get GMP from the Government.

#### Surimi and Otoshimi Products

5. Preparation of Surimi and Otoshimi, before entered the laboratory the instructors explained the laboratory regulations, every time before entering the laboratory hands will be washed and must wear boots and coat.
6. Surimi and Otoshimi products, this started by cutting the head off the fish (trash fish) and sardine. Trash fish will make Surimi, and sardines will be make Otoshimi, surimi will use the white meat of the fish. The processing of Surimi has 6 steps, after cutting of the head and washing in the fish cleaning machine, the second is to separate meat and bone using the de-boner machine, the third step is washing meat the again by a fish meat washer, this step will add the salt, to treat meat to be white and still fresh, this step will remove the fat from the meat also. The forth step is to remove water from meat using an hydraulic dehydrator. The fifth step is make fine meat by machine and the last step will be to bring the fine meat to the silent cutter, this step will divide the meat into 4 kg per pack, and put sugar and Polyphosphate. After mixing it will be packed into plastic bags and put into a refrigerator.

## Annex 5

### **Minutes of the Zoning Meeting of Intergrated Coastal Resource Management Project in Pulau Langkawi**

1. Date : 23 March 2005
2. Venue : Community Hall, Kpg Paya, Langkawi
3. Participants : As listed
4. Chairman : Mr Mohd Shaupi Derahman  
Director of Planning & International  
( SEAFDEC's National Coordinator )

#### **Welcome Notes**

1. The chairman first welcomed everyone for being present and expressed appreciation to fishermen and their 15 representatives who made every effort to support the department's activities. Further, he introduced all DOF's staffs to everyone. The chairman recognized the presence of representatives from the two (2) neighboring villages besides those from Kuala Tereng.

#### **Nature of Project Zoning**

2. The nature of ICRM-PL project was re-introduced especially to the representatives from neighboring villages that are Kpg Kubang Badak and Kuala Chenang.

3. The meeting was informed on the recent original proposal of SEAFDEC to zone the sea area that is within the close vicinity to KEN Kuala Teriang. Following to that proposal, a counter suggestion was made by KEN Kuala Teriang to extend the area. This has become the agreed zoning at least at KEN's level.

4. Having deliberated the request from both fishermen in Kuala Chenang and Kubang Badak, the meeting has reached an understanding on several matters;

- i. All representatives from those three (3) areas unanimously supported the good concept of zoning and therefore expressed hope that it would lead to sustainable fisheries.
- ii. The area to be zoned at this stage will act as 'test case' for Community Based Fisheries Management considering the fact that a relatively small sea area is more manageable and noted that future area expansions is always possible.
- iii. Fishermen in these three (3) areas would collaboratively protect their areas against intruders and destructive fishing activities especially to those ARs' and FADs'.
- iv. It was agreed that only certain fishing gear will be allowed to operate in this area without restriction to non-resident fishermen. Nevertheless, certain requirement should be imposed to sport fishing enthusiast (tourists) including prior arrangement through either an established body that to be formed later.
- v. While deliberating the issue on 'fishing rights', the fishermen registered their concern on the importance of 'sense of belonging' matter, hence, suggested that further consultation need to be carried out.
- vi. The meeting recognized the needs to restrict the entry of Anchovy Purse Seiners

- and some other destructive fishing gears into the area and proposed a smaller joint technical team to address this matter.
- vii. The DOF has reiterated that the implementation aspect of this zoning activity would be studied further and reassured that enforcement part of it would not be completely left to the community but rather to enhance cooperation and coordination between this two institution.
- viii. A Joint Technical Committee has been formed the following:
1. Co-Chairmen - DOF Rep. & Fishermen's rep.
  2. Secretariat - Extension Officer, DOF Kedah State
  3. Kuala Teriang rep. - Mr Mahadir Ibrahim  
- Mr Lazim Hashim
  4. Kuala Chenang rep. - Mr Said Bulat  
- Mr Ismail Abd Hamid
  5. Kubang Badak rep. - Mr Jamil Sirat  
- Mr Radzi Saleh
  6. DOF Kedah State - Resources Management Section
  7. District Fisheries Officer - Langkawi
- ix. The joint committee will prepare a draft framework within a month containing the specific Latitude & Longitude, allowable fishing gear, exclusive fishing rights etc. The subsequent step is to conduct a public consultation for a possible careful scrutiny. Prior to implementation, the DOF has to table the propose framework to a higher committee level at the Fisheries Department Head Office for endorsement.
- x. Everyone was reminded to stay away from public press release or media coverage concerning this proposal since its not appropriate at this stage to do so as such action would in turn lead to confusion and therefore may jeopardize the overall project.

Attendance:

Dr.Somboon Siriraksophon	- SEAFDEC/TD Bangkok
Abdul Rahman B Abdul Wahab	- Fisheries Officer (Sectoral Planning) HQ
Abdullah B Jaafar	- Fisheries Officer (Legal) HQ
Haryati Abd Wahab	- Fisheries Officer (licensing)HQ
Abdul Razak Latun	- Senior Research Officer, FRI
Wan Muhammad Aznan Abdullah	- Fisheries Officer, Kedah State
Badeli Hassan	- Langkawi
Anuar Omar	- Extension Officer, Kedah State
Sabidah Saleh	- Langkawi
Mahadzir Ibrahim	- Chairman KEN Kuala Teriang
Padzil B Din	- Sec. KEN Kuala Teriang
Lazim Hashim	- Kuala Teriang
Hashim Ismail	- Kuala Teriang
Murad Hamid	- Kuala Teriang
Abdul Long	- Kuala Teriang
Yusup Darus	- Kuala Chenang
Hanapiah Baharom	- Kuala Teriang
Rozi Ismail	- Kuala Teriang
Radzi Saleh	- Kubang Badak

Dohat Bakar  
Halim Sirun  
Mansur B Man  
Ismail B Abd Hamid  
Said Bulat  
Lee Yoke Lee

- Kubang Badak  
- Kubang Badak  
- Kuala Teriang  
- Kuala Chenang  
- Kuala Chenang  
- WWF, Langkawi

**Report on a study tour to Chumphon**  
**by KEN members of Kuala Teriang**

Saivasan Klinsukhon  
30<sup>th</sup> June 2005

**1. Background**

It was vigorously proposed at the 3<sup>rd</sup> Steering Committee Meeting held on 27<sup>th</sup> April 2005 in Suratani that the Crab Bank concept, which is one of the on-going activities in the project of ICRM-PD in Chumphon within the regional technical cooperation mechanism of FCG. Partly corresponding to the above proposal and partly meeting the acute requirement of KEN that needs to study any precedent of local enforcement activity. The project envisages arranging a study tour to the project site of ICRM-PD with the itinerary as outlined. This attempt is more conducive in the sense that more close communication and collaboration are beneficial to each other for the concerned sister projects; i.e. ICRM-PD, ICRM-PL and ICRM-SV.

**2. Objective**

There is great concern over the dwindling swimming crab resources among fishermen in the project area in Langkawi. Similarly, the fishermen in the project area of Chumphon had a similar concern and the idea of crab bank was one of the means to preserve the valuable crab resources and was put in place on their own initiative. This can be a good model to other fishing communities who are facing similar problems irrespective of the country. Also, the fishermen's cooperative, KEN, in the project area intends to establish an exclusive community fishing zone and comprehensive local enforcement as a vital way of ensuring effective coastal resource management within the demarcated zone. In the project of Chumphon, they intend to establish a local enforcement unit with technical assistance from the DOF Fisheries Enforcement Unit. This will be conducive for the KEN members to inspect the activity and a means for establishing a way to enforce the community fishing rights in the demarcated zone. Hence, the study tour to the project operational area in Chumphon is carried out by the KEN members of Kuala Teriang, which is the project area in ICRM-PL.

**3. Itinerary**

**26<sup>th</sup> June 2005 (Sunday)**

- 11.00 - Pick up Fisher's group at the Tamaluang border, Satun Province
- 12.00 - 18.00 - Leave for Chumphon Province
- Lunch on the bus
- Dinner at Boonchu Resort restaurant
- Overnight at Boonchu Resort hotel, Chumphon Province

**27<sup>th</sup> June 2005 (Monday)**

- 08.30 - 09.00 - Leave Hotel for Crab Bank at Ko Tiep
- 09.00 - 12.00 - Visit the crab bank
- 12.00 - 13.00 - Lunch at the cage culture site
- 13.00 - 16.00 - Visit women's groups Nos.1, No.4 and 6
- 18.00 - 20.00 - Dinner at Saitong Restaurant
- Overnight at Boonchu Resort hotel, Chumphon Province

**28<sup>th</sup> June 2005 (Tuesday)**

- 08.30 - 09.00 - Leave Hotel for Ao.Bo.To. Office
- 09.00 - 12.00 - Visit jellyfish production by fisher's group No.1
- Discussion on resource management by Ao.Bo.To.

- Discussion on enforcement activity by the Fisher's group
- 12.00 - 13.00 - Lunch at Ban Tung Maha
- 13.00 - 16.00 - Visit the Fisher's group at the Bang Sapan project
- Discussion on enforcement activity at the project site
- 18.00 - 20.00 - Dinner in Chumphon city
- Overnight at a hotel, Chumphon province

#### 29<sup>th</sup> June 2005 (Wednesday)

- 08.00 - 09.00 - Leave Hotel for Chumphon Marine Aquaculture station
- 09.00 - 10.00 - Inspect Babylonia shell culturing at the Chumphon Aquaculture Station
- 10.00 - 18.00 - Leave the station, Chumphon Province, for Had Yai, Songkhla Province
- Lunch at Surattani Province
- Dinner at Had Yai
- Overnight at VL Hotel, Had Yai

#### 30<sup>th</sup> June 2005 (Thursday)

- 07.00 - 07.30 - Leave Had Yai for Sadoue District
- 08.30 - 09.00 - Leave Sadoue District for Langkawi by car

### **4. Participants**

#### Malaysian mission

- 5 leading fishermen
- 1 Extension Officer in the District Fisheries Office
- 1 DOF officer from the Extension Division in KL

#### SEAFDEC/TD side

- Sei Etoh
- Sumitra Ruangsivakul
- Saivason Klinsukhon

### **5. Activity**

#### 26<sup>th</sup> June 2005 (Sunday)

Pick up the Fisher's group at Satun Province and go to Chumphon Province

#### 27<sup>th</sup> June 2005 (Monday)

##### Visit the crab bank

Crab bank was started in 2002, and there are 16 members. This bank is a deposit for mature stage crab with eggs. The crabs stay until they spawn. Everyday, all members will supply mature sized crabs with egg to the group. The crab bank receives 50/70 gravid crabs from each member per day.

The activity objective is to protect gravid crab in a safe environment and to encourage community awareness in resource conservation for a sustainable yield of increased size and quantities of crab. The funds from the project are divided into 50% for the group income, 30% for cage repairs and 20% for feed.

Mr. Chang, the leader of the group, to request the KEN members' of the Crab Bank to increase the size and quantity of crab. In fact, the crab bank is to protect the crab environment." He wants to the KEN members to start a crab bank in Langkawi.

KEN members already had the idea about a crab bank. This activity is good but may not be

suitable for Langkawi as it is open sea and not the same as Chumphon. They think that a little improvement may make the culture method suitable. In fact, they are sure a crab bank will assist the protection of the crab in environment and increase the size and quantity of crab.

#### Visit to the woman's groups at Chumphon

Visits were made to the woman's groups Nos.1, 4 and 6. The Woman's group No.1 activity is in Fish Processing. There are various products including squid, a crisp rice biscuit based on fish, a crisp rice biscuit with a shrimp flavour, anchovy and a piece of shrimp.

The Woman's group No.4 activity concerns biscuit products and the making of artificial flowers for cremations. They sell the product to the shops in Chumphon.

The Woman's group No.6 activity is making batik printing. They produce shirts, handbags and neckties, they sell products to the shops in Chumphon.

The KEN members who are interested in Fish Processing in the Woman's group in Langkawi produce anchovy but they have a problem. In Langkawi the anchovy are the same size as in Chumphon but they shrink when fried. Then KEN members give anchovy products to the Langkawi woman's group No.1. to compare anchovy product between the Chumphon and Langkawi groups.

28<sup>th</sup> June 2005 (Tuesday)

#### Visit to see the jellyfish products at village No.1

The fisher's group produces jellyfish to sell to middleman or to export to foreign countries. Everyday they can collect 1,000 pieces of jellyfish. They clean the jellyfish with seawater mixed with salt and soda. Then they allow the jellyfish to ferment for 7 days. The fermentation of the jellyfish is by salt and alum and then the product is sent to the refrigerated room.

#### Visit to the Ao.Bo.To.

A deputy director of the Ao.Bo.To. gave a talk to explain their work in fisheries. The Ao.Bo.To. is giving support to building the cages for the crab bank and give some budget for the crab bank project. The Ao.Bo.To. is also giving budgetary support to the mangrove project.. The deputy director also talked about establishing a demarcated fishing zone. At present, Ao.Bo.To. approved on office of enforcement unit, but operating fund is not yet decided, DOF and Ao.Bo.To. will be discuss on this detail again.

#### Discussion on enforcement activities by fisher's group

A number of the fisher's group is 20. They are members of the Pakklong fishermen's group (PFG). The group can be divided by fishing gear into seven separate groups. These groups use squid cast net, anchovy purse seine, mackerel gill net, swimming crab gill net, crab trap, squid trap, fish cage culture and the aquaculture group.

The LBCFM-PD project was initiated in 2001. The objective being to protect the resources. In Langkawi there is a similar project to that of Chumphon. The Langkawi project has the title "Locally Based Coastal Resource Management in Pulau Langkawi (LBCRM-PL)". The LBCFM-PL project may be assumed to be as a sister project to Chumphon.

A meeting was held at Chumphon Province, on the 28<sup>th</sup> June to discuss the different ideas of the fishers groups in Langkawi and Chumphon. (Those participating were representative of DOF,

SEAFDEC and the fishermen's groups from Langkawi and Chumphon.

The meeting may be summarized as follows

- The KEN members want to bring green mussels from Chumphon to be cultured in Langkawi because green mussels in Langkawi are expensive.
- The KEN members want to be able to forecast when a monsoon will occur. They want to know so that the stocks may be protected. They can fish with a fishing boat but they can't fish with an ocean-going vessel because of shallow water. Further, they can fish with crab traps and squid traps.
- PFG want more knowledge about establishing a demarcated fishing zone in Langkawi. KEN members want to know how this can be achieved. The DOF in Malaysia and the fisher's group will maintain the fishing zone.

#### Visit to the fisher's group at the Bang Sapan project

The Bang Sapan Project was initiated in 1998.

The reasons for the implementation of this are:

- Because fishery management in Thailand is not clear.
- The fisher's group lack community participation in an environmental project
- Fishery management is initiated by the community.

Objectives:

- Study of community management in fisheries
- Study the effect of change in the natural environment in the area project
- To increase a fish production

Activities:

- Training on fishery management for the community
- Training volunteer fisherman about enforcement
- Training woman's group to preserve fish and fish processing
- Buoys to mark the zone area and position 3,000 m. from the shoreline.
- Fishermen and DOF to collaborate to the establish fishing zone
- To release shrimp
- To release swimming crab
- To release giant clams

Also from the meeting:

- The KEN members want to know how to catch fisherman who break the fishing laws. Mr. Likit (DOF) told them to send the lawbreakers to the police station and try them before a public prosecutor and send to a prison for punishment.
- KEN members want to know about "Who gives a uniform for the fishermen?" Mr. Likit told them that the DOF and the public will provide a budget.
- KEN members want to know about "Who looks after the fishermen if they are dead?" Mr. Likit told them that the DOF would do this.

29<sup>th</sup> June 2005 (Wednesday)

#### Visit to the Chumphon Marine Aquaculture Station

At the Chumphon Marine Aquaculture Station they have implemented

- Sea bass culture

The station has parent ponds and offspring ponds. They release sea bass at an adult stage to the natural environment and some sea bass are sold in the market.

- Babylonia shell culture

The station has parent ponds and offspring ponds. One Babylonia can to release 300-1,000 eggs. Babylonia shell has a time of 7 days to release their eggs. Next time babylonia to get down groun time consuming 14 day. And the shell takes another 21 days to become adult.

- Sea Anemone Culture

The station has parent ponds and offspring ponds. There is very little culturing needed.

- Coral Culture

The station has the objective of visitors coming to the station.

30<sup>th</sup> June 2005 (Thursday)

Leave Sadou district for Langkawi by car

## **6. Findings**

From the study tour to Chumphon by KEN members, the KEN is interested about the crab bank, woman's groups, the fishing zone and Babylonia culture. They want to implement activities the same as in Chumphon but they want improved methods of culture and processing to be suitable for Langkawi.

## **7. Follow-up activities**

Chumphon have various activities like the crab bank, crab culture, fish cage culture, women's group, Babylonia culture. The Langkawi KEN members are interested in the activities of Chumphon and want to have similar projects.

**Report on a**  
**Training Course on Fiberglass Reinforced Plastic (FRP) work for**  
**Local fishermen in Kaula Teriang**  
**23<sup>rd</sup> –26<sup>th</sup> May 2005**

Sumitra Ruangsivakul  
Sutthipong Tanasarnsakorn  
Thaweesak Thimkrap  
1<sup>st</sup> June 2005

**1. Background / justification**

On 26<sup>th</sup> December 2004, a serious disaster in the Southeast Asia and South Asia regions occurred along the Coast of the Andaman Sea. Massive tidal waves known as a Tsunami, generated by an earthquake phenomena around Ajeh district, in the northern part of Sumatera Island, Indonesia. The powerful wave destroyed large numbers of social and living infrastructures, fishing facilitates and equipment along the shoreline from Indonesia to the Coast of Africa. Malaysia is one of the countries that were directly affected by the Tsunami. According to information from the Department of Fisheries, Malaysia, Kaula Teriang is one of the fishing villages in Langkawi, Malaysia, that directly suffered from the massive Tsunami. Houses, jetties and fishing boats including fishing gear were very badly damaged.

The involvement of SEAFDEC

SEAFDEC is an intergovernmental organization established in Southeast Asia and is responsible for the promotion of sustainable fisheries in the region. Based upon its technical competence in various disciplines of fisheries, over the last 37 years has played a significant role in fisheries development in the region. One of the leading activities mobilized by SEAFDEC Training Department covers ship construction and marine engineering, which is a part of the element urgently required by the Tsunami stricken fishers in Kaula Teriang. Although some of their fishing boats were badly damaged to the extent of being irreparable, some are still usable after being properly repaired. At the 1<sup>st</sup> project Implementation Coordination Committee (ICC) meeting held on 1<sup>st</sup> March 2005, the fishers expressed their request to repair their damaged fishing boats with techniques to be transferred by SEAFDEC/TD; i.e. patching with materials of FRP (fiberglass reinforced plastic). Thus, it was planned to conduct a training course in boat repair using FRP in the project operational area in Langkawi with the following schedule and inputs. This is carried out as a part of a training program under activity 5: Fishing Gear Technology Improvement.

**2. Objective**

To train the fishermen in repairing minor damage to wooden fishing boats suffered in the tsunami wave with FRP material.

### 3. Expected outcome of the activity

The expected results of the proposed activity are;

- 1) The fishermen will gain basic knowledge and techniques in using fiberglass material for repairing minor damage to wooden boats.
- 2) The fishermen will be able to resume fishing activities after completion of repairs to their fishing boats.

### 4. List of Participants

Training coordinator:

Ms. Sabidah BT Saleh, Extension Officer, DOF, Langkawi

Ms. Sumitra Ruangshivakul, Head a.i., Socio-economic Section, Research Div., SEAFDEC/TD

Trainer:

Mr. Sutthipong Tanasarnsakorn: Head, Marine Engineering Section, SEAFDEC/TD

Mr. Thaweesak Thimkrup: Instructor, Marine Engineering Section, SEAFDEC/TD

Trainees:

The beneficiaries are fishermen in the project area:

1. Mr. Ismail Jaman                      Batu Ara
2. Mr. Dali Murad                      Kg. Ranggut
3. Mr. Hashim Ismail      Kuala Teriang
4. Mr. Roslah Othman      Batu Ara
5. Mr. Saad Siran                      Batu Ara
6. Mr. Hj. Pazil Din                      Kuala Malaka
7. Mr. Musa Ahmad                      Kg. Ranggut
8. Mr. Lazim Hashim      Kg. Paya
9. Mr. Osman Awang      Kuala Teriang
10. Mr. Baharam Sharif      Kg. Ranggut
11. Mr. Rozi Ismail                      Kg. Ranggut
12. Mr. Ismail Taib                      Kuala Teriang
13. Mr. Musa Taib                      Kg. Ranggut

### 5. Training program:

Day	Date	Activities	Remark
1	22/5/2005	SEAFDEC team travel from BKK to Langkawi	
2	23/5/2005	- Preparation and discussion with the fishermen and the local fisheries officers - Finding material for FRP training	Selection of damaged fishing boats to be used for training demonstrations
3	24/5/2005	- Lecturing on the basic knowledge of FRP material - Practice on FRP work (1)	
4	25/5/2005	Practice on FRP work (2)	Demonstration of repair work of damaged fishing boats
5	26/5/2005	- Continue training - Evaluation and conclusion	
6	27/5/2005	Return to Bangkok	

## **6. Training content:**

### 23<sup>rd</sup> May 2005

In the morning, there were 13 participants who come to a meeting to agree on a training course, Ms. Sabidah gave the objective of the SEAFDEC mission to come to Langkawi, to train fishermen on FRP work to repair fishermen's boats. There was agreement on training time, the program training and their allowance that will be paid later the training.

The time of training started from 0900 until 1600, the days for training were 24<sup>th</sup> – 26<sup>th</sup> May 2005. The samples for the training program was old, used boats for repair, the fishermen provided two boats as samples for this. The allowance of fishermen were paid one month after, because this course is an emergency course, DOF, Langkawi didn't have money for this program, so it was approved by DOF, Head Quarters later.

In the afternoon the SEAFDEC's team went to buy some equipment and material, wood, plywood, a saw, electric hand drill, electric grinding machine, roller, etc.

### 24<sup>th</sup> May 2005

In the morning session, the training time started at 0900 at the meeting room of the KEN office. Ms. Sabidah gave information on the proposal of this course that, this knowledge of this training would be to help the fishers to repair some parts of their boats by themselves, and to make some parts of the boat like engine covers and seats in the boat, etc.

Mr. Sutthipong gave a presentation on:

- What is fiberglass and where it comes from,
- Benefits of fiberglass,
- Sample of fiberglass products,
- Materials of fiberglass,
- Method and ratios of fiberglass,
- Calculation of FRP material, and
- Procedure before boat repair,

In afternoon session, all participants moved outside, to practice in the camp. There are two boats for repairing with fiberglass, one boat will be repaired and a cabin made, and the other boat will have a new cabin.

The work on the first boat was started by checking the damaged area, what is to be repaired and what was to be taken off, the second step was to take off the damaged part, and the third step was to copy the old part of the boat using new plywood. The three steps took too long, so was not finished in that day.

Work on the second boat, was started by cleaning the old color off around the boat, and preparing the plywood for the cabin.

### 25<sup>th</sup> May 2005

In the morning, all participants continued to prepare new parts of the boat using plywood, this step is difficult and took a long time, because it needed carpenter's knowledge.

In afternoon, all the new parts of plywood were finished. Mr. Sutthipong explained the value of fiberglass used per surface area, the surface area 1 m<sup>2</sup> would use 165 g. of polyester resin. The

first layer of fiberglass was painted, after the structure of boat was finished. The ratio of the four components in Polyester resin is;

Polyester resin	1 liter,
Monostyrene	100-200 ml,
Accelerator	2 ml, and
Hardener	5-20 ml.

The second step was to lay up the glass fiber and cover with polyester resin again. All work was left to dry.

26<sup>th</sup> May 2005

After all the work dried, the surface of the work was made up by electric drill. The third layer was painted using the following ratio of gel coat;

Gel coat	1 liter
Monostyrene	100-150 ml,
Pigment	100-150 ml,
Accelerator	2 ml, and
Hardener	5-20 ml

This step was made two or three times to make smooth. Only the first layer of the surface was not smooth.

## **7. Conclusion**

1. Fishermen understood what areas of boat to repair and how to replace that part.
2. Fishermen understood the steps of fiberglass making, there are 4 steps for this.
3. Fishermen requested training on the construction of a fiberglass boat for KEN.
4. Material from Thailand is not enough for this training, because the first plan will be a demonstration only making some part of the boat or ice box, but fishermen would like to make cabins for two boats, so a lot of material was used.
5. The instructors for this training were not enough for take care of the participants.

**Minutes of the 3<sup>rd</sup> Steering Committee Meeting**

**Integrated Coastal Resources Management in Pulau Langkawi**  
**(ICRM-PL)**  
**at Wangthai Hotel, Surattani, Thailand**  
**on 27<sup>th</sup> April 2005**

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**1. List of Participants:**

DOF Malaysia

- |                               |  |
|-------------------------------|--|
| 1. Mr. Mohd Shaupi Derahman   | Director, Planning, Development and (Chairman)<br>International Division |
| 2. Mr. Abdul Rahman bin Wahab | Fisheries Officer, Planning, Development and<br>International Division   |
| 3. Mr. Anuar bin Omar         | Fisheries Assistance Officer, Department of<br>Fisheries Kedah/Perlis    |
| 4. Mr. Badali bin Hassan      | Fisheries Assistance Officer, District Fisheries<br>Office               |

LKIM (Fisheries Development Authority of Malaysia)

- |                                 |  |
|---------------------------------|--|
| 1. Mr. Mohd Zawahid B Shamsudin | Assistant Director, Marine Fisheries<br>Development Division |
|---------------------------------|--|

DOF Thailand

- |                             |  |
|-----------------------------|--|
| 1. Mr. Peera Aosomboon      | Director, Chumphon Marine Fisheries and<br>Research Development Center (CMDEC) |
| 2. Ms. Sunsanee Sirchanngam | Fisheries Officer, CMDEC   |

SEAFDEC/SEC

- |                         |                              |
|-------------------------|------------------------------|
| 1. Dr. Worawit Wanchana | Project Leader, SIDA/SEAFDEC |
|-------------------------|------------------------------|

SEAFDEC/TD

- |                             |   |
|-----------------------------|---|
| 1. Mr. Seiichi Etoh         | Project Leader  |
| 2. Dr. Yuttana Theparoonrat | Training Division Head                                |
| 3. Mr. Isara Chanrakhij     | Fishing gear Technology Section,<br>Research Division |
| 4. Ms. Sumitra Ruangsivakul | Socio-economic Section Head, Research<br>Division     |

**2. Welcome address:**

The Chairman welcomed members of the Third Steering Committee to Surattani, Thailand. He also requested all participants to introduce themselves.

**3. Adoption of Agenda**

The proposed agenda was adopted without amendment.

#### **4. Endorsement of the Minutes of the second Steering Committee meeting**

The minutes of the second steering committee meeting of the Locally Based Coastal Resource Management- Pulau Langkawi (LBCRM-PL) Project were discussed as follows.

- a) Mr. Etoh suggested reducing the frequency of the SC Meeting from twice a year to once a year. The meeting agreed to this amendment.
- b) As to activity 2: Rehabilitate and enhance coastal resources, LKIM installed ARs at Kuala Teriang in February 2005. The meeting was informed that there should be consultation with the resource enhancement project leader on the model and location. SEAFDEC will send a study report on ARs conducted by SEAFDEC in August 2003.
- c) Mr. Etoh suggested that FRI and MFRDMD should be involved more in the operation of the project. The meeting and DOF Malaysia noted this issue and they would be invited to the next ICC meeting.

#### **5. Endorsement of the project progress report for 2004**

- a) Mr. Rahman would like to know the name of ICRM-PL: why the project title was changed. Mr. Etoh explained that the Japanese donor for the project placed emphasis on human resource capacity building, so the name of project was changed to meet the project objective, but the main activities are just the follow-up to the previous project work plan.
- b) To introduce and expand job opportunities: sport fishing may be introduced around FADs, but this activity should require a license for persons and boats from the Marine Parks Department, and fishermen will be trained in this job.
- c) Zoning arrangement: Mr. Rahman gave information on this activity that DOF Malaysia has to organize a task force team for the preliminary survey and prepare regulations for anchovy purse seines, because anchovy seine fishing is the main of fishing gear in Langkawi, competing with the small scale fisheries.
- d) DOF procured the machinery for producing new products for the women's group, after they were trained. A budget of 60,000 RM was provided for the project.
- e) At the next ICC meeting, batik printing should be introduced as an alternative job opportunity for the women's group. The chairman mentioned that, DOF Malaysia considers investing in building a factory first.

#### **6. Endorsement of the revised work plan for 2005**

Action plan 2005 of the ICRM-PL were amended and adopted this appears as attached. The detailed explanation on the revised work plan was made by Mr. Etoh and was endorsed by the meeting.

#### **7. Report of the status of rehabilitation from the tsunami**

Mr. Rahman reported the present status of rehabilitation from the disaster of the tsunami consistent with the following table.

Table 1: Types of Assistance

No.	Type of assistance	Value (RM)	Eligible Victim	Total Amount (RM)	Remarks (responsible agency)
1.	Assistance on the basis of lost of source of income	500.00	166	83,000.00	DOF
2.	Fishing boats assistance	1,000.00	185	185,000.00	LKIM
3.	In-board engine vessels assistance	3,000.00	9	27,000.00	LKIM
4.	Assistance of crews	500.00	18	9,000.00	LKIM
5.	Assistance to Aquaculture(cages)	500.00	3	1,500.00	LKIM
6.	Interest free special soft loan for Tsunami Victims in kind form bentu e.g. engine, boats and other equipment				LKIM channeled through the Fishermen Association
7.	Reimbursement for repair work done on engine, boats and other equipments				LKIM channeled through the Fishermen Association
8.	Assistance for self subsistence based on estimate of damages to the project with maximum allocation of RM 2,900.00		3		DOF

## 8. Closing

Mr. Shaupi thanked all participants for their valuable contribution and constructive comments and wished all participants a safe journey home.

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 Drafted by: Mr. Abdul Rahman bin Wahab  
 : Ms. Sumitra Ruangsivakul

**Description of activities for ICRM-PL in 2005 – Revision 1**  
**(Endorsed by the 3<sup>rd</sup> SC meeting on 27<sup>th</sup> April 2005)**

**Activity 1: Monitoring survey**

**1.1. Fish landing survey at the project site**

**1.1.1. Regular collection of data**

The fish landing survey was been regularly conducted with assistance from the four middlemen until December 2004 when the tsunami struck. The fishing activity has been gradually resumed and it is planned to start the data collection again from May.

**1.1.2. Analysis and compilation of the annual data**

The fish landing data for 2004 will be analyzed and compiled before May. The result should be disseminated among stakeholders and also incorporated in the future work plan.

**1.2. Marine resources survey**

**1.2.1. Regular collection of data**

The marine resources monitoring survey, which had continued until the end of December 2004 will be resumed in May as about 80% of fishing activity has been reactivated.

**1.2.2. Analysis and compilation of the annual data**

The marine resources monitoring survey data for 2004 is to be analyzed and compiled by May. The result should be disseminated among stakeholders and also incorporated in the future work plan.

**1.3. Specific topic survey**

**1.3.1. Impact survey of the introduction of new fishing methods**

This activity will be temporarily suspended until 2006 as no specific activities with the application of improved fishing technology are to be implemented for the time being.

**1.3.2. Analysis and compilation of the annual data**

In relation to the above, this activity is also postponed to 2006.

**1.3.3. Impact survey of the installation of FEDs/ARs**

Following to the installations of FEDs in December 2004 and ARs in February 2005, the impact survey is continuing in 2005. The first one is to be conducted in June. Simultaneously, a pre-installation survey for the ARs to be installed in August will be conducted at this time. The monitoring survey will follow in November.

**1.3.4. Analysis and compilation of the annual data**

The data obtained from the above surveys are to be analyzed in 2006.

**Activity 2: Encourage and extend the CBRM concept**

**2.1. Develop an applicable CBRM plan**

**2.1.1. Promote local zoning arrangements around FADs/FEDs**

Establishment of demarcation for the purpose of CBRM is promoted with a step by step approach in consultation with all relevant authorities and the proposed management plan as formulated.

**2.1.2. Fishers' workshop on the embodiment of zoning arrangements**

Once the zoning arrangement is established, a fishers' workshop is to be organized aimed at disseminating the CBRM concept within the zoning arrangement among the fishers concerned

**2.1.3. Identify an effective approach for local enforcement**

In parallel with practical realization of CBRM, embodiment of local enforcement

- becomes inevitable. An appropriate arrangement that meets the local conditions should be identified through the participatory approach among stakeholders.
- 2.1.4. Take relevant steps for the realization (to be more specific once measures are determined)
 

Based upon the above results, an approach toward the establishment of local enforcement unit is promoted. This activity will be continued in 2006.
  - 2.1.5. Study and preparation for establishment of Crab Bank
 

With the tangible sign of dwindling sizes of crab in the area, it is proposed to establish a system to protect the resources. One example is an establishment of crab bank as seen in the sister project in Chumphon, Thailand. A study will be made to see its possibility for establishment of such a mechanism and preparation will be made for its realization once its applicability has been convinced.
  - 2.1.6. Operation of the Crab Bank
 

After establishment of a crab bank, an operation and management will commence by KEN.
  - 2.2. Awareness building on the basic concept of CBRM
    - 2.2.1. Training course in the basic approach for CBRM
 

An arrangement for a training course in the CBRM concept is to be made for fishers.
    - 2.2.2. Study tour to observe a model case of CBRM
 

After completion of the above training course, a study tour is to be conducted to a fishing community where the CBRM principle is practiced to see the practical application.

### **Activity 3: Encourage local business**

- 3.1. Diversification of products produced by the women's group
  - 3.1.1. Feasibility study for introduction of new types of product
 

Diversification of merchandise is an essential marketing tactic in expanding business. This activity is mainly deployed by Fisheries Extension and Quality Assurance Management Division (FEQAMD) of DOF Malaysia. They are responsible for identifying the items to expand production and marketing lines.
  - 3.1.2. Training in new processing technologies
 

Resulting from the above study, a training course is to be conducted for the women's group at an appropriate institution to master the new food processing technologies.
  - 3.1.3. Marketing promotion
 

Every effort should be exerted to promote the marketing opportunities like exhibitions, sales promotion campaigns etc. This activity should be coordinated primarily by FEQAMD.
- 3.2. Improvement of group management skills
  - 3.2.1. Follow-up training course for bookkeeping/accounting
 

The bookkeeping and accounting skill is a basic tool in group management and a preliminary training course in this subject was conducted in June 2004. Thereafter, the bookkeeping and accounting system has been applied in the practical work. A follow-up training course including cost and benefit analysis is to be organized. Further, a basic computerized accounting system, which training is regularly organized by DOF, is also introduced.
  - 3.2.2. National workshop on women's participation to the group activity
 

It was initially planned to hold a national workshop on women's participation to the group activity in 2005. In this workshop, it was envisaged to discuss the roles of women in participation in the group activities aiming at community development and CBRM with the attendance of other women's groups concerned.

### 3.3. Expansion of fisheries related business for the community

#### 3.3.1. Study and identify alternative business opportunities

It was initially envisaged to develop cage culturing for the community, but it was realized that a suitable site was not available in the area and the idea was abandoned although it could be highly promising. An alternative proposal should be discussed and studied for identification.

#### 3.3.2. Take relevant steps for the realization (to be more specific once measurements are determined.)

Based upon the results of the above study, relevant steps toward the realization of the alternative business is sought. The approach is largely dependent on the business to be pursued. This is to be a continued activity in 2006.

## **Activity 4: Enhance human resources capacity building and participation**

### 4.1. Enhance capacity building in the CBRM concept

#### 4.1.1. Training course in the basic approach to CBRM

Refer to 2.3.1.

#### 4.1.2. Study tour to observe a model case of CBRM

Refer to 2.3.2.

### 4.2. Restoration of data and information to the community

#### 4.2.1. Local seminar on the research work carried out

The research work carried out at the project is to be presented in the local seminar to disseminate information to the stakeholders. However, according to the current situation of the project progress, it should be postponed to 2006.

#### 4.2.2. Local seminar on impacts of project activities

A local seminar will be organized to discuss the impact given by the project operation from various aspects with participation of stakeholders. This may be postponed in 2006, after completion of the mid-term project evaluation.

### 4.3. Encourage participation in environmental developmental work

#### 4.3.1. Fishers' workshop environmental development work

Under the current situation, this activity is postponed until 2006.

#### 4.3.2. Organize and carry out various volunteer work (to be more specific after the above workshop)

Under the current situation, this activity is postponed until 2006.

### 4.4. Publication and preparation of extension and PR materials

#### 4.4.1. Publication of technical reports

Publication is made as required.

#### 4.4.2. Preparation of PR and extension services materials

PR and extension services materials are prepared as required.

## **Activity 5: Fishing gear technology improvement**

### 5.1. Training in improved fishing methods

#### 5.1.1. Training course in squid trap fishing

Experimental fishing using squid trap was carried out in December and as a result the fishers were of the opinion that this fishing method would compete with gillnet fishing and may not be applicable to the area. Therefore, this activity is cancelled.

#### 5.1.2. Training course in repairing FRP boats and manipulation of electrical equipment

Responding to the common request by the fishers, this course should be implemented as soon as possible. The training in manipulation of electrical equipment is conducted at request by fishers.

## 5.2. Follow-up of improved fishing methods introduced

### 5.2.1. A fishers' workshop on the application of improved fishing methods

Several fishing methods have been introduced in the area since the inception of the project and the result should be reviewed and their applicability should be assessed. In some cases, further efforts to improve them are inevitable.

### 5.2.2. Follow-up activity

Depending upon the outcome of the above workshop, a follow up activity will be identified. This activity takes place in 2006.

## **Activity 6: Rehabilitate and enhance coastal resources**

### 6.1. Introduction of fish enhancing devices(FEDs)

#### 6.1.1. Monitoring marine biological survey

Refer to 1.3.3. This survey is repeated twice a year.

#### 6.1.2. Monitoring the status of FEDs.

The status of FEDs installed in December 2004 is monitored twice a year at least.

#### 6.1.3. Evaluation of the effectiveness and function as a FED

Its effectiveness, function and durability are totally evaluated once a year. This result is to be incorporated in the future work-plan.

### 6.2. Installation of ARs by LKIM

#### 6.2.1. Study on the proper location for the installation

Based upon the past research work, the proper location and position of ARs should be identified and instructed to LKIM. The preliminary investigation report on installation of ARs in Langkawi was released in August 2003, which will be conducive.

#### 6.2.2. Installation of ARs

Installation of 900 pcs of ARs was made by LKIM on 23<sup>rd</sup> February 2005. Further, LKIM plans to install ARs in August.

#### 6.2.3. Marine biological impact survey

The pre-installation survey for ARs should be conducted prior to the installation. Further, the marine biological impact survey to monitor the function and impact given to the marine environmental habitat should be repeated at a minimum of 6 months intervals.

## **Activity 7: Project evaluation**

### 7.1. Mid-term project evaluation

The mid-term project evaluation should be conducted at the end of 2005 by an outside consultant

## **Activity 8: Committee meeting**

### 7.2. Steering Committee (SC)

This meeting should be held once a year at a minimum.

### 7.3. Implementation Coordination Committee (ICC)

This meeting should be held once every quarter at a minimum.