



Proceedings of the

TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT:

Lessons Gained Through Locally Based Coastal
Resource Management in Pathew District,
Chumporn Province, Thailand

TD/RP/58
LBCRM-PD No. 23
September 2003



Southeast Asian Fisheries
Development Center



Department of
Fisheries, Thailand



What is SEAFDEC?

The Southeast Asian Fisheries Development Center (SEAFDEC) is an autonomous intergovernmental body established as a regional treaty organization in 1967 to promote fisheries development in Southeast Asia.

Objectives

SEAFDEC aims specifically to develop the fishery potential in the region through training, research and information services in order to improve the food supply by rational utilization of the fisheries resources in the region.

Functions

To achieve its objectives, the Center has the following functions:

1. To offer training courses, and organize workshops and seminars in fishing technology, marine engineering, extension methodology, post-harvest technology, and aquaculture.
2. To conduct research on fishing gear technology, fishing ground survey, post-harvest technology and aquaculture, to examine problems related to the handling of fish at sea and quality control, and to undertake studies on the fishery resources in the region.
3. To facilitate the transfer of technology to the countries in the region and to provide information materials to the printed and non-printed media, including the publication of statistical bulletins and reports for the dissemination of survey, research and other data on fisheries and aquaculture.

Membership

SEAFDEC membership is open to all Southeast Asian Countries. The Member Countries of SEAFDEC at present are Brunei Darussalam, Cambodia, Indonesia, Japan, Lao PDR., Malaysia, Myanmar, Philippines, Singapore, Thailand and the Socialist Republic of Vietnam.

Proceedings of the

**TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE
MANAGEMENT:
LESSONS GAINED THROUGH LOCALLY BASED COASTAL
RESOURCE MANAGEMENT IN PATHEW DISTRICT,
CHUMPORN PROVINCE, THAILAND**

Part I: 19-21 February 2003 (Local Seminar)
At Chumporn Marine Fisheries Research and Development Center
Chumporn Province, Thailand

Part II: 22-24 February 2003 (Regional Seminar)
At Thavorn Grand Plaza Hotel, Phuket Province, Thailand



Training Department
Southeast Asian Fisheries Development Center

TD/RP/58
LBCRM-PD No. 23



Department of Fisheries
Thailand

September 2003

Proceedings of the

TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE
MANAGEMENT:
LESSONS GAINED THROUGH LOCALLY BASED COASTAL
RESOURCE MANAGEMENT IN PATHEW DISTRICT,
CHUMPORN PROVINCE, THAILAND

ISBN : 974-9509-43-9

All right reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior permission of the copyright owner. Applications for such permission, with a statement of the purpose and extent of the reproduction, should be addressed to the Chief of Training Department, Southeast Asian Fisheries Development Center, The Training Department, P.O. Box 97, Phrasamutchedi, Samutprakan, 10290, Thailand.

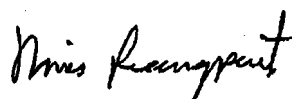
FOREWORD

The Locally Based Coastal Resource Management in Pathew District (LBCRM-PD) Project, Chumporn Province, Thailand, is a collaborative project between SEAFDEC/Training Department (TD) and the Department of Fisheries (DOF), Thailand. The LBCRM-PD project is an initial component of the Coastal Resource Management Program, which is based on the adoption of ASEAN-SEAFDEC Fisheries Consultative Group (FCG) Scheme. LBCRM-PD is financially supported by the Japanese Trust Funds, while DOF contributes part of the operating funds.

TD and DOF agreed to arrange 'the Seminar on Towards Further Development of Coastal Resource Management: Lessons Gained Through Locally Based Coastal Resource Management in Pathew District, Chumporn Province'. The seminar had two main objectives. The first one was to discuss an orientation of the LBCRM-PD project among local people, local government officers and the project's staff. Lessons gained through the operation of this project should be transferred to any other projects on coastal resource management. The second was to provide an opportunity for participants from ASEAN-SEAFDEC member countries to exchange views and opinions on both the LBCRM-PD and their own projects. We were sure that the LBCRM-PD project would become a good model on coastal resource management at domestic and regional levels, respectively.

The LBCRM-PD places a great emphasis on practical lessons and experiences through the project implementation in order to transfer knowledge and technology to any other pilot projects. According to this initial purpose, the seminar was designed to review the project's activities in depth. Those local people and project's staff having participated in the LBCRM-PD welcomed all recommendations and comments from all participants in the seminar. These may be useful to steer and adjust the direction of the project implementation for the next year plan.

SEAFDEC/TD strongly desires that this proceedings would offer more detailed information on the LBCRM-PD activities with successful-and-bitter lessons obtained. The project's staff will be very glad that all basic and informative documents would be useful to policy makers and planners who are responsible for implementing and formulating locally based coastal resource management projects in order to achieve sustainable use of coastal resources in the Southeast Asian region.



Niwes Ruangpanit
Secretary-General

PREFACE

SEAFDEC/Training Department (TD) and the Chumporn Marine Fisheries Research and Development Center (CMDEC), Department of Fisheries (DOF) cordially collaborate to formulate action plan of the LBCRM-PD project. The two parties involved in the Phase I of the LBCRM-PD during the period from October 2001 to December 2002. The parties coordinated with local people in Tambol Pakklong (the project site)'s participation to handle the initial stage of the project implementation. Active local people's participation is supportive mechanism to help pushing organization-driven strategy toward the decentralization of authority in coastal resource management. People's organization is primary management entity to take charge in manipulating local resource. The organization is core and leading entity to integrate all disciplines, factors and conditions that exist in local community.

SEAFDEC/TD and CMDEC have gained practical lessons and experiences that are learning-by-doing from the project implementation. The two counterparts plan to transfer accumulated technology of the project implementation and substantial information of the project through ' the Seminar on Toward Further Development of Coastal Resource Management in Pathew District, Chumporn Province'. Recommendations and comments come from the seminar attendances are valuable for the two parties to re-consider proper and feasible direction of the project action plan and real implementation.

SEAFDEC/TD and CMDEC

CONTENT

page

Part I: Local Seminar

Report of the Seminar

Report of the Seminar	3
-----------------------------	---

Annex

Annex 1	List of Participants.....	15
Annex 2	Prospectus.....	25
Annex 3	Provisional Agenda and Timetable.....	29
Annex 4	List of Documents.....	31
Annex 5	Opening of the Seminar.....	33

The Seminar Documents

Key Address.....	37
A New Direction of Coastal Fisheries Management: People's Participation, Designated Community and Local Fisheries Committee.....	45
Backgrounds and Planned Activities of Locally Based Coastal Resource Management.....	63
Past, Present and Future of Project Activities of LBCRM-PD: Summary of Quarterly Reports.....	73
Extension and Media Development for Locally Based Coastal Resource Management in Pathew District (LBCRM-PD), Chumporn Province	93
Women's Activity in Fish Processing in Tambol Pakklong, Pathew District Chumporn Province	99
Effort to Establish A Self-Management Framework in the Demarcated Zone.....	105
Experiences in the Zoning of Fish Cage and Shellfish Culture Areas.....	113
Coordination between Crab Trap and Crab Gill Net Fisheries: Change and Adjustment of Fishing Gear for Responsible Fisheries Projects to Contribute Locally Based Coastal Resource Management	123
School-Community's Participation in Mangrove Reforestation and Conservation in Thungmaha Bay, Pathew District, Chumporn Province	131

Greater People's Participation and the Increasing Role of Local Government in Coastal Fisheries Management: Toward Decentralization of Resource Management	135
The Role of Government Network for Local-wide Resource Management in the Philippines ..	151
New Roles of Sub-District Administrative Organization to Local Community Development in Thailand.....	163

Part II: Regional Seminar

Report of the Seminar

Report of the Seminar	171
-----------------------------	-----

Annex

Annex 1 List of Participants.....	181
Annex 2 Prospectus.....	185
Annex 3 List of Documents.....	187

Country Papers

Overview of Part II.....	189
Successful Factors to Develop People's Participation in the Phangnga Bay Projects (CD-ROM)	
Comprehensive Coastal Community Development Program: the Philippines	199
Fishing Ground Management: The Malaysian Experience.....	205
Recent Development of Coastal Resource Management Projects in Indonesia.....	209
Zoning and Legislation Towards Sustainability of Marine Fisheries Resources in Negara Brunei Darussalam.....	213
Roles of Municipal Governments Networks for Local-wide Coastal Resource Management (CD-ROM)	
Registration and Licensing Program for Fishing Vessels in Malaysia.....	215
We Need the Some Special Training Program for Local Fisheries Officers and Local Leader Governments.....	221

Special Session

Special No. 1.....	223
Special No. 2.....	231

Part I
Local Seminar

Report of the Seminar

**REPORT OF THE LOCAL SEMINAR ON
TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT:
LESSONS GAINED THROUGH LOCALLY BASED COASTAL RESOURCE MANAGEMENT IN
PATHEW DISTRICT, CHUMPORN PROVINCE, THAILAND**

PART I: 19-21 FEBRUARY 2003

EXECUTIVE SUMMARY

The Seminar on the Toward Further Development of Coastal Resource Management: Lessons Gained Through Locally Based Coastal Resource Management in Pathew District, Chumporn Province, Thailand was held the local part on 19-21 February 2003. This part was arranged for Thai fisheries officers and fishers to gain tangible scenery of active and on-going coastal resource management project in Thailand. This may help all participants to assess and compare coastal resource situation between their authorized areas and project site areas. Representatives come from ASEAN-SEAFDEC member countries also attended the seminar at local part. All foreign representatives took this opportunity to understand and orient outline and pattern of on-going coastal resource management in case of Thailand. An overall views of the Locally Based Coastal Resource Management Project in Pathew District (LBCRM-PD) action plan and implementation was presented. This was a guideline to introduce six major activities of LBCRM-PD project, which implemented in year 2002.

OUTCOMES AND PROGRESS WORK OF THE PROJECT ACTIVITIES IN YEAR 2002

- 1) Proclamation of demarcated areas (Areas I and II), which based on agreement of local people and stakeholders' consensus, prohibited trawls, push net and shellfish dredge net to fish in the demarcated areas. This proclamation is amended by the Cabinet and enforced by the Chumporn province.
- 2) Zoning of the fish cage culture and shellfish culture purposes to reduce conflict of all users. The proclamation of the zoning would be declared when the local people and stakeholders' agreement was confirmed through public hearing conducted in all villages in Tambol Pakklong, Pathew District.
- 3) Women's group is active to promote local business through distributing and marketing local fish processing product to local market and urban market. This is creative and additional source of income to help improving fishers' livelihood.
- 4) Promotion of awareness building of the project is conducted through training course arrangement and extension program.

RECOMMENDATION TO MANAGE THE PROJECT'S DIRECTION AND IMPLEMENTATION

- 1) Training course schedule should consider the availability of the participants. Difficulty is caused by local participants may be reluctant to attend the course without sacrificing their daily means of livelihood.
- 2) Research of gender's working hour should be conducted to properly provide an extension program for creative job opportunity for local people.
- 3) Strengthening of monitor, control and surveillance on the demarcated zone conducted among all concerned in management of coastal resources including enforcement should be ensured.
- 4) To ensure sustainable use of coastal resources, the management functions and authority should be in the hand of local organizations.



I. INTRODUCTION

1. The Seminar on the Toward Further Development of Coastal Resource Management: Lessons Gained through Locally Based Coastal Resource Management in Pathew District (LBCRM-PD) was jointly held by SEAFDEC and the Department of Fisheries, Thailand from 19-21 February 2003 at the Chumporn Marine Fisheries Research and Development Center (CMDEC), Chumporn, Thailand.

2. The Seminar was organized with the following objectives (a) to present the progress of the LBCRM-PD pilot project; (b) evaluate problems and solutions for future project planning; and (c) exchange views and experience in the promotion of coastal resource management of the project as well as to further extend the experiences to other Member Countries of SEAFDEC. The Seminar was attended by the senior officers of the Department of Fisheries, Thailand and SEAFDEC as well as participants and observers involved in the promotion of sustainable coastal resource management in Thailand and other countries in Southeast Asia. The list of participants appears as *Annex 1*.

II. OPENING OF THE SEMINAR

3. The Provincial Fisheries Officer, Mr. Pinyo Thaithavorn welcomed the participants to the Seminar. Subsequently, the Deputy Secretary-General of SEAFDEC, Mr. Junichiro Okamoto delivered the Opening Remark. This was followed by the Opening Address by the Senior Expert, Dr. Mali Boonyaratpalin. After the address, she declared the Seminar open. The welcoming address, opening remark and opening address appear as *Annex 5*.

III. A NEW DIRECTION OF COASTAL FISHERIES MANAGEMENT: PEOPLE'S PARTICIPATION, DESIGNATED COMMUNITY, AND LOCAL FISHERIES COMMITTEE

4. The subject was presented by a senior expert of the Department of Fisheries, Thailand, Mr. Sakul Supongpan. Mr. Sakul outlined the overview of Coastal Fisheries Management (CFM) in Thailand highlighting major problems and constraints encountered in the promotion of the CFM. He pointed out management measures in support of coastal fisheries management including closed areas and closed seasons. He briefly introduced the national project on Small-scale Fisheries Development, which was the follow-up of the 7th and 8th National Social and Economic Development Plan (NSED). The project was later renamed as "Thai Sea Rehabilitation" in line with the policy and plan of the 9th NSED.

5. He briefly explained principles and major activities of the Thai Sea Rehabilitation project. The activities include a) establishment of fishers' groups, b) coastal aquaculture development, and c) promotion of fishery post-harvest and processing.

6. He further presented the evaluation of the project, of which the outcome highlighted the need for community-based fisheries management (CBFM) approach. This led to the further development of project to "Coastal Resource Rehabilitation and Management". He referred to the introduction of fishing right, which requires capacity building of local organizations. He also stressed on a basic model for setting-up the coastal area and organization of project. In conclusion, he stressed the importance of site selection of the project, strengths of the community and local organizations, vision and competence of project staff as well as cooperative efforts of other national/regional projects (CHARM and SEAFDEC) to ensure cooperation to and success of the project. His presentation appears as *LBCRM-PD/REF 02*.

7. In discussion, with regard to the budgetary cut on the construction of basic infrastructure and facility of the projects on Thai Sea Rehabilitation; it was commented by the representative from the Department of Coastal Resource and Environment Management that the budget was not cut down but transferred to the community and local government. He highlighted the important factor of participation and cooperation from fishers and any stakeholders as well as their compliance to the rules, regulations

and laws. He stressed the role of the LBCRM-PD project as a facilitator to establish sustainable coastal resource management, not providing directly financial means to the project.

8. With respect to indicators of success for the implementation of Bangsaphan project, Mr. Sakul clarified that increase of income of community members is the aim of the project. However, the project is on-going and there is no final evaluation yet. In addition, he presented the recent evaluation of implementation of the Bangsaphan project, which focused on higher degree of cooperation and compliance of fishers to the laws and regulations and; reduction of social conflicts among fishers' groups; increase of sense of ownership of the project and their coastal resources; and so on. He also commented a co-management approach that the Bangsaphan project adopts, which allows open communication among the project implementers.

9. In response to the clarification on appropriateness between co-management and CBFM, in response to the situation of coastal fisheries in Thailand and the new Constitution, Mr. Sakul pointed out that vision and cooperation are main prerequisite to success not the concept or the approach itself. In this connection, he urged all concerned in the promotion of coastal fisheries management to exert their efforts in promotion of activities in a coordinated manner.

IV. PAST, PRESENT AND FUTURE OF PROJECT ACTIVITIES OF LBCRM-PD: SUMMARY OF QUARTERLY REPORT

10. The subject was co-presented by the Ex-JICA Expert on Fisheries Socio-Economics to SEAFDEC, Prof. Dr. Masahiro Yamao and the Former Director of Chumporn Marine Fisheries Development Center, Mr. Panit Sangkasem. The presentation appears as *LBCRM-PD/REF 03 and 04*.

11. Dr. Yamao outlined the background, objectives, strategy and expected outputs of the LBCRM-PD project. The duration of this project is for 5 years, highlighting two important aspects of the project, which are the promotion of alternative livelihood and sustainable use of coastal resource. Dr. Yamao and Mr. Panit further explained major activities and their sub-activities of the project, namely 1) the base line survey (Activity I); 2) encouragement and extension of LBCRM (Activity II); 3) promotion of local business (Activity III); 4) enhancement of human resource capability and participation (Activity IV); 5) development of extension methodologies, manual and system (Activity V); 6) rehabilitation and enhancement of coastal resources (Activity IV). It was stressed that Activity II and III are at the core of the project. The project is divided into two phases. The first phase covering the first and second years focuses on the preparation of implementation resources, conducts a series of the base line survey, training and extension matters as well as rehabilitation of resources. While the second phase starting from the third year onward is focused on the establishment of Coastal Resource Management (CRM) framework and supporting systems. In conclusion, it was emphasized that through the course of the project implementation, degree of reliance on government inputs would be reduced while degree of self reliance would be increased.

12. In discussion, in response to the inquiry from the Director of CMDEC on the conclusion derived from the base line survey pertaining to the current situation and problems of coastal resource management which could be used for future planning, a representative from SEAFDEC/TD, Dr. Phattareeya Suanrattanachai pointed out that data information required for development and management of coastal resources was lacking. She further clarified that important fishery activities and major existing problems were identified of which solutions would have to be jointly identified through collaborative efforts of parties concerned.

13. With regard to the inquiry on prominent problems identified from the outcome of the base line survey pertaining to the coastal resources particularly crab, squid and anchovy population and their usage as well as perception of fishers in the project area, Mr. Panit, supported by the Former Director of Andaman Sea Research and Marine Fisheries Development Center (AMDEC), Mr. Jate Pimoljinda,



explained that laws restricting certain fishing gear in the project site was still lacking. They highlighted on creation of positive attitudes toward sustainable use of resources not by restriction and enforcement.

14. The Director of Upper Gulf Fisheries Development Center, Mr. Rangsan Chayakul, pointed out that focus of coastal resource management has been placed too much on the coastal resource. This should be substantiated by increasing value of the resources by eliminating role and influence of middlemen.

V. EXTENSION AND MEDIA DEVELOPMENT FOR LOCALLY BASED COASTAL RESOURCE MANAGEMENT IN PATHEW DISTRICT (LBCRM-PD)

15. The subject was co-presented by a representative from CMDEC, Mr. Nopporn Sithikasemkit and a representative from SEAFDEC/TD, Mr. Kongpathai Saraphaivanich. The presentations appear as **LBCRM-PD/REF 05**.

16. Mr. Nopporn briefly explained the results of 9 training activities under the LBCRM-PD project conducted over the past year focusing in the areas of participatory coastal resource management, post-harvest, processing and packaging of fishery products, and coastal aquaculture.

17. Mr. Kongpathai presented the promotion and production of media in support of the project. He highlighted objectives of the activity to promote awareness building of the project to ensure common understanding of the concerned parties and their cooperation. He outlined progress of the media production and its evaluation particularly on posters, brochures and others. In conclusion, he pointed the basic characteristics of media in support of the project to be simple, using clear and simple languages, supplemented by photographs and graphic, etc.

18. In discussion, Ms. Jessica Munoz, Philippines, inquired whether the training program arranged for the local and central government offices to build up many of supporters to implement the project. She said this comment gained through her experience in Philippines. Mr. Wannakait Tabtimsang responded to her question that the project tried hard to gather the informal and formal local leaders' participation and distribute information concerned the project implementation to them. Therefore, he said that the project built up various attractive activities to gain local participation. The first was fish processing and packaging to create additional income. The second was coastal aquaculture activity. These two activities were core activities of the project. Coastal aquaculture activity was concrete activity to illustrate the variety of coastal zone management particular in Area II.

19. Mr. Kongpathai added more information that there were limitation to arrange training course for the local people. The limitations were proper resource person, training site and schedule. The training schedule must consider the availability of the participants. It was difficult to bring in the local participants without sacrificing their daily means of livelihood.

VI. WOMEN'S ACTIVITY IN FISH PROCESSING

20. The subject was presented by a representative from SEAFDEC/TD, Ms. Sumitra Ruangsivakul that appears as **LBCRM-PD/REF 06**.

21. Ms. Sumitra explained the background of the subject as one of the major sub-activities under the Activity III on promotion of local business. She stressed on the need to strengthen the women's group through the promotion of alternative livelihood such as post-harvest and processing of local fishery products. She also outlined the major sub-activities implemented for the past year, which include study trips of other areas, training and coordination with other concerned parties in the promotion of fishery products. In conclusion, she pointed learning from the activities that the group structure was still weak and required further support particularly in team working as well as knowledge and experience in sourcing inputs and

marketing for fishery products. The two identified problems could be best tackled by appointing a strong women's group to assist others in marketing and conduct more training for the weak women's groups.

22. In discussion, Mr. Wuttichai Jenkarn gave a remarkable comment that the project staff should conduct gender's working hour to appropriately provide an extension program for creating alternative job opportunity for the local people particular tourism. This was to contribute the Tourism Authority of Thailand that encourage the local people to involve in tourism development and gain additional income. Fortunately, the Chumporn province adopted this action into the Provincial development plan.

23. Dr. Theo Ebber recommended that the project introduced activity of tourism to local people to create non-fisheries source of income. This resulted to avoid the decline of aquatic resources. He had also recommended that whether the project staff loosely introduced and arranged training course on fish processing to local people particular housewife, this might lead to increase of fishing effort and over-exploitation because of increasing fish raw material demands.

24. Mr. Jate Pimoljinda supported that this activity was a creative job opportunity. However, the project technical staff should design and implement this activity based on the database of stock assessment especially on the number of fishing port, number of fishing effort. Then, community would manage and control by itself. Mr. Wannakait Tabtimsang clarified that the current fisheries act did not devolve any responsibility to community to do self-management and control.

25. Mr. Sakul Supongpan recommended that resource enhancement should be conducted first, after that the fish processing activity should be introduced to target people in community. This was to avoid a decline of aquatic resources due to an increase of fish processing activity. Mr. Assanee Munprasit advised that the fish production should develop test of the products. This was to distribute this production to various market channels both domestic and international markets.

VII. EFFORT TO ESTABLISH A SELF-MANAGEMENT FRAMEWORK IN THE DEMARCATED ZONES

26. The subject was presented by a fisheries officer of the Chumporn Provincial Office of Fisheries, Mr. Sayan Auimrod, which appears as *LBCRM-PD/REF 07*.

27. Mr. Sayan briefly explained the background and objectives of the demarcated zone. He explained rationale of the demarcated zone highlighting the existing conflicts between small-scale and commercial fisheries due to the lack of a proper zoning system as well as response to the Royal Initiatives in development and management of sustainable coastal resources. He informed the Seminar of the national pilot projects of demarcated coastal zones namely in Phang-nga Bay, Phang-nga Province, Bangsaphan District, Prachuab Khirikhan Province and Pathew District, Chumporn Province. He further explained two demarcated zones of the project site, which were identified and concluded, based on need from fishers through consultation process involving various stakeholders. He explained that the Zone I and II are dedicated for capture fisheries except for trawl, push net and dredge operations.

28. Mr. Sayan explained that the proclamation process of the demarcated zone was recently concluded. In support of the promotion of the demarcated zone, he stressed on the importance and strength of monitoring, control and surveillance mechanism as a major prerequisite. He outlined major problems and constraints in the promotion of the demarcated zone, emphasizing on lack of authority of local agency in setting detailed supporting rules and regulations; lack of strict control over the demarcated zone; and so on.

29. In discussion, a responsible officer of Bangsaphan Project, Mr. Likit Boonyasitthi, commented that readiness of community is an important contributing factor in the successful promotion of demarcated zones. He also pointed out the constraint to allow light luring purse seines that might contribute to further



degradation of coastal resources although the project is supported with coastal resource rehabilitation activities using artificial reefs and fish aggregating devices (FADs). He also pointed out the major responsible authority of the Department of Fisheries to provide policy and directions for the nation-wide implementation of coastal resource management that should be clearly defined. He commented that in solving conflicts through consensus, although local consensus could be reached but control over fishers from other areas was still problematic. He also pointed out a problem pertaining to several involved local governments leading to more conflicts and difficulty to resolve them.

30. In response, it was commented that in identifying the project site, a clear responsible local government should be taken into consideration to avoid conflicts and confusion of the main responsible agency. Mr. Sayan raised the issue of collaboration between the Bangsaphan and Pathew projects to compliment each other. He accepted that readiness of communities and local government agencies were not in place but it was a gradual on-going process. Any project development has to be based on enhancing awareness and achievement consensus among resource users, and stakeholders. Mr. Sakul further commented that in developing local regulating mechanism for management of coastal resources, priority should be given to marginal small-scale fisheries rather than commercial ones.

31. Mr. Sayan clarified that in enforcing regulations set by Chumporn Province of the project, the local authorities are legally eligible to enforce the regulations. However, at present, the fishers, fishers' group or any community-based organizations have no authority to enforce the regulations except cooperation in voluntary surveillance. There was also a comment that once the detailed regulations are issued and demarcation of authority is defined, management of coastal resources could be put in place. However, while the process is on-going, cooperation among all concerned in management of coastal resources including enforcement is important and should be ensured.

32. With regard to the comment on the time consuming of enactment of a new Thai fishery law that includes rights and authority of local agencies for the management of coastal resources, it was clarified that the enactment of laws in Thailand requires a long consultation and approval process. This is particularly true in the case that the law influences rights and responsibility of people and government agencies involved. A participant from the Philippines supported that enactment of national fishery laws normally are time consuming and should pass through a careful investigation and consultation process.

VIII. EXPERIENCES IN THE ZONING OF FISH CAGE AND SHELLFISH CULTURE AREAS

33. This subject was co-presented by a fisheries officer from the Chumporn Provincial Fisheries Office, Mr. Sayan Auimrod and a fisherman from Pakklong Sub-district, Mr. Wichian Titada. The presentation appears as **LBCRM-PD/REF 08**.

34. Mr. Sayan explained objectives and process to demarcate zoning of fish cage and shellfish cultures in the Pathew Bay. The purpose of zoning is to reduce conflicts among various groups and to regulate extent and area for culture activities to avoid over carrying capacity in the Pathew Bay. Mr. Sayan showed the map of the fish cage and shellfish cultures detailing marking positions that were developed through agreement by fishermen from the Pakklong Sub-district. He further explained that the provincial proclamation of the zoning could subsequently be announced when the agreement was confirmed through public hearing conducted in all villages.

35. Mr. Wichian briefly explained site selection factors for the fish cage and shellfish culture. He stressed that the site for fish cage culture should be closed to islands, as they would act as a wave breaker while that of shellfish culture should be near to river mouths. He suggested that a process to obtain approval from the Provincial Fisheries Office to request for culture areas should be clarified in areas adjacent to the culture areas.

36. In discussion, Mr. Aussanee Munprasit suggested the project to do conduct studies. Mr. Wannakiat briefly explained about a methodology to study the carrying capacity for coastal aquaculture. He also suggested that sharing of areas between fish farmers and fishers should be fully considered in demarcating zoning. In response, Mr. Sayan explained that fish farmers have right in their culture areas; however fishers can do fishing only on water current system in the area to avoid the high sedimentation rate in fish cage culture and shellfish culture areas.

IX. COORDINATION BETWEEN CRAB TRAP AND CRAB GILL NET FISHERIES

37. The subject was co-presented by the Director of Upper Gulf Fisheries Development Center, Mr. Rangsan Chayakul, a representative of crab gill nets, Mr. Prakob, and a representative of crab traps, Mr. Jang. Mr. Rangsan started the presentation by outlining the development of crab trap fisheries and their efficiency in Thailand. He pointed out the conflicts between crab trap fisheries and the others that DOF tried to resolve their conflicts. However, only short-term measures could be reached (*LBCRM-PD/REF 09*).

38. Mr. Prakob explained about the current situation of marine resources that was scanty, which was greatly resulted from high efficiency of crab traps. He wished to have discussion among fishermen from several fishing gears to find out the proper way to share the fisheries resources.

39. Mr. Jang accepted the fact that crab traps have high catching efficiency even small ones. He also tried to solve this problem by conducting experiments to find a larger appropriate mesh size of the bottom part of trap.

40. In discussion, Mr. Rangsan informed the Seminar that 3-inch mesh size was found the appropriate size, which was concluded from experiments conducted by DOF. After that, Mr. Sakul recommended that project staff should conduct a co-experiment with Mr. Jang to find an acceptable mesh size at the bottom of crab trap.

X. SCHOOL-COMMUNITY'S PARTICIPATION IN MANGROVE REFORESTATION AND CONSERVATION IN THUNGMAHA BAY, PATHEW DISTRICT, CHUMPNORN PROVINCE

41. The subject was co-presented by a staff from Thai Environment Institute, Ms. Sukranya N. and Mr. Jang P.

42. Ms. Sukranya briefly explained the background of the self-management framework establishment highlighting on the projects for crab bank and fish house (artificial reef) which are considered a high priority in the area.

43. Mr. Jang explained the background and process of setting up the crab bank as well as the result of the implementation. He stressed on the need to enhance crab resources to ensure their long-term utilization. The principle of the project is to allow mother crabs that were caught by fishers to lay their eggs in the provided cages considered as the crab bank before harvesting. The revenue gained from selling the crab of the bank shall be used for the project activities. He further explained that the project has so far shown positive results in term of abundance of crab resource compared to that of the start of the project.

44. Ms. Sukranya described background and installation of artificial reefs using tyres in the fish housing project in the Thungmaha Bay promoted by the Institute and DOF. The main objective of the artificial reefs is to strengthen the fishers' awareness in sustainable use of aquatic resources and protection of encroachment of push nets and trawls into the areas.



45. In discussion, Mr. Sakul, Mr. Aussanee and Mr. Wannakiat shared views on the awareness building exercise for artificial reefs and suggestion that concrete cement is a better material. While agreeing with the suggestions, Mr. Sayan informed the Seminar that the project has planned to change the material from tyres to cement pipe. In addition, Ms. Jessica suggested that in order to ensure sustainable utilization of resources, a policy defining coastal resources sharing among users is required.

XI. MOOBAAN-BASED ORGANIZATION AND ITS NETWORK

46. The subject was co-presented by Chairman of Women's Group for Production, Ms.Thubthim Satidsanon, Chairman of Fisher's Group, Mr.Payaw Srichan, Chairman of Farmer's Group, Mr.Sawang Krairarai, and Mr.Somma Ubonkan, Head of Pakklong Sub-district.

47. Ms.Thubthim cited history of the group's establishment. This was based on the concept of valuable and effective use of aquatic resources. She attended the training course on fish processing and study trip, which was arranged by the collaboration between SEAFDEC and DOF. The Group agreed to start the fish processing products by using raw fish material from the locality using knowledge gained from the training as an alternative source of income. She added that the Group was in the process of improving the recipe and standard for further development of products.

48. Mr. Payaw cited that his Group was revitalized from the fishers' group earlier established by the DOF, which was collapsed because of mismanagement of the group. After revitalization, the Group focused on protection and conservation of forest through reforestation. With the assistance extended by the Thai Environment Institute, setting up of this kind of group was further expanded to other villages in the Sub-district. As suggested by the Institute, a network of the groups was formed to establish linkage among the groups. This network has led to empowerment of the groups to strengthen resource-base management.

49. Mr. Sawang informed the Seminar that his Group informally established in 1990 after the typhoon Guy disaster, which caused enormous destruction to all areas of Pakklong Sub-district. The Group has objective to mainly rehabilitate resources in the damaged areas. The Group succeeded in group administration and formally set-up in 1998. At present, the main activities of the group were group selling of products, fertilizing procurement and distribution to all members in order to reduce investment costs, welfare activities for members, and so on.

50. Mr. Sommai cited success of the mangrove reforestation activity, which was achieved by local people's participation. The community was awarded the Queen's flag as a price for out-standing efforts in conservation of resources and environment. This showed the awareness and attitudes of people in the area toward mangrove reforestation and conservation.

51. In discussion regarding the factors contributing to success and expectation of the groups, Ms. Thubthim informed that the Group would continue to keep developing fish products to reach an acceptable standard. Mr. Payaw stated that his Group would further regulate and protect access to restricted areas particularly around the artificial reefs areas. He expressed financial requirement from the Ao.Bo.To. to further manage and maintain mangrove forests. He would try to push an establishment of community forest that allows the community to sustainably use and protect the mangrove. Mr. Sawang, expressed his Group's plan to further build up awareness of sustainable resource use and develop agro-tourism in their agricultural areas.

52. In conclusion, Mr. Sayan pointed out that the knowledge and practices of the groups such as development of a master plan, budget allocation and management, active participation from all group members, etc. could indicate successful implementation of the project toward management of coastal resources.

XII. GREATER PEOPLE'S PARTICIPATION AND THE INCREASING ROLE OF LOCAL GOVERNMENTS IN COASTAL FISHERIES MANAGEMENT

53. The subject was presented by an ex-JICA expert on fisheries socio-economics of SEAFDEC, Prof. Dr. Masahiro Yamao. The presentation appears as *LBCRM-PD/REF 11*.

54. Dr. Yamao explained about the working direction of the project after the government has announced the policy of decentralization of authority through establishment of sub-district administrative organization (Ao.Bo.To.). And if the new fisheries act was enacted, the community would have responsibility and mandate to control and manage fishing activities in the defined zone.

55. With the local consensus, the proclamation of the demarcated zone in the project was made. However, at the present, there was no appropriate responsible organization or group. The Ao.Bo.To. was considered as a suitable organization as it has the function and responsibility to administer and manage fishery activities such as fishing boat registration, support of resource management and have authority to protect their resources.

56. In discussion, with regard to the legal support for local authority in the management of coastal resources, Mr. Rangsun pointed that at least five articles of the new Thai Constitution indicated that authority is given to local organizations to manage their own resources. To ensure sustainable use of coastal resources, Ms. Jessica added that the management functions and authority should be in the hand of local organizations. Mr. Likit suggested that to appropriately regulate the use of resources in the demarcated zone, only fishing boats in that area should be allowed to operate fishing.

XIII. THE ROLE OF GOVERNMENT NETWORK FOR LOCAL-WIDE RESOURCE MANAGEMENT IN THE PHILIPPINES

57. The subject was presented by a representative from the Philippines, Ms. Mary Lou B. Larroza. Her presentation appears as *LBCRM-PD/REF 12*. Ms. Mary Lou briefly explained the background and the initiative of the program. She pointed out that the program has the objectives to restore and preserve resources in the Banate Bay and avoid further deterioration of resources by adopting agreed management policies and strategies. She also briefly outlined the program vision, components, activities that has been conducted. She stressed the problems encountered in the program implementation such as limited funds for alternative livelihood projects, limited office facilities/ equipment, changes in political leadership and people's attitude towards change. She also outlined the lesson learned and the future plan of the program particularly the multi-sectoral cooperation nature of the program, strong political will of the local government, and presence of full-time professional staff in the area.

58. In discussion, with regard to the limited funds for program activities, Mr. Panit concluded that the authority of the local governments and legal support were the strengths of this program while the weakness point was the limited funds for program activities.

59. In response to the inquiry on annual budget for the program allocated by the local government, Ms. Mary informed the Seminar that only P160,000 was allocated this program based on last year budget. Ms. Jessica recommended that this program could be considered as a successful case and a necessary factor is a budget. While Mr. Likit pointed out that high budget for facility development could build up excessive fishing capacity that might indirectly cause the destruction of coastal resources.

XIV. NEW ROLES OF SUB-DISTRICT ADMINISTRATIVE ORGANIZATIONS TO LOCAL COMMUNITY DEVELOPMENT IN THAILAND

60. The subject was presented by a government officer, Mr. Wattana Yolvapak. He briefly explained the functions, roles, importance and responsibilities of the sub-district administrative organizations or



Ao.Bo.To. He explained about the structure of Thai governance that was categorized into 3 levels were central, regional and local levels, which would soon be adjusted to 2 levels - central and local. He suggested the way for budgetary request from Ao.Bo.To. to support the project could be proposed stressing that budgetary requirement should be in line with the Ao.Bo.To. mandate.

XV. OBSERVATION OF THE PROJECT ACTIVITIES AND SITE SYMPOSIUM IN PAKKLONG SUB-DISTRICT

61. The Seminar had an opportunity to visit the project site and observe the following activities:
 - 61.1 The King Royal Project Site – the participants were briefed by Mr. Chairat, an project officer from the Department of Royal Forestry on historical backgrounds, geographical, environmental and social conditions of the project site. Mr. Sayan then added information about the location of LBCRM-PD office that would be constructed at the area adjacent to the Ao.Bo.To. In discussion, there was a comment on the office location that it should be in the center of the project site (Village No. 7 - Tha-ad) in order to save expenses for transportation to any part of the area as well as enable the project staffs to easily take care of the whole area.
 - 61.2 The Women's Group for Fishery Production in fish processing in Village No.1. After a brief on processing and marketing activities by the Group's leader, there was a concern raised on the quality control of fisheries products and marketing channels. The leader emphasized that the DOF's and SEAFDEC/TD's assistance gave great incentive to the expansion of proessing business. This Groups also conducted saving and micro-financing business.

62. The Seminar also took an opportunity to have a local symposium on sustainable use of coastal resources and development of LBCRM-PD activities at the Pakklong Ao.Bo.To. Office. The local symposium was participated by the Seminar participants, local fishers, Ao.Bo.To members, village heads, teachers and students from Pakklong Primary School.

63. After clarification and discussion, the Sites Symposium made the following conclusion and recommendations:
 - 63.1 People's participation would be an important tool to decrease conflicts over the utilization of coastal resources;
 - 63.2 Project activities should be prioritized according to the people's needs and priority through consensus;
 - 63.3 The impact of development activities should be considered in planning. Although eco-tourism could give much benefits to local people, but they also contribute to substantial decline of local resources. The same would apply to the case of rapid expansion of fish cage culture that might cause the uncontrolled disease outbreak. It is therefore important that development should be done in a gradual process with due consideration on potential impact to coastal resources and their livelihoods;
 - 63.4 Reduction of post-harvest loss and value-added products could be areas for increasing value of existing catch;
 - 63.5 Community rules for the project site according to the local needs, common interests developed through consensus should be developed. Strong government support is considered an important factor to attain a great success of the project; and
 - 63.6 Expansion of the fishers' group network to nearby sub-districts is challenging and should be considered to increase cooperation among the neighboring areas and success of coastal resource management. This could be up to a provincial-wide network of coastal resource management which will aim to enhance people's awareness about sustainable use of coastal reousrces and exchange opinions on practical and acceptable management methods.

Annex

Annex 1

List of Participants

Department of Fisheries

Mali Boonyaratpalin (Dr.)
Expert on Fisheries Management
Department of Fisheries, Chatujak
Bangkok 10900
Tel.: 02-9406207

Sakul Supongpan (Mr.)
Expert on Marine Fisheries
Department of Fisheries, Chatujak
Bangkok 10900
Tel.: 09-9686282

Siri Tukwinas (Dr.)
Director of Royal Project Development
Department of Fisheries, Chatujak
Bangkok 10900
Tel.: 02-5580215
e-mail: sirit@fisheries.go.th

Rangsan Chayakul (Mr.)
Director of Research and Technology on
Marine Fisheries Development Institute
6 Floor, Phodpasob Building, Kaset-klang
Chatujak, Bangkok 10900
Tel.: 02-5620542, 09-9269234
e-mail: rangsanc@fisheries.go.th

Amporn Laowapong (Ms.)
Economist
Development and Transfer Fisheries
Technology Institute, Chatujak, Bangkok 10900
Tel.: 09-5005373
e-mail: ampornl@fisheries.go.th

Nopporn Sittikasemkit (Mr.)
Economist
Development and Transfer Fisheries
Technology Institute, Chatujak, Bangkok 10900
Tel.: 02-5580233

Upper Gulf Research and Marine Fisheries Development Center

49 Soi Phraratwiriyaorn 16, Bang-Pung, Phrapradang, Samut Prakan 10130

Thanin Singhakraiwan (Mr.)
Fisheries Biologist
Department of Fisheries, Chatujak
Bangkok 10900
Tel.: 02-9406558

Kornvit Chankusol (Mr.)
Fisheries Biologist
Department of Fisheries, Chatujak
Bangkok 10900
Tel.: 02-9406559

Lerdchai Podapol (Mr.)
Fisheries Biologist
Fishing Ground Development Group
7 Floor, Phodpasob Building, Chatujak
Bangkok 10900

Rattanavalee Poonsawasdi (Ms.)
Fisheries Biologist
Tel.: 02-8167636-8 ext 13
e-mail: ratvaree@yahoo.com

Saowamol Pootika (Ms.)
Fisheries Biologist
Tel.: 02-8167636-8 ext 12, 13
e-mail: psaowam@yahoo.com

Middle Gulf Research and Marine Fisheries Development Center, Chumporn

408 Moo 8, Paknam, Muang, Chumporn 86120

Weera Boonrak (Mr.)
Director
Tel.: 077-522185

Jinda Petkamnerd (Ms.)
Fisheries Biologist
Tel.: 077-522185



Pamonpan Chatpumi (Ms.)
Fisheries Biologist
Tel.: 077-522185

Nopparat Nasuchol (Ms.)
Fisheries Biologist
Tel.: 077-522185

Wareerat Musikasang (Ms.)
Fisheries Biologist
Tel.: 077-522185

Patchalee Pantuleng (Ms.)
Fisheries Biologist
Tel.: 077-522185

Wattana Chimkaew (Mr.)
Fisheries Biologist
Tel.: 077-522185

Jalann Meeraksa (Mr.)
Fisheries Biologist
Tel.: 077-522185

Chumchoke Singharachai (Mr.)
Fisheries Researcher
Tel.: 077-522185

Jirapa Kamhongsa (Ms.)
Fisheries biologist
Tel.: 077-522185

Baramee Khunnirong (Ms.)
Fisheries Biologist
Tel.: 077-522185

Laddawan Phomlek (Ms.)
Fisheries Biologist
Tel.: 077-522185

Thitiporn Supaniran (Ms.)
Fisheries Biologist
Tel.: 077-522185

Yupin Nuukin (Ms.)
Fisheries Biologist
Tel.: 077-522185

Thavorn Rojanarat (Mr.)
Fisheries Technical
Tel.: 077-522185

Jiraporn Rattanaphom (Ms.)
Fisheries Technical
Tel.: 077-522185

Chaiyan Kaayai (Mr.)
Fisheries Technical
Tel.: 077-522185

Boonyarit Panusnachee (Mr.)
Fisheries Technical
Tel.: 077-522185

Thammarit Wanitruangchai (Mr.)
Engineer
Tel.: 077-522185

Southern Research and Marine Fisheries Development Center, Songkhla
Munag, Songkhla 90000

Wararak Dejboon (Ms.)
Fisheries Biologist
Tel.: 074-312595
e-mail: warapornde@yahoo.com

Amnard Siriphet (Mr.)
Fisheries Biologist
Tel.: 09-8708372
e-mail: asiripech@yahoo.com

Andaman Sea Research and Marine Fisheries Development Center, Phuket

Suchat Sangjan (Mr.)
Fisheries Biologist
Tel.: 076-412788

Wiroj Kong-asa (Mr.)
Fisheries Biologist
Tel.: 076-412788

Eastern Research and Marine Fisheries Development Center, Rayong
Tambol Phe, Muang, Rayong 21160

Panit Sungkasem (Mr.)
Director
Tel.: 038-651762
e-mail: emdec@loxinfo.co.th

Suvicha Jaipium (Mr.)
Fisheries Biologist
Tel.: 038-651764
e-mail: shack@thaimail.com

Fisheries Provincial

Jate Pimoljinda (Mr.)
Head of Samutprakan Fisheries Provincial
4/15 Sakdidej Road, Muang, Phuket 83000
Tel.: 01-8925706
e-mail: jpafdec@phuket.ksc.co.th

Sayan Aiumrod (Mr.)
Chumporn Fisheries Provincial
217 Pracha-utid Road, Muang, Chumporn 86000
Tel.: 06-9431292

Tawee Ketchnui (Mr.)
Chumporn Fishereis Provincial
217 Pracha-utid Road, Muang, Chumporn 86000
Tel.: 077-511298

Boonrod Chanthab (Mr.)
Prachuap Kiri Khan Fisheries Provincial
Muang, Prachuap Kiri Khan 77000
Tel.: 01-7366707

Suriya Witoonpan (Mr.)
Head of Phetchaburi Fisheries Provincial
Muang, Phetchaburi 76000

Paradon Sainumkaew (Mr.)
Songkhla Fisheries Provincial
Muang, Songkhla 90000
Tel.: 074-311302

Sunan Leecharoen (Mr.)
Pattani Fisheries Provincial
Muang, Pattani 94000
Tel.: 073-349591

Pornchai Singhaboon (Mr.)
Phuket Fisheries Provincial
1/2 Moo 1 Tambol Talad Yai
Muang, Phuket 83000
Tel.: 01-4579306
e-mail: porslek@hotmail.com

Issara Busayarat (Mr.)
Phuket Fisheries Provincial
1/2 Moo 1 Tambol Talad Yai
Muang, Phuket 83000
Tel.: 076-212460

Therachai Thipdong (Mr.)
Satun Fisheries Provincial
Tel.: 074-711104

O-path Nuanvilailak (Mr.)
Krabi Fisheries Provincial
Muang, Krabi 81000
Tel.: 075-611799

Pinyo Thaithavorn (Mr.)
Head of Chumporn Fisheries Provincial
217 Pracha-utid Road, Muang, Chumporn 86000
Tel.: 06-9431292

Pajongjit Boonnun (Ms.)
Chumporn Fisheries Provincial
217 Pracha-utid Road, Muang, Chumporn 86000
Tel.: 077-511298

Thawatchai Yansombat (Mr.)
Prachuap Kiri Khan Fisheries Provincial
Tel.: 01-8056795

Likit Boonyasitthi (Mr.)
Prachuap Kiri Khan Fisheries Provincial
Community-Based Fisheries Management Office
Bangsapan-Noi, Prachuap Kiri Khan 77170
Tel.: 01-7058332

Suchin Chouykud (Mr.)
Surat Thani Fisheries Provincial
Muang, Surat Thani 76000
Tel.: 01-4239880

Pirom Rattanachote (Mr.)
Songkhla Fisheries Provincial
Muang, Songkhla 90000
Tel.: 01-9696720

Anusak Hadeeye (Mr.)
Pattani Fisheries Provincial
Muang, Pattani 94000
Tel.: 073-349591

Suchart Yongsub (Mr.)
Phuket Fisheries Provincial
1/2 Moo 1 Tambol Talad Yai
Muang, Phuket 83000
Tel.: 076-212460

Prasit Pomchana (Mr.)
Satun Fisheries Provincial
Tel.: 074-711104

Kissada Na-Nakorn (Mr.)
Phangnga Fisheries Provincial
Muang, Phangnga 82000
Tel.: 076-412153

Salid Kongcheep (Mr.)
Krabi Fisheries Provincial
Muang, Krabi 81000
Tel.: 075-611799



Pra-Chome-Koa Technology Institute, Chumporn

Moo 6 Tambol Chumko, Pathew District, Chumporn 86160

Akio Koyama (Dr.)
Senior Volunteer JICA (Fisheries Science)
Tel.: 077-506419
e-mail: kyama@kmitl.ac.th

Jakkapong Sripanomyom (Mr.)
Instructor
Tel.: 077-506419 ext 4585
e-mail: ksjakkra@kmitl.ac.th

Worapong Phinanon (Mr.)
Instructor
Tel.: 077-506416
e-mail: warrapongn@yahoo.com

Fisherfolk

Jang Pungphung (Mr.)
11/5 Moo 7, Tambol Pakklong, Pathew District
Chumporn 86210

Jamlong Rongkiri (Mr.)
Assistant, Head of Village No.2
9 Moo 2, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 06-2777845

Cha-oon Yadam (Ms.)
Assistant, Leader of Women's group No.3
82 Moo 3, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 01-9797727

Thabthim Satidsanon (Ms.)
Leader of Women's group No.1
43/2 Moo 1, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 01-3707885

Prakob Kongrataporn (Mr.)
25 Moo 2, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 09-5944696

Prakit Kangkan (Mr.)
50/2 Moo 1, Tambol Pakklong, Pathew District
Chumporn 86210

Sawang Kairarai (Mr.)
Chairman of Agriculture Development Group
56/3 Moo 6, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 01-2729260

Prapas Sangkapan (Mr.)
24/1 Moo 3, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 09-9098778

Payaw Srichan (Mr.)
Chairman of Fishermen Network Group
51/1 Moo 3, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 07-2733218

Vichien Thithada (Mr.)
Leader of Fishermen's Group
12 Moo 1, Tambol Pakklong, Pathew District
Chumporn 86210

Wattana Panthong (Mr.)
Assistant, Head of Village No.7
29/1 Moo 7, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 01-0858291

Somboon Sangdej (Mr.)
2 Moo 5, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 01-1248130

Somma Uboonkarn (Mr.)
Head of Pakklong Sub-District
25/1 Moo 1, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 09-8730396

Manit Uboonkarn (Mr.)
Head of Village No.6
2/7 Moo 6, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 09-2905691

Suchin Namwong (Mr.)
Head of Village No.5
32 Moo 5, Tambol Pakklong, Pathew District
Chumporn 86210
Tel.: 01-2702424

NGO (Non-Government Organization)

Sukanya Marasri (Ms.)
Field Coordinator
210 Sukhumvit 64, Bangchak Refinery Building 4
Pakanong, Bangkok 10260
Tel.: 02-7429641-50 ext 741, 01-8749240
e-mail: ya-nati@hotmail.com

Wiroj Pinyaporn (Lieutenant)
505/19 Soi Taweetapisek, Arunammarin Road
Bangkok-Yai, Bangkok 10600
Tel.: 01-9384683

Sub-District Administrative Organization (Ao.Bo.To.)

Nipol Danglard (Mr.)
Chairman of Pakklong Sub-District Administrative
Organization
Tambol Pakklong, Pathew District
Chumporn 86210

Paisan Namwong (Mr.)
Member of Pakklong Sub-District Administrative
Organization
Tambol Pakklong, Pathew District
Chumporn 86210

Secretariat/Southeast Asian Fisheries Development Center

Suraswadi Bldg., Kasetsart Univ. Campus, Bangkhaen Bangkok 10900

Junichiro Okamoto (Mr.)
Deputy Secretary General
Tel.: 66-2-940-6331
e-mail: dsg@seafdec.org

Suriyan Vichitlekarn (Mr.)
Program Manager
Tel.: 66-2-940-6326 to 29
e-mail: suriyan@seafdec.org

Training Department/Southeast Asian Fisheries Development Center

Suksawasdi Road, Laemphapah, Phrasamutchedi, Samut Prakan 10290

Aussanee Munprasit (Mr.)
Assistant, Chief of Training Department
Tel.: 02-4256100, 01-8255017
Fax.: 02-4256111
e-mail: aussanee@seafdec.org

Yuttana Theparoonrat (Dr.)
Administrative Division Head
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: yuttana@seafdec.org

Theo Ebberts (Dr.)
Expert on Coastal Fisheries Management
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: thebbers@seafdec.org

Phattareeya Suanrattanachai (Dr.)
Socio-economic Section Head
Tel.: 66-2-4256138
Fax.: 02-4256111
e-mail: phattareeya@seafdec.org

Penchan Laongmanee (Ms.)
Fishing Ground Section Head
Tel.: 66-2-4256142
Fax.: 02-4256111
e-mail: penchan@seafdec.org

Panitnard Taladon (Ms.)
Extension and Information Section Head
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: panitnard@seafdec.org

Sumitra Ruangsivakul (Ms.)
Researcher
Tel.: 66-2-4256138
Fax.: 02-4256111
e-mail: sumitra@seafdec.org

Phattarajit Kaewnuratchadasorn (Ms.)
Researcher
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: phattarajit@seafdec.org



Kongpathai Saraphaivanich (Mr.)
Researcher
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: kongpathai@seafdec.org

Siriporn Pangsorn (Ms.)
Special Trainee
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: psiriporn@seafdec.org

Anurak Loog-on (Ms.)
Special Trainee
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: psiriporn@seafdec.org

Sukchai Anupapboon (Mr.)
Researcher
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: sukchai@seafdec.org

Jarumon Talwat (Ms.)
Special Trainee
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: jarumon@seafdec.org

Member Country

Brunei Darussalam

Abd. Hamid Haji Zainin (Mr.)
Senior Fisheries assistant
Fisheries Station Numra, Fisheries Department
Brunei, Bt 1728, Brunei Darussalam
Tel.: 673-2-383067 / 673-2-772787

Indonesia

Listya Inderasari (Ms.)
Chief of Sub Directorate Fisheries of Resources
Monitoring & Evaluation, Indonesia
Directorate General of Capture Fisheries
Jl. Harsono RM No.3, Gd B Lt VI
Ragunan, Ps Minggu Jakarta Selatan
Tel.: 62-021-7811672
e-mail: dfrm.dgf@indosas.net.id

Erni Widjajanti (Ms.)
Chief of Sub Section, Programme Cooperation
Directorate General of Capture Fisheries
Jl. Harsono RM No.3
Gd B. Lt IV Ragunan, Jakarta
Tel.: 62-21-7883-1853

Japan

Masahiro Yamao (Dr.)
Professor, Hiroshima University
Faculty of Biological Science, Hiroshima University
1-4-4 Kayamiyama, Higashi-Hiroshima
139-8528 Japan
Tel.: 81-824-24-7962
e-mail: yamao@hiroshima-u.ac.jp

Malaysia

Abdul Hamid bin Abd. Shukor (Mr.)
Director of Planning and Development
Department of Fisheries, Malaysia
Tel.: 03-26175552

Badeli bin Hassan (Mr.)
Head of Fisheries District Langkawi
Department of Fisheries
07000 Langkawi, Kedah, Malaysia
Tel.: 04-9665935
Fax: 04-9665937
e-mail: bathely@yahoo.com

Abdul Razak bin Latun (Mr.)
Research Officer
Malaysia, Fisheries Research Institute
11960 Batu Maung, Penang, Malaysia
Tel.: 604-6263925
e-mail: razlat@rocketmail.com

Adnan bin Hussain (Mr.)
Fisheries officer
Tinglat 859 Wisma Tani, Jalan Sultan
Salahuddin, 50678, Kuala Lumpur, Malaysia
Tel.: 603-26175576
e-mail: adnan321@hotmail.com

Anuar bin Omar (Mr.)
State Extension Officer
Department of Fisheries Kedah / Perlis
5th Floor, Wisma Persekutuan Jalan Kampung Baru
05000 Alor Setar, Kedah
Tel.: 04-7342135/7342137
e-mail: perikan@tm.net.my

Myanmar

Than Oo Wai (Mr.)
Asst. Director, Department of Fisheries
Ministry of Livestock and Fisheries, Sinmin Road
Ahlone township, Yangon, Union of Myanmar
Tel.: 095-01-225562
e-mail: dof@mptmail.net.mm

Philippines

Mary Lou B. Larroza (Ms.)
Executive Director
Philippines Banate Bay Resource Management Council
BBRMCI, Banate, Iloilo, Philippines
Tel.: 033-3670-068
e-mail: bbrmci@iloilo.net

Jessica C. Munoz (Ms.)
Supervising Aquaculturist
Bureau of Fisheries and Aquatic Resources, Philippines
860 Arcadia Bldg., Quezon Avenue, Quezon City
Philippines
Tel.: 632-410-99-90 or 632-372-50-08
e-mail: jmunoz@frmp.org

Vietnam

Nguyen Van Chiem (Mr.)
Deputy Management of FRCD
10-12 Nguyen Long Hoan, Badinh
Hanoi Vietnam
Tel.: 04-7716213
e-mail: nvchiem@yahoo.co.uk

Malaysia's Fisherfolk

Adzibi Omar (Mr.)
21 Persiaran Putra, 07000, Kuah
Pulau Langkawi, Kedah, Malaysia
Tel.: 604-9665935
e-mail: adsibi@hotmail.com

Adnan bin Ahmao
21 Persiaran Putra, 07000, Kuah
Pulau Langkawi, Kedah, Malaysia
Tel.: 04-9664360

Che, Hassan Bin Ali (Mr.)
Kanpune Kwaca Teriang
Langkawi, Kedah, Malaysia
Tel.: 04-9552990

Mansor bin Man (Mr.)
Kanpung Kuala Teriang, Langkawi
Kedah, Malaysia
Tel.: 04-9551532



Hayazee bin Mahamad Daud (Mr.)
21 Persiaran Putra, 07000, Kuah
Pulau Langkawi, Kedah, Malaysia
Tel.: 604-9666213/012-4089664
e-mail: pnkl@yahoo.com

Kasa B. Hamzah (Mr.)
21 Persiaran Putra, 07000, Kuah
Pulau Langkawi, Kedah, Malaysia
Tel.: 604-9666213/9669727

Padzil bin Din (Mr.)
21, Persiaran Putra 07000 Kuah
Pulau Langkawi, Kedah, Malaysia
Tel.: 019-5648863

Shahidan bin Rajah (Mr.)
21 Persiaran Putra, 07000, Kuah
Pulau Langkawi, Kedah, Malaysia
Tel.: 604-9666102

CHARM Project

CHARM Project Management Unit, Department of Fisheries
4th Floor, Phodphasob Building, Kaset-Klang, Chatujak, Bangkok 10900

Yves Henocque (Dr.)
CHARM EU Co-Director
Tel.: 02-5620560
e-mail: Yves.henocque@ifremer.fr

Wimol Janthalothei (Dr.)
Fisheries Biologist

Montana Piromnim (Ms.)
e-mail: montanap@fisheries.go.th

Kamonpun Awaiwanon (Dr.)
Fisheries Biologist
e-mail: kamonpun10@hotmail.com

Chongkolnee Chamchang (Dr.)
Fisheries Biologist
Tel.: 02-5728900

Pitan Lipisamut (Mr.)
Fisheries Biologist
Tel.: 09-9672077

Peera Aiumsomwang (Mr.)
Fisheries Biologist
Tel.: 06-5679521
e-mail: uasomwang@hotmail.com

Siwaporn Maneekul (Ms.)
Fisheries Biologist
Tel.: 02-5798200
e-mail: siwaporn_ma@hotmail.com

Sumonman Suwanpumi (Ms.)
Fisheries Biologist
Tel.: 09-4045314
e-mail: ya_naja@hotmail.com

Marine and Coastal Resources Research Institute

Wannakiat Thubthimsang (Mr.)
Director, Planning Department
92 Phahonyothin 7, Samsen-nai
Phayathai, Bangkok 10400
Tel.: 02-2982591
e-mail: wannakiat@yahoo.com

Wuthichai Janekan (Mr.)
Director, Marine and Coastal Resources Research Center
Central Gulf of Thailand
339-339/3 Moo 8, Tambol Paknam, Muang District
Chumporn Province 86120
Tel.: 077-522457
Fax.: 077-522458
e-mail: mbpnet@phket.loxinfo.co.th

Sumana Kachonwattanakul (Ms.)
339-339/3 Moo 8, Tambol Paknam, Muang District
Chumporn Province 86120
Tel.: 077-522457
Fax.: 077-522458

Chumporn Province

Chumpol Suadee (Mr.)
Head of Coastal Fisheries Radio of Chumporn
Paknam, Muang
Chumporn 86120
Tel.: 077-521906, 522003

Thanuu Sangansri (Warrant officer third class)
Plan Analysis
Government Center of Chumporn
Nacha-ang Sub-District, Muang, Chumporn 86000
Tel.: 077-511551,
Fax: 077-503975

Royal Project

78 Ratchadamnern-Nok, Dusit, Bangkok 10300

Kachonchai Rithiwong (Mr.)
Plan Analysis
Tel.: 02-2806202

Piyawan Serichaitakul (Ms.)
Plan Analysis
Tel.: 02-2806193

Annex 2

**Prospectus
of
TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT: LESSONS GAINED THROUGH
LOCALLY BASED COASTAL RESOURCE MANAGEMENT IN PATHEW DISTRICT, CHUMPORN PROVINCE**

Part I: 19-21 February 2003 (Local Seminar)

I. Backgrounds and Rationales of the Seminar

Under the Fisheries Consultative Groups (FCG) scheme, the SEAFDEC/TD and the DOF have implemented a collaborative pilot project on coastal resource management since 2001. This is “Locally Based Coastal Resource Management in Pathew District, Chumporn Province” (LBCRM-PD). The project has conducted activities in various fields according to the plan for the first year of the Phase I. The duration of the project is five years, from 2002 to 2006.

In Thailand, the DOF has carried out a number of pilot projects throughout the country that mostly adopt community-based fisheries management (CBFM) approach with placing a greater emphasis on people’s participation. The projects succeed in enhancing fishers’ awareness building about the sustainable use of coastal resources. Some of them have established workable frameworks of coastal resource management. It was time to legitimate these CBFM projects and transform into more workable framework of local resource management system. The decentralization of fisheries management becomes a hot issue in the process of amending the present fisheries act and regulations. Selected roles and issues may be devolved to local levels from the central government. LBCRM-PD is one pilot project that experiments on how local people, groups and local government take charge of coastal fisheries management.

Since the mid 2001, the DOF’s officers and the SEAFDEC/TD staff members have worked together with the people, leaders of Tambol Pakklong (Pakklong Sub-district), and local NGOs. The experiences gained there will be transferred and extended to other parts of Thai coastal communities. They will be a great value for member countries of SEAFDEC that intend to adopt participatory and decentralized management frameworks.

II. Purposes

The Seminar has four purposes:

- 1) To review the process of the project activities during the first year, including the stage of planning.
- 2) To assess the outcomes and problems to be solved for the effective operation of the project activities.
- 3) To exchange experiences and opinions between fishers, stakeholders, government officers, and the project staffs.
- 4) To transfer the technologies and experiences gained in the involvement of the project activities between member countries of SEAFDEC.

III. Outcomes are expected as follows for foreign participants



- 1) Foreign participants get experiences and lessons from the LBCRM-PD and other community-based pilot projects in Thailand, in order to evaluate their own current projects for locally based coastal resource management.
- 2) Foreign participants transfer their experiences and knowledge with advice on LBCRM-PD and other projects in Thailand, through exchange of opinions with domestic participants.
- 3) Foreign participants and SEAFDEC/TD will have opportunity to discuss a new collaborative project plan on coastal resource management under the FCG scheme, and will prepare to draw variable approaches.

IV. Contents of the Seminar

The Seminar consists of two parts.

The content of the Part I is;

- 1) Process of local participation (not only people but also local fisheries agencies and Sub-District Administrative Organization or Ao.Bo.To);
- 2) Establishment of local legitimate framework for fishing activities and investment (registration, licensing, and any authorizing activities);
- 3) Development of local networks of fisheries management bodies.

LBCRM-PD is carrying out experiments on how resource users participate the decision making process of resource management and adjust conflicts between the users, how local governments and local fisheries agencies share responsibility with central government, how local people and local governments create their legitimate framework of resource management, and how local wide networks should be established.

V. Date and Venue

19-21 February 2003

Part I: 19-21 February 2003 at Chumporn Marine Fisheries Research and Development Center (CMDEC) in Muang District, Chumporn Province and Tambol Pakklong, Pathew District, Chumporn Province

VI. Schedule and Programs

Part I: 19-21 February 2003(Local Seminar)

Language: Thai (Simultaneous Translation into English)

- 1) Planning, Implementation and Management of a Coastal Resource Management Project: Lessons learned through the LBCRM-PD
- 2) Roles of Local Government in Coastal Resource Management, Sharing Responsibility with the People
- 3) Excursion and On-site Symposium (21 February 2003)

- 3-1 Observation in Tambol Pakklong
- 3-2 On-site Symposium “People’s participation in the Establishment and Extension of Community-based Management Body and Its Networks”

19 February 2003

I. “Planning, Implementation, and Management of Coastal Resource Management Pilot Project: Lessons Gained through the LBCRM-PD”

- 1) A New Direction of Coastal Fisheries Management: People’s Participation, Designated Community, and Local Fisheries Committee
- 2) Outlines and Activities of LBCRM-PD
 - 2-1 Briefing: Implementation of the Project Activities in the First Year
 - 2-2 Extension and Media Development for Locally Based Coastal Resource Management in Pathew Distirct, Chumporn Province (Activity IV and V)
 - 2-3 Women’s Activity in Fish Processing (Activity III)
 - 2-4 Effort to Establish A Self-management Framework in the Demarcated Zone (Activity II)

20 February 2003

- 3) Activities for the Sustainable Use of Coastal Fisheries Resources
 - 3-1 Experiences in the Zoning of Fish Cage and Shellfish Culture Areas
 - 3-2 Coordination between Crab Trap and Crab Gill Net Fisheries: Change and Adjustment of Fishing Gear for Responsible Fisheries Projects to Contribute Locally Based Coastal Resource Management
 - 3-3 School-Community’s Participation in Mangrove Reforestation and Conservation in Thungmaha Bay, Pathew District, Chumporn Province
 - 3-4 Moobaan-based Management Units and Their Networks: From Achieving Consensus to Administrative Works

II. Roles of Local Governments in Coastal Resource Management, Sharing Responsibility with the People

- 1) Greater People’s Participation and the Increasing Role of Local Government in Coastal Fisheries Management: Toward Decentralization of Resource Management
- 2) The Role of Government Network for Local-wide Resource Management in the Philippines
- 3) New Roles of Sub-District Administrative Organization to Local Community Development in Thailand



21 February 2003 (Excursion)

Morning: Observations in Tambol Pakklong, Chumporn Province

Afternoon: On-site Symposium

Symposium: Toward Self-regulatory Management in the Demarcated Zones

Topics:

- 1) Participation in Project through Awareness Building on the Sustainable Use of Coastal Resources
- 2) Consensus building both at Moobaan (village) and Tambol (sub-district) levels
- 3) Coordination and Adjustment among Fishers in the Demarcated Zones
- 4) Lessons from the Zonings of Fish Cage and Shellfish Culture Areas
- 5) Roles of Ao.Bo.To in Coastal Resource Management
- 6) Evaluate the LBCRM-PD activities

Conclusions: (For Thai Local Participants)

Annex 3

Provisional Agenda and Timetable
of
TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT: LESSONS GAINED THROUGH
LOCALLY BASED COASTAL RESOURCE MANAGEMENT IN PATHEW DISTRICT, CHUMPNORN PROVINCE

Part I: 19-21 February 2003 (Local Seminar)**19 February 2003**

0830-0900	Registration
0900-0945	Opening of the Meeting <ul style="list-style-type: none"> - Addressing by Chairman(Mr. Sakul Supongpan) - Welcome address by Governor of Chumporn Province - Welcome address by Trust Fund Project Manager - Opening address by DG
0945-1000	Coffee break
1000-1100	A New Direction of Coastal Fisheries Management: People's Participation, Designated Community and Local Fisheries Committee
1100-1200	Briefing: Implementation of the Project Activities in the First Year
1200-1330	Lunch
1330-1415	Extension and Media Development for Locally Based Coastal Resource Management in Pathew District, Chumporn Province (Activity IV and V)
1415-1500	Women's Activity in Fish Processing (Activity III)
1500-1530	Coffee break
1530-1615	Effort to Establish A Self-management Framework in the Demarcated Zone (Activity II)
1615-1700	Excursion at Had Sai-lee Fishing village
1700-2000	Welcome party

20 February 2003

0900-0945	Experiences in the Zoning of Fish Cage and Shellfish Culture Areas
0945-1030	Coordination between Crab Trap and Crab Gill Net Fisheries
1030-1045	Coffee break
1045-1130	School-Community's Participation in Mangrove Reforestation and Conservation in Thungmaha Bay, Pathew District, Chumporn Province



1130-1215	Moobaan-based Management Units and Their Networks: From Achieving Consensus to Administrative Works
1215-1400	Lunch
1400-1415	Greater People's Participation and the Increasing Role of Local Government in Coastal Fisheries Management: Toward Decentralization of Resource Management
1415-1500	The Role of Government Network for Local-wide Resource Management in the Philippines
1500-1530	Coffee break
1530-1615	New Roles of Sub-District Administrative Organization to Local Community Development in Thailand
1700-1900	Dinner

21 February 2003

0800-0900	Arrive at Tambol Pakklong, Pathew District
0900-1130	Observation in Tambol Pakklong
1130-1300	Lunch at Moobaan No. 1
1300-1500	Symposium: Toward Self-regulatory Management in the Demarcated Zones <ul style="list-style-type: none">- Participation in Project through Awareness Building on the Sustainable Use of Coastal Resources- Consensus building both at Moobaan (village) and Tambol (Sub-District) levels- Coordination and Adjustment among Fishers in the Demarcated Zones- Lessons from the Zonings of Fish Cage and Shellfish Culture Areas- Roles of Ao.Bo.To in Coastal Resource Management- Evaluate the LBCRM-PD activities
1500-1520	Coffee break
1520-1600	Conclusions

Annex 4**List of Documents****Part I**

LBCRM-PD/REF 01	Key Address
LBCRM-PD/REF 02	A New Direction of Coastal Fisheries Management: People's Participation, Designated Community and Local Fisheries Committee
LBCRM-PD/REF 03	Backgrounds and Planned Activities of Locally Based Coastal Resource Management
LBCRM-PD/REF 04	Past, Present and Future of Project Activities of LBCRM-PD: Summary of Quarterly Reports
LBCRM-PD/REF 05	Extension and Media Development for Locally Based Coastal Resource Management in Pathew District (LBCRM-PD), Chumporn Province
LBCRM-PD/REF 06	Women's Activity in Fish Processing in Tambol Pakklong, Pathew District, Chumporn Province
LBCRM-PD/REF 07	Effort to Establish A Self-management Framework in the Demarcated Zone
LBCRM-PD/REF 08	Experiences in the Zoning of Fish Cage and Shellfish Culture Areas
LBCRM-PD/REF 09	Coordination between Crab Trap and Crab Gill Net Fisheries: Change and Adjustment of Fishing Gear for Resoponsible Fisheries Projects to Contribute Locally Based Coastal Resource Managemen
LBCRM-PD/REF 10	School-Community's Participation in Mangrove Reforestation and Conservation in Thungmaha Bay, Pathew District, Chumporn Province
LBCRM-PD/REF 11	Greater People's Participation and the Increasing Role of Local Government in Coastal Fisheries Management: Toward Decentralization of Resource Management
LBCRM-PD/REF 12	The Role of Government Network for Local-wide Resource Management in the Philippines
LBCRM-PD/REF 13	New Role of Sub-District Administrative Organization to Local Community Development in Thailand

Annex 5

Speech by Head of Chumporn Provincial Fisheries Officer

The Expert on Fisheries Management, Guests, Ladies and Gentlemen:

My name is Pinyo Thaithavorn, Head of Chumporn Provincial Fisheries Officer.

On behalf of Chumporn Province, we are very pleased that the expert on Fisheries Management accepted our invitation to declare opened the Seminar on the Toward Further Development of Coastal Resource Management: Lessons Gained Through Locally Based Coastal Resource Management in Pathew District, Chumporn Province, Thailand.

I would like to brief you on the geographical information of Chumporn. Chumporn has 8 Districts with Fisheries are important opportunities of local people because we have coastline of about 222 kilometers and 6 Districts are connected to the sea. The project is located in Pakklong Sub-District, Pathew District, north of Chumporn, with the area of about 117 square kilometers or 73,125 rai. The geographical condition is slope, with eastern part is connected with the Gulf of Thailand, where the Royal Development Project is located, in Moo 5 of Pakklong Sub-District.

Pakklong Sub-District consists of 7 villages, Ban Thungmaha (Moo 1), Ban Bosomrong (Moo 2), Ban Thamthong (Moo 3), Ban Bangwan (Moo 4), Ban Numpu (Moo 5), Ban Bonrai (Moo 6) and Ban Tha-ad (Moo 7); with the population of approximately 4,128.

Most of people in Pakklong Sub-District are engaged in agriculture and coastal fisheries because they have shoreline of about 45 kilometers. There are 7 islands consists of Randped island, Randkai island, Iang island, Sikong island, Phra island, Kenok island and Rang island. Three of these islands were occupied bird-nest concession, i.e. Sikong island, Rang island and Iang island.

Locally Based Coastal Resource Management Project was implemented in Pakklong Sub-District since October 2001. The tangible activities implemented by this project is fish processing product of women's groups. It was selected to become "One Tambol One Product" of Pakklong Sub-District.

We are grateful to the Department of Fisheries of Thailand who selected our Province to implement this pilot project in Locally Based Coastal Resource Management.

Thank you,



Speech by Mr. Junichiro Okamoto

Good morning, ladies and gentlemen, distinguished guests and participants, on behalf of SEAFDEC, I am very pleased to be here to welcome all of you. This first seminar, entitled “ Locally Based Coastal Resources Management” is the one part of our collaborative projects with the Department of Fisheries of Thailand.

SEAFDEC has been put its priority on projects related to subjects that are components of the Resolutions on Sustainable Fisheries for Food Security for the ASEAN Region adopted by the ASEAN/SEAFDEC Millennium Conference.

One of them is to achieve sustainable fishing through the concept of community based fisheries management involving all stakeholders in the process of the development of fishery management schemes. Another facet of sustainable fishing is to contribute to the reduction of poverty in the fisheries community through encouraging self-help activities. These two objectives like the establishment of sustainable fisheries and the alleviation of poverty in fishery communities are common task to be tackled by a collective approach. Fortunately, SEAFDEC has been able to execute this very important program through the Japanese Trust Fund sponsored by the Japanese Government in collaboration with the Government of Thailand. We are very proud of the successful results achieved through the pilot project in Chumporn province and would like to extend these results into the Southeast Asian Region. Many countries, not only member countries of SEAFDEC, but also outside the region have great interest in our activities and the results of the program.

I fully understand that any single approach could not provide a panacea to cope with all the problems in fisheries management that many countries face.

Therefore, I am very much looking forward that this seminar should give participants some ideas, which would be applicable to the reality of the diverse fisheries in the Region. In closing, I hope this seminar be successfully completed to the full and sufficient satisfaction of the participants.

Thank you for your attention.

Speech by Expert on Fisheries Management

Chumporn Provincial Fisheries Officer, Specialist, Japanese Trust Fund Manager, Ladies and Gentleman:

I am very pleased and honoured to be invited to declare opened the Seminar on the Toward Further Development of Coastal Resource Management: Lessons Gained Through Locally Based Coastal Resource Management in Pathew District, Chumporn Province, Thailand.

I agree with the objectives of this Seminar that the collaboration, cooperation among fishermen, stakeholders, government officials and project staffs, in the project implementation, evaluation, problems and how to solve, will be share at this Seminar. The results of this Seminar will lead to the development, planning improvement for implementing direction of the next year program. In addition, it will be expanded to other SEAFDEC' Member Countries.

I fully support this project and wish to tell you that the success of the project will be form the cooperation and collaboration among those concerned. Mutual cooperation between local people and workers will lead to the success of the project. I believe that the success of this project will be a model of other projects.

I sincerely hope that the opinion, comments and suggestions which will be shared at this Seminar will be of benefit to the project implementation. I would like to thank everyone who engage in this Seminar as well as the participants.

Now, it is suspicious time to declare opened the Seminar on the Toward Further Development of Coastal Resource Management: Lessons Gained through Locally Based Coastal Resource Management in Pathew District, Chumporn Province, Thailand.

Thank you



*Toward Further Development of Coastal Resource Management:
Lessons Gained Through Locally Based Coastal Resource Management
in Pathew District, Chumporn Province, Thailand*

The Seminar Documents

Key Address

TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT: LESSONS GAINED THROUGH LOCALLY BASED COASTAL RESOURCE MANAGEMENT IN PATHEW DISTRICT, CHUMPNORN PROVINCE

Masahiro Yamao, Ph.D *

I. Background to the Seminar

1. The Southeast Asian Fisheries Development Center (SEAFDEC) developed the regionalization of the *Code of Conduct for Responsible Fisheries*, with activities in four phases, namely fisheries operations, aquaculture development, fisheries management, and fisheries post-harvesting. Under the ASEAN-SEAFDEC Fisheries Consultative Group (FCG) scheme, Thailand acts as the lead country among the SEAFDEC member countries and the Training Department (TD) will be the lead implementing department of SEAFDEC in fisheries management.
2. The TD and the Department of Fisheries (DOF) in Thailand planned a collaborative pilot project on coastal fisheries management, and began to conduct activities at the end of 2001 together with local people, stakeholders, people's groups and local government organizations in Pathew District, Chumporn Province.
3. This collaborative project is named "Locally Based Coastal Resource Management in Pathew District, Chumporn Province" (LBCRM-PD). With the honorable guidance of His Majesty the King, the DOF planned to implement a participatory coastal resource management project in Tambol (sub-district) Pakklong, Pathew District, adopting the community-based approach. Before the TD joined, the DOF had roughly drawn up a five-year plan with a budget allocation. TD undertook to join this project under the FCG scheme. TD staff and DOF officials worked together to redesign the project proposal to encourage people's participation in the project activities. On October 5, 2002, both parties reached agreement to finalize the proposal and submit it officially to the TD and the DOF.
4. Together with local people, stakeholders, NGOs and local officers, working group members of the TD and the DOF began to involve in diversified activities. One year has already passed. At present, lessons and experiences gained through the activities of LBCRM-PD may be transferred to other projects on coastal resource management and community development. It is obvious that the first year's activities include bitter lessons and avoidable failures. Both successes and failures are carefully examined, by which the LBCRM-PD will be able to redefine its objectives and approaches to fit the local reality of fisheries and the ecological conditions of coastal resources. Both successes and failures may provide an insight into a direction of new fisheries management policy. The LBCRM-PD acts as a pilot, bringing a viable model of decentralized fisheries management with a participatory approach.
5. Under the SEAFDEC's information mechanism, the TD and the DOF agreed to transfer all technologies, knowledge and lessons learned through the implementation of LBCRM-PD to other SEAFDEC member countries. This may be useful to help ASEAN-SEAFDEC member countries to review their own policies and steer new directions in coastal fisheries resource management. Establishing sustainable coastal resource management is an urgent need in all parts of the ASEAN region. It is, also, expected that member countries that have successful experiences in the field of coastal resource management projects will give practical and appropriate advice to the TD-DOF collaborative project.

* *Professor, Graduate School of Biosphere Science, Hiroshima University
1-4-4 Kagamiyama, Higashi Hiroshima, 739-8528 JAPAN
E-mail: yamao@hiroshima-u.ac.jp*



II. Purposes of the Seminar

6. This seminar has the following four purposes:

- 1) To review the process of the project activities during the first year, including the stages of planning.
- 2) To assess the outcomes and problems to be solved for the effective operation of the project activities.
- 3) To exchange experiences and opinions between fishers, stakeholders, government officers, and the project staff.
- 4) To transfer the technologies and experience gained in the involvement of the project activities between member countries of SEAFDEC.

7. The DOF in Thailand should review, in depth, the process of project planning and budget allocation. It would be in question whether it would enhance people's awareness on sustainable resource use, and how appropriately it could affect local interest and fit in with local reality. While assessing the outcomes and problems of the project activities in the first year, the DOF should gain lessons and experiences that will be transferred to other pilot project areas. A number of pilot projects are being designed along coastlines, and some have just started with preliminary activities. However, with the exception of one or two big projects, many of these projects are allocated lesser budget and fewer personnel than the LBCRM-PD. Even with qualified personnel, a systematic and holistic approach cannot realistically be adopted. Therefore, lessons and experiences gained through the operation of LBCRM-PD may provide an insight into a direction for the other pilot projects, or may steer them into another different one, toward being efficient enough to build a sustainable management framework.

8. Chumporn Marine Fisheries Research and Development Center (CMDEC) stands at the core of the project planning and implementation, in collaboration with Chumporn Provincial and Pathew District Offices of Fisheries. This center is responsible for the provision of training courses in various aspects under the authority of Marine Fisheries Bureau (MFB, DOF), apart from being involved in coastal management and fishing community development programs in three provinces of the upper part of the South (Prachuab Khiri Kan, Chumporn, Surathani), the CMDEC works as a center of extension services in these three provinces, delivering any valuable information to local fishers and local fisheries officers. Transferring and diffusing gained technologies and experiences in the LBCRM-PD is a very important tool to improve the quality of CMDEC training activity, too.

9. From the SEAFDEC/TD aspect, this project has another profile, as *Chart 1* indicates. As a collaborative project under the FCG scheme, the TD has full responsibility for transferring the essence of lessons and experiences that it will transfer to member countries in various ways, like training courses, seminars, and workshops. The TD also plans to support other member countries to prepare and conduct pilot projects on coastal resource management. Given a five-year plan for the LBCRM-PD, the TD should begin new collaborations with other member countries. This seminar may be a first step toward another phase of the FCG scheme.

III. Target Groups of the Seminar

10. The seminar has two target groups:

- 1) Domestic participants, mainly from local fisheries officers, sub-district administrative organization (Aongkarn Borihan Suan Tambol, Ao.Bo.To)' staff and leaders of fishers (in Thailand)

- 2) Foreign participants from member countries, particularly those countries that the TD will possibly plan collaborative projects.

11. Local fishers, community leaders, and any stakeholders at the project site will also join the seminar, but they will act mainly as instructors, presenters, and commentators. Their valuable experience and recommendations will be of great value to local fisheries officers and extension staff in charge of fisheries management. All participatory fisheries management projects need greater people's participation. Of course, the people have to share responsibility with the officers and staff. At the earlier stages of the project, the officers and staff may guide fishers and community leaders, by diffusing necessary information and transferring adequate technology. From the legal aspect, provincial and district offices of fisheries still have decisive roles in local fisheries management, although fishers and stakeholders become less dependent on government intervention in the continuing process of decentralization.

12. Meanwhile, council members and administrative staff of Ao.Bo.To will increase their roles, duties and responsibilities in local fisheries management in the near future. This newly established agency is being devolved and awarded several important functions of local administration, including the levying taxes, planning local development, building infrastructures and guiding educational and welfare matters in general. Some issues related to local resource management may be included into Ao.Bo.To's tasks. This seminar is a first trial in Thailand, targeting its council members and administrative staff.

13. The foreign participants are invited by the Training Department. This seminar has a very specific objective that includes the transfer of some valuable lessons to particular member countries. TD normally organizes seminars, workshops and meetings and divides participation equally among member countries. However, this project should plan another collaborative project during the five years defined by the FCG scheme. Malaysia has become a candidate as a TD partner in the next stage of the coastal fisheries management program. Cambodia and Vietnam may also implement participatory and community-based fisheries management (CBFM). Meanwhile, the Philippines and Indonesia have for a long time developed their unique coastal management frameworks and the experiences they have gained can be extended through the SEAFDEC information mechanism. At this seminar, participants from the Philippines act as presenters and commentators. This reinforces that the seminar is project-oriented in nature.

14. Working members of the LBCRM-PD think that the very different attitudes toward local-level fisheries management should be given deep consideration. More attention should be given to local and domestic reality even at regional seminars and workshops. We shall not generalize in the topics and issues of the decentralization process. Specialization in domestic matters may be more effective, as member countries have advanced, to a certain extent, a decentralized and/or participatory approach in fisheries management with their own national political and economic dimensions.

IV. Contents of the Seminar

Part I

15. As the proposed agenda indicates, the Seminar is designed to have two parts. The first part focuses mainly on the process of LBCRM-PD planning and implementation, i.e., 1) the process of encouraging local participation, 2) the process of achieving consensus and making local rules, 3) the development of local networks of fisheries management bodies, and 4) the establishment of local legitimate frameworks for coastal fisheries management and investment.

16. LBCRM-PD is carrying out experiments on how to encourage people and local government agencies' participation in the decision making process of resource management, and what rules and regulations they should make. These experiments are anticipated to give suggestions about networks of community-based management units (CBMU) and resource user groups. The LBCRM-PD undertakes project activities



over the whole area of Tambol Pakklong that consists of six fishing villages (Moobaans). These activities are not within a narrow locality. In the process of achieving consensus and making rules at Tambol level, fishers and resource users usually consult each other in their Moobaans, and then representatives adjust different interests and opinions between six Moobaans. Whether or not such a communal consensus approach works effectively in a Tambol-based management framework is a matter for consideration and examination..

17. During the first year of the Phase I, the project staff from the CMDEC and TD have encouraged resource users and stakeholders to discuss a zoning system for fish and shell culture in the Pakklong Bay, and to adjust conflicts caused by crab trap fisheries. Those resource users who are involved in these fisheries are scattered in a wider area. Through consultation with local government officers, they are trying to create their own procedures for achieving consensus and making rules. Trials and experiments will be described in depth in one session of the Seminar. A controversial issue may be on whether or not Tambol territory is a unit of fisheries and coastal resource management. How a Tambol administrative organization can become a management body is also an important issue. In Thailand, the LBCRM-PD is the first trial in these respects.

18. Resource persons and participants will have a substantial open forum at which they may exchange opinions and suggestions about future decentralized regimes of coastal fisheries management. Devolution of fisheries management authority has just started, keeping pace with the decentralization programs of administrative organizations designed by the Thai government. In the near future, CBRM, and participatory and self-regulatory frameworks will develop further under the new regime of local administration. In this context, how to share responsibility between central authority and these locally based managements seems an important topic. In the open forum, we shall discuss what shared work among local government agencies (consisting of Provincial and District Offices of Fisheries, and sub-district administrative organizations) is effective, and what interlocking relationship between these agencies and resource users groups (including community-based management units) is needed. Experiences of the LBCRM-PD are still immature. However, some might be useful in making a proposal for one type of decentralized coastal fisheries management.

19. It is obvious that more spontaneous and self-critical behavior of resource users and stakeholders are a prerequisite for the establishment of a well arranged, decentralized regime. In the Philippines, local resource users, stakeholders, NGOs and local governments have exerted an enormous amount of cooperative effort to develop the CBRM approach since before the proclamation of the Local Government Code and New Fisheries Act. At present, this challenging approach is a national strategy of environmental and resource management at local level. Conventional types of CBRM move into a new phase of development. A resource management council often covers a far wider area beyond one municipal territory, encompassing plural municipal-level councils units into a regional network. Within the present legitimate framework of coastal resource management, there is an increasingly wide variety of decentralized and participatory systems to fit in with local reality and ecological diversity. The Philippines experiences give valuable suggestions to Thai experiments in many aspects. Resource persons from the Philippines describe both practical and tactical advice to the LBCRM-PD.

20. The contents of Part I concentrate on local and practical issues, not presenting much in the way of generalization. It might be recognized that such an inclination would not be suited to foreign participants and the topics of a seminar. As a pilot project of the TD-DOF collaboration, however, we are able to realize valuable and practical lessons from “local reality and domestic experience”, with reference to the process of decentralization and de-officialization, empowerment of local people, restructuring of local government involved in fisheries management and human resource development at local levels.

21. An on-site symposium stands in the middle between Part I and Part II, showing the project activities and exchanging opinions with resource users and stakeholders in Tambol Pakklong. This symposium is a

concluding part for the Thai participants.

Part II

22. Through active participation in Part I and the exchange of opinions with Thai participants, foreign participants will continue to discuss the following three topics.

- 1) The process of making a coastal resource management project with an holistic approach;
- 2) The enhancement of awareness about sustainable coastal resources and human resource development;
- 3) The roles and tasks of local government officers in participatory coastal resource management projects;

23. Observation on sites of the Bay of Bengal Program (BOBP) in Phannga Bay (Andaman side) is planned, guided by the Andaman Sea Research and Marine Fisheries Development Center (AMDEC), DOF. The BOBP's project completed their designed activities on coastal resources management and community development several years ago. There are some villages whose residents continue to successfully conduct various kinds of cooperative activities. Small-scale central markets are a typical example. Not depending on conventional types of fish trader, fishers cooperate together to have auctions for shrimp, crab and other species. Their trials cause a drastic change in the marketing system that used to prevail and they gain more market profit. Moreover, tourism business infiltrates into village economic and social life. Many of fishers and residents undertake passenger boat services and organize associations of passenger boat operators to work in rotation and to keep the price up.

24. The BOBP encouraged village people to reforest mangrove trees and expand conservation areas, while introducing the participatory approach in coastal fisheries management. Reforestation has succeeded in many villages and some villages arrange a kind of eco and environmental tourism for foreigners and Thai tourists, in collaboration with environmental NGOs. Residents deliver tourism services and then generate new income sources in their villages. They accumulate village funds donated by the NGOs and tourists and these funds become sources of micro credit, reforestation, and other community development activities. Mangrove reforestation programs benefit residents in many ways.

25. In Part II, the topics and issues to be discussed are selected to make a viable project proposal on coastal resources management in participating countries. One important topic concerns a comprehensive and holistic approach. Establishing a sustainable fisheries management needs an improvement in the quality of life in fishing communities. Lack of job opportunities both outside and inside the communities is an essential factor that increases catch effort as a whole. The alleviation of poverty may lead to a reduction in over-fishing and over-capitalization. Many successful pilot projects including the BOBP project in the Phannga Bay suggests that a holistic approach toward the sustainable use of coastal resources is very effective. There will be an exchange of experiences and opinions about creation of alternative livelihood activities during this seminar.

26. A number of Malaysian participants are invited to share Chumporn and Phannga experiences in Thailand. TD and the Department of Fisheries of Malaysia (DOF-Malaysia) are discussing a plan for a coastal resource management project in Langkawi Island, Kedha State. Planning and extension service officers are to involve in the project, in collaboration with local fishers and stakeholders. Part II includes a session focusing on the roles of local government in the promotion of sustainable management and the tasks of local government officers. It is generally thought that the participatory approach would reduce local government involvement in fisheries management; in actuality, however, extension services, legal and monitoring work are assigned largely to local government officers and local (and/or regional) fisheries



agencies. As well as resource users and stakeholders, they should also take charge of decentralization programs. Thailand is just about to start the full-scale decentralization of fisheries management. Thailand recognizes the significance of a re-arrangement for training and educational activities targeting local staff. Such capacity building of human resources is a focal point in Part II. Delegates of the Philippines may give suggestions about how local government officers take part of the responsibility, and of course, how to decrease local government involvement sequentially while resource users and stakeholders increase their tasks in fisheries management.

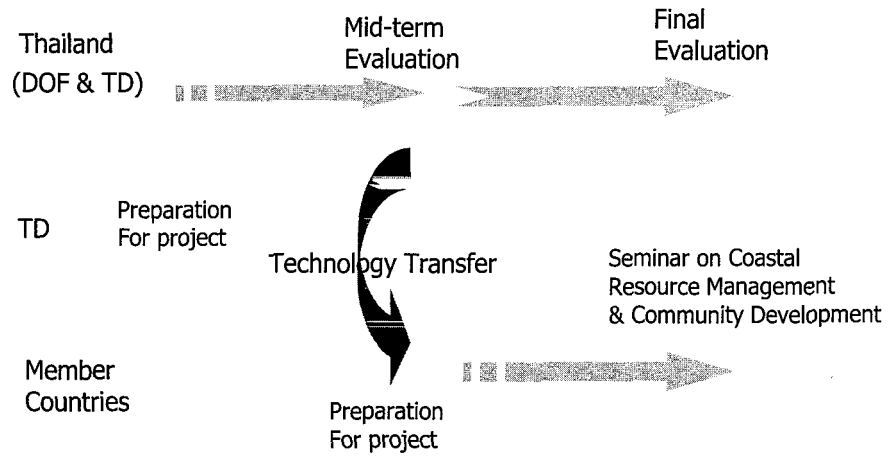
27. Appropriate guidance and extension services provided by local government staff are a decisive factor to lead them to great success. Experiences gained from SEAFDEC's member countries will also provide a deeper insight into project management at the earlier stages of implementing pilot activities.

28. In the last session of Part II, all participants and LBCRM-PD staff will finalize conclusions with suggestions and recommendations for the further development of locally based coastal resource management in the Southeast Asia. These include some selected issues related to SEAFDEC/TD activities and more cooperation in coastal fisheries management among member countries.

V. Acknowledgment

29. On behalf of all project staff of the LBCRM-PD, I would like to extend my great thanks to the DOF in Thailand, the CMDEC, the AMDEC, Chumporn Provincial Office, Pathew District Office, Pakklong Sub-District Administrative Organization, and SEAFDEC/TD to assist our challenging activity of organizing this Seminar. Special thanks are offered to the Government of Japan that always provides part of the project budget with the DOF in Thailand. Finally, I am thankful to local fishers, community leaders, groups' members, and all residents in Tambol Pakklong who have welcomed our visit, and will give many lessons and suggestions at the Seminar and the Symposium as resource persons.

Chart 1 Collaborative Project and FCG Program



**A New Direction of Coastal Fisheries Management: People's Participation,
Designated Community and Local Fisheries Committee**

Sakul Supongpan *

ABSTRACT

The project plan proposes to introduce the idea of community-based coastal resource management at a defined project site and to implement practical management methods, places emphasis on promoting the sustainable use of coastal resources by territorializing a demarcated area preserved for small-scale fisheries. The project includes management of the demarcated zone where particular types of fishing operations are prohibited. This is a very effective approach toward the expansion of comprehensive community development programs. DOF and SEAFDEC/TD have agreed to minor changes in the framework of the project's implementation and have added some new activities. This is the project proposal for the further development of coastal resource management project, although the basic concept and methodologies adopted are the same as the DOF's initial proposal. This project sets up three overall objectives, 1) The establishment of sustainable coastal resource management at local level, 2) The rehabilitation of coastal resources, 3) The alleviation of poverty in coastal fishing communities. Four results from the implementation of this project are expected, 1) Locally Based Coastal Resource Management (LBCRM) in Pathew District, Chumporn Province, works, 2) People's production and living conditions improvement, 3) Local people and organizations enhance their capability in community development, 4) Practices are converted into DOF's policy on coastal resource management. The project will consist of six major activities, 1) Base Line Survey, 2) Encourage and Extend Locally Based Coastal Resource Management, 3) Encourage Local Business, 4) Enhance Human Resource Capability and Participation, 5) Develop Extension Methodologies and Strengthening Extension System for Sustainable Use of Coastal Resources, and 6) Rehabilitate and Enhance Coastal Resources.

Keywords: community-based, resource management, small-scale fisheries, promoting the sustainable use, demarcated area

* *Expert on Marine Fisheries, Department of Fisheries*



I. BACKGROUND

1. DOF Initiative

1. Department of Fisheries (DOF), Thailand, has decided to conduct a Royal Project in Pathew District on behalf of His Majesty the King, and has drawn up a five-year plan for its implementation. The Cabinet has already approved this plan, together with an allocation of budget. This project is a part of "Rehabilitation and Management of Marine Fisheries Project". The plan proposes to introduce the idea of community-based coastal resource management at a defined project site and to implement practical management methods. DOF will also start a series of small-scale fisheries development programs at the site.

2. The project site is located in Tambol Pakklong (sub-district), Pathew District, Chumporn Province (*see Figure 1*). The Royal Project consists of three different fields, agriculture, forestry and fisheries. Agricultural improvement will be conducted mainly in the wasteland covering an area of 448 rai. As there is no fishing community in the wasteland at the Royal Project area, the fisheries improvement program will cover all coastal communities of Tambol Pakklong.

3. Tambol Pakklong is under the governance of Pathew District, Chumporn Province. Its total area is 117 sq. km., and the population is 4152. This Tambol composes of 7 villages and total household is 879. Local residents engage in capture fisheries, coastal aquaculture and agriculture. Rubber, coconut and palm are major income sources in agriculture. Local residents engage in capture fisheries using squid cast nets, fish gill net, blue swimming crab gill net, squid trap and anchovy purse seine. Some engage in sea bass fish cage culture.

4. As shown in *Tables 1 and 2*, the DOF has set up a tentative schedule of five years for the implementation. The installation of artificial reefs and fishing gear improvement are given higher priority in terms of budget allocation. The provision of artificial reefs and gear to fishing communities would be a major objective in the fisheries field. Practically, DOF has a plan to conduct a survey on resources, environmental and the socio-economic aspects, releasing fingerlings, fishing gear development and organizing groups.

5. Adding to the improvement of marine capture fisheries, DOF is ready to transfer technology in marine aquaculture and the provision of materials and fingerlings. Promotion of marine aquaculture is a part of the process of alternative job creation. Extending shellfish culture may be another job-creation-oriented activity. These processes may create additional income sources to local communities and reduce the present amount of catch effort put into adjacent fishing grounds.

6. The project that DOF has proposed places emphasis on promoting the sustainable use of coastal resources by territorializing a demarcated area preserved for small-scale fisheries. Through consensus among local fishers, DOF has proclaimed the demarcation of coastal fishing grounds. The project includes management of the demarcated zone where particular types of fishing operations are prohibited.

7. By applying the Ministerial Announcement of 1972 (July 22) 1990 (April 16), trawl, push nets and clam dredge will be banned for operation within an area of 3 km from the coastline in Tambol Pakklong. DOF and local fishers have agreed that two defined areas would be managed to prohibit the foregoing types of fishing operations. Both parties reached complete agreement on effective enforcement and monitoring of illegal operations in AREA I, covering an area of 46 sq. km. The majority of fishers and stakeholders have agreed a further expansion of the demarcated area to the south of Tambol Pakklong, setting up an AREA II of 70 sq. km.

8. DOF encourages the people and communities to enhance their management capability and develop

methods to sustainable use of coastal resources in the demarcated coastal areas. This is a very effective approach toward the expansion of comprehensive community development programs.

2. SEAFDEC Joining in the Project

9. Under the Fisheries Consulting Groups (FCG) scheme that the Southeast Asian Fisheries Development Center (SEAFDEC) has adopted, Training Department (TD) collaborates with DOF to implement a coastal resource management program. In this program, Thailand (DOF) acts as the lead country among the ASEAN-SEAFDEC member countries and TD will be the lead implementing department of SEAFDEC. DOF and TD have reached agreement that both parties will be involved in the King's project in Tambol Pakklong under the FCG scheme. Technologies, knowledge and lessons gained through the implementation of this project will be transferred to member countries through the SEAFDEC information transfer mechanism.

10. To transform the project proposal planned by the DOF into a collaboration, DOF and SEAFDEC/TD have agreed to minor changes in the framework of the project's implementation and have added some new activities. This is the project proposal for the further development of coastal resource management project, although the basic concept and methodologies adopted are the same as the DOF's initial proposal. The budget allocation having been approved by the Cabinet of Thailand is not a matter for change.

11. As DOF and SEAFDEC/TD have developed this project into a collaboration, it is entitled "*Locally Based Coastal Resource Management in Pathew District, Chumporn Province*"(LBCRM-PD).

II. OBJECTIVES

1. Overall Objective

12. Overall objective means the expected effects and outcomes on the target fields when the project is successfully achieved. Through the implementation of this project, Thai coastal fisheries will develop into a new era. This project sets up three overall objectives.

- 1) The establishment of sustainable coastal resource management at local level
- 2) The rehabilitation of coastal resources
- 3) The alleviation of poverty in coastal fishing communities

13. Community-Based Fisheries Management (CBFM) and Co-management (CM) are workable frameworks for coastal resource management. Local government, fishers and any stakeholders are encouraged to participate in the decision-making processes of coastal resource management, employing their own sustainable fishing methods in their immediate coastal areas.

14. While establishing sustainable fisheries management with a participatory approach, the rehabilitation of coastal resources should be adopted through appropriate measures. Rehabilitation will be feasible through enhancing awareness building among resource users and adopting conservation measures.

15. Alternative job opportunity should be created outside capture fisheries to approach the alleviation of poverty, so that small-scale fishers can survive and reduce over-dependence on coastal resources. Successful pilot projects of CBFM in the Southeast Asian region indicate that much effort to reduce poverty in local communities leads a reduction of using destructive fishing gears.



2. Project Purpose

16. The project purpose is to: Establish a practical framework for locally-based coastal resource management through the encouragement of fishers' participation, supported by the creation of alternative job opportunities in coastal fishing communities.

17. A practical framework for locally-based coastal resource management (LBCRM) consists of CBFM and CM that have been implemented in the Southeast Asian region so far. This project will encourage the people and local governments to join in the management of the demarcated coastal zones defined by the DOF.

18. Success or failure of this project will also depend on how successfully alternative job opportunities are created. The project should be designed to generate alternative job opportunities outside capture fisheries, to reduce the people's over dependence on coastal fisheries resources.

3. Outputs

19. Four results from the implementation of this project are expected.

1) Locally Based Coastal Resource Management (LBCRM) in Pathew District, Chumporn Province, works

With LBCRM working effectively, resource users and any stakeholders will be able to use coastal fisheries resources in sustainable ways. They participate in the decision-making process of coastal resource management and share responsibility with local governments. The destructive fishing operations such as trawl, push nets and clam dredge are prohibited in the demarcated zones are monitored and eliminated.

2) People's production and living conditions improvement

A comprehensive approach toward the establishment of LBCRM will bring an improvement in production and living conditions. Solutions to over-fishing and over-capitalization lead to more stable social and economic surroundings for resource users and their families. Diversification of income sources reduces over-dependence on coastal fisheries resources.

3) Local people and organizations enhance their capability in community development

People and any participatory organizations, having joined in the project, will be capable of conducting resource management and community development activities. This project is to overcome institutional weaknesses both in coastal resource management and in community development. Strengthening such institutional arrangements stipulates that the people and local governments must be involved in self-help economic and social activities.

4) Practices are converted into DOF's policy on coastal resource management

The project involves a process of converting the practices undertaken in Pathew into the policy of DOF on coastal fisheries management.

III. APPROACHES AND ACTIVITIES

1. The Project Approaches

20. The project purpose can be achieved by adopting substantial approaches. Practically and realistically, the following three approaches will be applicable, namely, (1) A CBFM and CM approaches, (2) A resource enhancement approach, (3) A job creation approach. The first approach consists of participatory management and institutional strengthening methods.

21. This project covers the locality defined by DOF, being located in Tambol Pakklong (Sub-District) area. So that the implementing agencies are DOF (Bangkok), the Provincial and District Office of DOF, Chumporn Marine Fisheries Research and Development Center, Sub-District Administrative Organization (Ao.Bo.To.), SEAFDEC/TD and other supporting agencies, the project may diversify its approaches to some extent.

2. Major Activities

22. The project will consist of six major activities.

1) Base Line Survey (Activity I)

To achieve overview information and a database to delineate proper activities for sustainable coastal resource management and community development, the local demand-led project needs a feasibility study in depth.

The base line survey includes topics that rely upon people's idea on management aspects and/or their demand for the proposed activities of the project. The survey identifies a beneficiaries group, supporters and those negatively affected, etc. in the project implementation.

1.1 Data collection on a regular basis in coastal areas of the project site

Data collection at coastal areas of the project site that rely upon technological, biological, ecological and oceanographic aspects will be carried out as a regular basis survey during the period of the project. A Socio-economic survey should also be regularly conducted to understand the social and economic status of the project site. Regular basis surveys provide indicator identification for monitoring and evaluating the project.

1.2 Survey of particular topics and subjects and for providing a training course

The survey includes particular topics and subjects related to the theme of the major activities. The results of the survey will be the basis for providing and setting up a training course and technology transfer.

1.3 The results of the analysis should be given to the people and the community, and adapted into a proposal and recommendations

The results of the analysis of all data and other information will be presented to the people and communities of the project site. This will consist of part of a proposal and recommendations for setting up LBCRM with sustainable use of resources and an improvement in the quality of life.

2) Encourage and Extend Locally Based Coastal Resource Management (Activity II)

Evaluating the present framework of fisheries management and referring to the past experience of CBFM projects, the project will conduct three kinds of activity through the consensus of users and stakeholders, and/or will propose applicable models to coastal resource management at the project site.



2.1 Encourage fishers' self-regulating activities in coastal zones, and reduce conflicts between resource users.

The project will encourage fishers' responsible fishing and aquaculture operations and their participation in the management of the demarcated zones. By providing information and data vital to responsible fishing and aquaculture operations, the project will enhance users' consensus on the self-regulatory use of coastal resources and on the reduction of conflict between resource users. Any technical advice and training courses will be prepared by the project according to the demand of users and stakeholders.

2.2 Establish community-based management groups

The project will advise and assist resource users to organize community-based management groups of whatever type. They are expected to work as a unit of management. By the users' active participation in the groups, there will be a network of the groups within the project site. For the groups and network to undertake self-management in the demarcated coastal areas, the project should give necessary advice and technological transfer as regards organization and activities.

2.3 Enhance local government's ability in coastal resource management

Strengthening the institutional framework at the project site is a substantial factor for the establishment of LBCRM. To achieve this objective, the project will transfer information and give advice to Ao.Bo.To in Tambol Pakklong, to take part of the responsibility of management. By building the awareness of local officers and community leaders, Ao.Bo.To will develop a workable management system in collaboration with the resource users and stakeholders (and their groups), and with the DOF.

3) Encourage Local Business (Activity III)

To reduce over-dependence on coastal resources, the project encourages and enhances local businesses outside capture fisheries at the project site. The project assists people to increase household income in two ways. The first way is by improving technologies of handling, marketing and processing of fisheries products. The second is to create alternative job opportunities inside and outside the fishing communities.

3.1 Improve post-harvest technology and introduce new value added fisheries products

In collaboration with the private sector and government agencies concerned, the project will improve post-harvest technologies and introduce new value added fisheries products. Introduction to the preservation of fresh products with good quality and good prices will be carried out. Provision of training and information on new processing will be targeted at women's groups particularly.

3.2 Introduce alternative job opportunities and support "One-Product, One-Tambol" ("One-Tambol, One-Product") activity.

Promotion of fish and shell culture will be incorporated into this activity. The project provides aquaculture technology and information with assisting in part of the necessary production materials. The project supports "One-Product, One-Tambol" activities conducted by Ao. Bo. To and other agencies. As well as the processing of fisheries products, other local businesses including marine eco-tourism are encouraged by the project. Women have a vital role in job creation with the promotion of small-scale local businesses. A training program on a micro credit scheme will be prepared for the women who are the target groups.

4) Enhance Human Resource Capability and Participation (Activity IV)

Enhancement of human resource capability is the most basic activity leading to the full success of this project. Building awareness and consensus is the first step to achieving smooth and effective objectives of the project's activities. Building awareness and consensus will be realized through appropriate educational and training programs. People can generate a self-regulating management framework and organize community-based development projects on their own. The following activities are conducted and incorporated with the development of extension methodologies and strengthening of the extension system.

4.1 Training and education for enhancing awareness of the sustainable use of coastal resources

The project will conduct activities to enhance awareness about the sustainable use of coastal resources and the objectives of resource management in coastal areas of the project site. Preparation of a series of training and educational courses should be considered on the purpose and framework of resource management, responsible fishing and aquaculture operations. The project targets its training and educational activity, not only toward resource users, stakeholders and local government officers, but also toward youth and schoolchildren.

4.2 Plan and prepare to organize group activities and encourage local business

Participatory training and educational courses will be planned and prepared for organizing and managing group activities. While enhancing leaders' ability in communities and groups to take a leadership role, the project encourages the peoples' participation in group activities. The topics of the courses are also concerned about creating diversified business activities including fisheries and in other fields. The project will arrange a training course to make a business and financial plan to diversify the peoples' economic activities. Target groups are broadly based, but particularly, women.

5) Develop Extension Methodologies and Strengthening Extension System for Sustainable Use of Coastal Resources (Activity V)

The project develops extension technology and methodologies to help resource users understand the need for coastal resource management. It will include some kinds of experimental activities on strengthening the extension system through participatory methods. The project explores new approaches to enhance people's self-regulation on fishing activities and participation in community development.

5.1 Develop text, manuals and any visual methods to be understood simply

Text, manuals and any visual methods through experiments on extension and training activities should be prepared and developed by the project. These methods should make resource users and stakeholders understand the content of fisheries laws and the framework of resource management and encourage peoples' participation in the management. The project also needs to create a series of campaign on its objectives and activities toward the people.

5.2 Explore approaches to enhance resource users for participation in coastal resource management

Provision of motivation about the sustainable use of coastal resource is very important. The project will introduce and prepare participatory methods like participatory resource assessment and mapping.



6) Rehabilitate and Enhance Coastal Resources.

The project will involve itself in rehabilitation and enhancement of coastal resources, while stimulating the establishment of a locally-based management system. DOF will start a series of small-scale fisheries development programs at the site including the deployment of artificial reefs and the releasing of fingerlings.

6.1 Deployment of artificial reefs

In the fishing grounds of the project site, DOF has a plan to deploy artificial reefs (fish aggregating devices). DOF, the project counterpart agencies and the people should join together to participate in the decision making process of selecting the areas of artificial reef placement.

6.2 Release of fingerlings

The release of fingerlings is an activity to enrich fisheries resources. DOF plays a role as fingerling providers. The people are expected to join the releasing of fingerlings. Participatory resource assessment is an approach to achieve this activity in the right habitat and the right season.

IV. THE DURATION OF THE PROJECT AND THE FIVE-YEAR PLAN

1. Duration

23. As regards the time schedule of the Thai budget year, the duration of the LBCRM-PD is five years, starting in October 2001 with the expected completion in September 2006. SEAFDEC/TD will join the project in January of 2002.

2. The Five Year Plan Main Activities

1) The Two Phases of Project Implementaion

The project has a five year plan to effectively achieve the project purposes. *Table 3* shows the outline of the yearly planned activities. The duration of the project will be divided into two phases in practice, although the division of the period is not strict. The process of developing the LBCRM framework may consist of three sequential stages.

1.1 The First Phase

The first phase, consisting of the first and second year, will focus mainly on the activities of a base line survey and training matters with a campaign for enhancing awareness building of extension methodologies. Rehabilitation activities of coastal resources will be started from the first year.

During the first phase, the base line survey (Activity I) concentrates on identifying resource environmental conditions and socio-economic surroundings, to comprehend the characteristics and problems at the project site. Analysis and results of the surveys will form the basis for developing LBCRM, and other activities. The project prepares for the implementation of coastal resource managemnet activities in the demarcated coastal areas and for the development of local business enterprises.

1.2 The Second Phase

After the two year implementation period, the project activities will be evaluated and the original plan will be reviewed. The base line survey functions as a monitor of the advance of the project.

During the second phase, the project concentrates its activities on establishing and functioning of the LBCRM framework and the promotion of the creation of alternative job opportunities.

1.3 Sequence Plan for Developing and Extending LBCRM

The project creates a sequence plan for encouraging and extending the LBCRM framework. Three development stages are prepared, to achieve the objective of this activity. The main activities on the first stage are the expansion of the comprehensive coastal management campaign using posters and pamphlets, and providing programs of education and training to enhance awareness building.

In the second stage, resource users and stakeholders are encouraged to develop their own regulating activities. Ao.Bo.To and community-based management groups should obtain a consensus on self-regulatory resource utilization. A further development of self-regulatory activities with a monitoring function will be in the third stage. By the end of the project duration, LBCRM schedules to work well.

V. ORGANIZATION CHART OF THE PROJECT

1. Role of Steering Committee (SC)

24. DOF should officially take full responsibility for its implementation under the scheme of a Royal Project in Pathew District on behalf of His Majesty the King. At the same time, the LBCRM-PD will be carried out as a collaborative project between DOF and SEAFDEC/TD under the FCG scheme. Therefore, this project will establish a steering committee (SC) which consists of representatives of DOF and SEAFDEC/TD (*see Chart 1*).

The SC takes charge of the following:

- 1) To guide policy and direction of the project implementation
- 2) Review the implementation plan of the project and budget allocation
- 3) Monitor and evaluate the implementation of the project
- 4) Coordinate between all institutions involved in the project

The membership of the SC consists of as follows:

- 1) DOF's Senior Expert on Marine Fisheries (Mr. Somsak Chullasorn)
- 2) JICA's expert dispatched to SEAFDEC/TD (Prof. Dr. Masahiro Yamao)
- 3) Director of Marine Fisheries Division, DOF
- 4) Representative of Rehabilitation and Management of Marine Fisheries Project
- 5) Representative of SEAFDEC/TD



- 6) Representative of SEAFDEC/Secretariat
- 7) Representative of Royal Project
- 8) Chief of Fisheries Information Sub-Division, Marine Fisheries Division (Mr. Wannakiat Thubthimsang), Coordinator

DOF's expert on Marine Fisheries, nominated by the Director General of DOF, takes charge of chairperson.

2. Functions of Implementing Committee (IC)

25. Under the control of the SC, the Implementing Committee (IC) will be established for daily operation of the project. This committee consists of Chumporn Marine Fisheries Research and Development Center, DOF's Provincial and District Offices, Ao.Bo.To in Tambol Pakklong, and the implementing group of SEAFDEC/TD.

The IC has following operational functions:

- 1) Make a demand-led work plan of the project together with a budget allocation
- 2) Manage and coordinate any administrative affairs among the agencies involved
- 3) Review and self-evaluate the implementation of the project
- 4) Prepare annual progress reports of the projects from the technical, financial and administrative aspects.

26. The IC is expected to act as a conduit between the project site and DOF. In the later stage of the project implementation, lessons learned through LBCRM-PD will be proposed as recommendations for a further development of coastal resource management projects.

The membership of the IC consists of as follows:

- 1) Director of Chumporn Marine Fisheries Research and Development Center, DOF (Mr. Panit Sungkasem)
- 2) Representative of Chumporn Fisheries Provincial Office, DOF
- 3) Representative of Pathew Fisheries District Office, DOF
- 4) Representative (s) of Pakklong Sub-District Administrative Organization (Ao.Bo.To.)
- 5) Representative of Chumporn Provincial Office
- 6) Representative of Coastal Fisheries Aquaculture Center, Prachaup Kirikan, DOF
- 7) Representative of Chumporn Marine Fisheries Research and Development Center
- 8) Representative of SEAFDEC/TD

Director of Chumporn Marine Fisheries Research and Development Center is the chairperson, and

the secretariat is located in the Chumporn Marine Fisheries Research and Development Center under his or her direction.

3. Functions of the Field Office

27. During the first phase of the project, the project sets up a field office at the site with functions to:

- 1) Establish two way contact between the IC and the targeted people and groups,
- 2) Assist staff of the IC to conduct activities at the project site

28. The Field Office leads to appropriate implementation of demand-led activities. It will phase out the roles, and Ao. Bo.To and the people's groups will take its place during the second phase.

4. Sharing Responsibility between Participating Agencies

29. There are several agencies and groups joining LBCRM-PD. To coordinate and share responsibility among participants in the project, a tentative work sharing plan will be made and shown in **Table 4**. The Implementing agency means, that which is directly involved in the project activities. Several agencies will simultaneously be in charge of implementation, among which, one or two agencies will take leading positions. Supporting agencies are those that assist whatever implementing agency is involved in that particular activity of the project.

30. SEAFDEC/TD contribution to the project is through a function mainly on research, training and advisory aspects.

31. The SC and the IC are fully responsible for the coordination of how to share responsibility between the participants in the project.

32. Given such different conditions as the degree of people's awareness and level of local organizations' capability, the project will be flexible enough to arrange a new framework of shared responsibility among the participants. Encouraging targeted people and their groups to take an increasing responsibility for their own activities is one major objective of this project.

VI. INPUTS

33. Major inputs into the project will be provided by DOF (including Chumporn Marine Fisheries Research and Development Center, Fisheries Provincial and District Office) and SEAFDEC/TD. DOF prepares the major inputs including a mix of machinery, equipment and skilled human expertise, according to the budget allocation plan as approved by the Cabinet. SEAFDEC/TD will share of the inputs.

34. Both DOF and SEAFDEC/TD will provide in-kind and manpower contributions.

VII. FUNDING

35. DOF has a budget plan for the five year implementation of the project, the total being estimated at 15.20 million baht (*see Table 1 and Table 2*). SEAFDEC/TD provides financial assistance to the project, depending mainly on the source coming from the Trust Fund given by the Government of Japan ("Japanese Trust Funds").

36. The yearly plan of budget allocated by Japanese Trust Funds will be discussed before a starting of budget year.



(It should be noted that the costs calculated in this table include SEAFDEC/TD's own activities under the FCG scheme, which budget plan must be approved by the Fisheries Agency in Japan on a yearly basis).

37. If any re-allocation of the funds for the project is needed, the SC and the IC will discuss new breakdowns of the budget and settle them, taking due regard of the progress and achievements of the project activities.

VIII. MONITORING AND EVALUATION

38. The IC will monitor the progress of the project on regular basis, and report to the SC on yearly basis. The base line survey includes inquires with the people and leaders of the communities about impact, efficiency and sustainability of the project. Participatory approaches are adopted to the monitoring and evaluation processes.

39. Based on the regular monitoring and evaluation activities, the yearly plan of the project activities will be revised if necessary.

IX. SPECIAL CONDITIONS

40. As a leading country under the FCG scheme of SEAFDEC, DOF will contribute technological transfer with lessons and suggestions for new approaches to coastal resource management and make effort to disseminate their experiences to member countries through SEAFDEC's mechanism.

41. SEAFDEC/TD will also prepare for technological transfer. SEAFDEC/TD organizes seminars and workshops on important topics of locally based coastal resource management with participatory approach and of comprehensive community development program.

Figure 1 Location of Tambol Pakklong, Pathew District, Chumporn Province

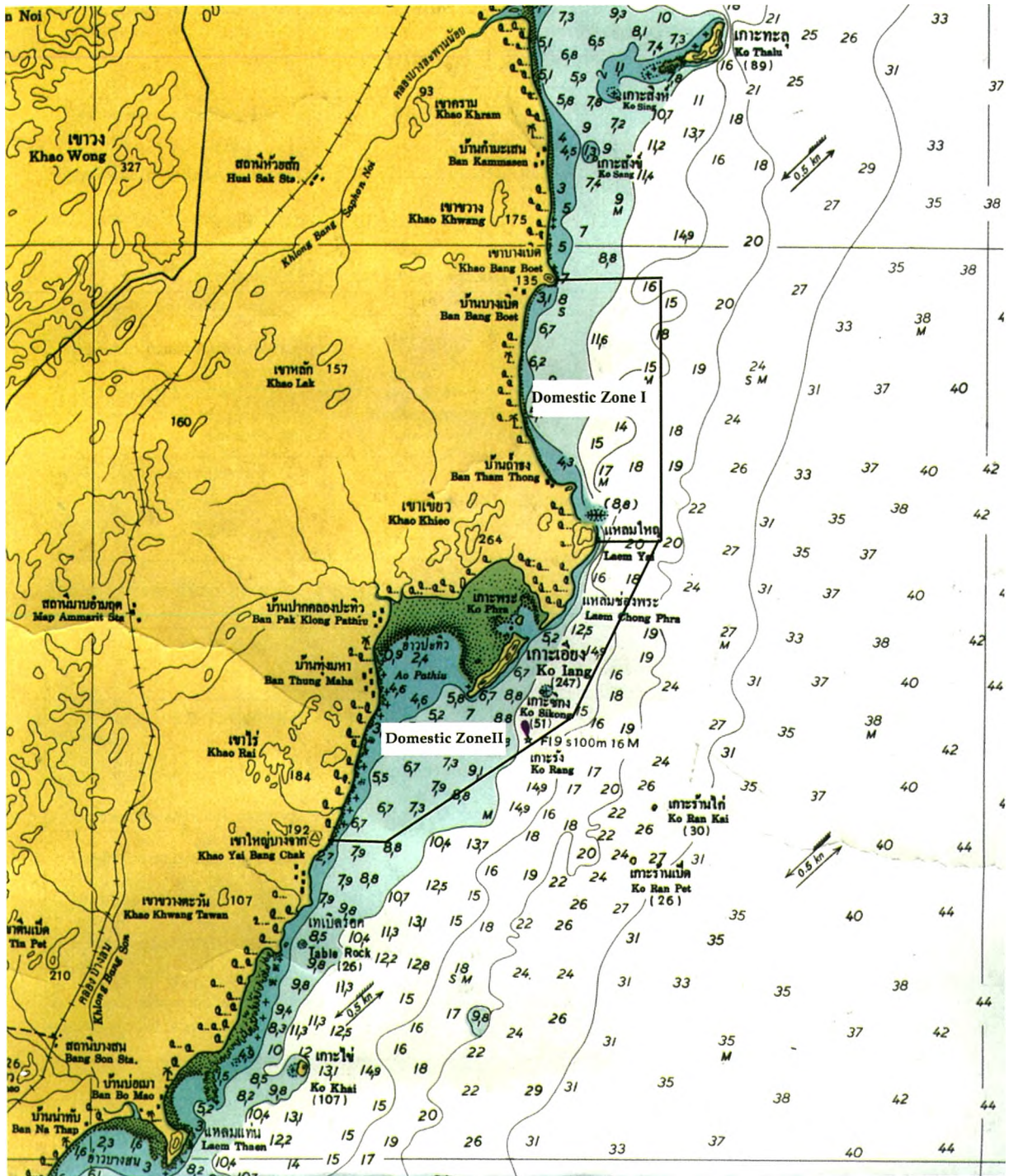




Chart 1 Organization Chart of the Project

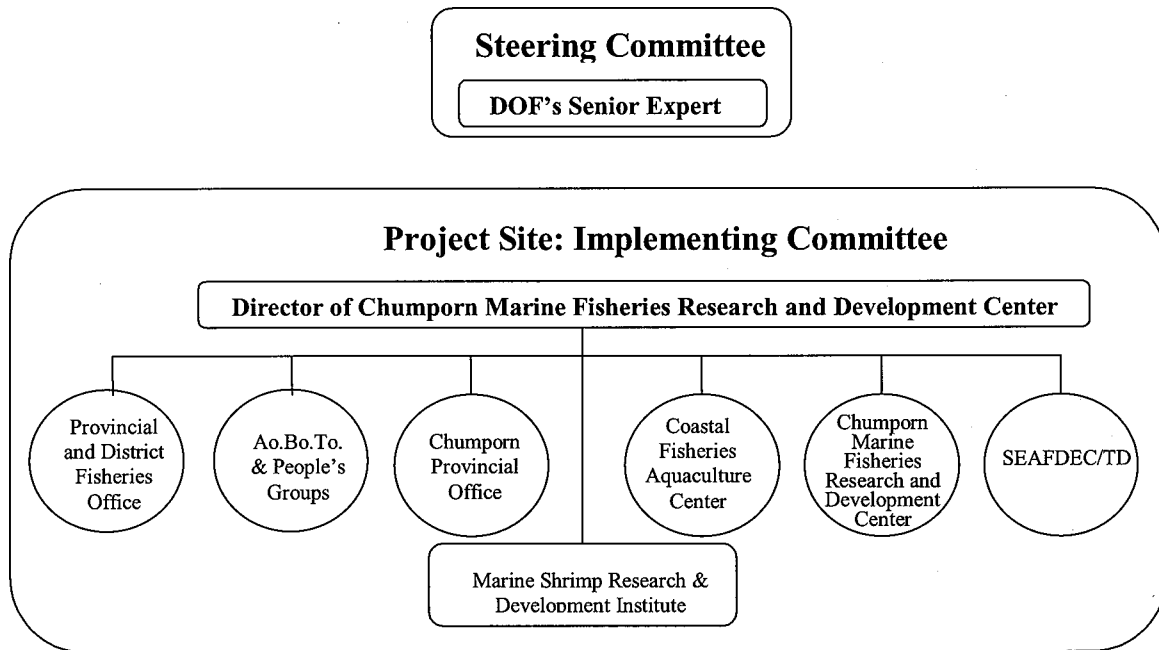


Table 1 Five Year Plan Proposed by DOF(Budget)

Activities	Budget (Million Baht)					
	Year 1 (2002)	Year 2 (2003)	Year 3 (2004)	Year 4 (2005)	Year 5 (2006)	Total
1. Investigation on qualities of sea water and environment	0.12	0.12	0.12	0.12	0.12	0.60
2. Investigation on fisheries resources	0.12	0.12	0.12	0.12	0.12	0.60
3. Investigation on socio-economics	0.12	0.12	0.12	0.12	0.12	0.60
4. Rehabilitation on fisheries resources	0.20	0.20	0.20	0.20	0.20	1.00
5. Installation of Artificial reefs	-	6.00	-	-	-	6.00
6. Formulation of fisheries communities	0.20	0.30	0.30	0.30	0.30	1.40
7. Management of destructive fishing gears	1.00	1.00	1.00	1.00	1.00	5.00
Total	1.76	7.86	1.86	1.86	1.86	15.20

Source: Department of Fisheries (DOF)

Table 2 Five Year Plan for Target Activities

Activities	Target					
	Year 1 (2002)	Year 2 (2003)	Year 3 (2004)	Year 4 (2005)	Year 5 (2006)	Total
1. Investigation on qualities of sea water and environment	12 (times)	12	12	12	12	60
2. Investigation on fisheries resources	12 (times)	12	12	12	12	60
3. Investigation on socio-economics	12 (times)	12	12	12	12	60
4. Rehabilitation on fisheries resources	100,000 (Fishes)	100,000	100,000	100,000	100,000	500,000
5. Installation of Artificial reefs	-	2	-	-	-	2
6. Formulation of fisheries communities	1 (group)	1	1	1	1	5
7. Management of destructive fishing gears by introduction of responsible fishing gears, aquaculture and processing	60 gears	60	60	60	60	300

Source: Department of Fisheries (DOF)

Table 4 Participation and Responsibility

Activities	DOF	DOF Provincial Office	DOF District Office	CMFRDEC	Ao.Bo.To.	Fishers & Groups	Other Local Institutions*	SEAFDEC	District Office
1 Base Line Survey									
1) Data collection on regular basis in coastal zones		I	I	I		S		I	
2) Survey of particular topics and subjects		I	I	I		S		I	
3) Result of analysis restored to people and the community, and adapted to a proposal and recommendation		I	I	I	S	S		I	
2 Encourage and Extend Locally Based Coastal Resource Management									
1) Encourage fishers' self-regulating activities, and reduce conflicts between resource users	I	I	I	I	I	T	S	I (S)	
2) Establish community-based fisheries management group		I	I			T	S	I (S)	
3) Enhance local government's ability	I	I	I		T	I	S	I (S)	
3. Encourage Local Business									
1) Improve post-harvest technology and introduce new value added products		S			I	T	I	S	S
2) Introduce alternative job opportunity and support "One Product, One Tambol"		S			I	T	I	S	S
4. Enhance Human Resource Capability and Participation									
1) Training and education for enhancing awareness on the sustainable use of coastal resources		I		I	S,T	T		I	
2) Plan and prepare to organize group activities and encourage local business		I	S	I	S,T	T		I	S
5. Develop Extension Methodologies and Strengthening Extension System for Sustainable Use of Coastal Resources									
1) Develop text, manual and visual methods	S			I		S		I	
2) Explore approaches to enhance resource users motivation				I				I	
6. Rehabilitate and Enhance Coastal Resources									
1) Deploy Artificial Reefs	I	I	I	I	S	S		S	
2) Release fingerlings	I	I	I	I	S	S		S	

* Other local institutions include government agencies and schools.

This table does not include the department responsible for joining the King's project.

I=Implementing Agencies

F=Funding Agencies

S=Supporting Agencies

(I means leading agency)

T=Target Group

I (S)= Implementing and Supporting Agencies

Backgrounds and Planned Activities of Locally Based Coastal Resource Management

TOWARD DEVELOPMENT OF PARTICIPATORY COASTAL RESOURCE MANAGEMENT IN PATHEW DISTRICT, CHUMPORN PROVINCE

Masahiro Yamao, Ph.D *

I. Objectives of the Paper

1. This paper describes the on-going process of the SEAFDEC/Training Department (TD) and Department of Fisheries in Thailand (DOF) collaborative project, which is entitled “Locally Based Coastal Resource Management, Pathew District, Chumporn Province (LBCRM-PD)”. Under the title of this paper are two main headings.

2. Firstly, the background of this collaborative project will be discussed. The LBCRM-PD has been implemented under a SEAFDEC’s strategic plan scheme of the so-called Fishing Consultative Group (FCG). Whereas, the DOF has reached a turning point at which its strategic approach toward community-based fisheries management (CBFM) should be extended over the whole country along the coast line. Secondly, the outlines and content of the project proposal will briefly be described. This paper leads to a deeper discussion on the activities and problems of the project activities, and on a future plan of the LBCRM-PD.

II. Background of the Project: Toward LBCRM-PD

1. FCG Scheme and Collaborative Project: a SEAFDEC’s Viewpoint

3. The FCG scheme is a strategy for finding a solution to common problems that occur widely in the SEAFDEC member countries. SEAFDEC has developed the regionalization of the Code of Conduct for Responsible Fisheries an activity that has four phases, namely fisheries operations, aquaculture development, fisheries management, and fisheries post-harvesting. Under the FCG scheme, a lead department of SEAFDEC has also implemented a particular type of pilot project in collaboration with host countries.

4. With reference to coastal resource management, Thailand (DOF) acts as the lead country among the SEAFDEC member countries and the TD will be the lead implementing department of SEAFDEC. The DOF and TD agreed to put together a collaborative pilot project in this field. Technologies, knowledge and lessons learned through the implementation of this project will be transferred to other SEAFDEC member countries through its information mechanism. This may be useful to help the member countries to review their own policies and steer new directions in coastal fisheries resource management. Establishing sustainable coastal resource management is an urgent need in the ASEAN region. It is also expected that the member countries that have experience in the field of coastal resource management projects will give practical and appropriate advice to the TD-DOF collaborative project.

2. DOF’s Joint with the Royal Project

5. The DOF decided to conduct a coastal fisheries management project in Chumporn Province. There were several alternative sites in the province, but finally the DOF chose Tambol Pakklong, Pathew

* *Professor, Graduate School of Biosphere Science, Hiroshima University
1-4-4 Kagamiyama, Higashi Hiroshima, 739-8528 JAPAN
E-mail: yamao@hiroshima-u.ac.jp*



District, as the site. This is mainly because the Royal Project Council planned to implement comprehensive development projects there in three different fields, agriculture, forestry and fisheries.

6. The DOF became the leading department in the fisheries field. Under the Marine Resource Rehabilitation Program implemented by the DOF (Marine Fisheries Division), a project was planned to establish a workable framework of sustainable fisheries resource management in the seas in front of Tambol Pakklong. In addition, mangrove reforestation activity would be a task of the Royal Forestry Department (RFD), Ministry of Agriculture and Co-operatives (MAC).

3. Planned as a Fishing Rights Project

7. Before the TD joined, the DOF had initiated a project with the title “Establishment of Fishing Rights in Coastal Fisheries”, modeled on a challenging project that had been conducted in Ban Saphan and Ban Saphan Noi Districts, Prachuab Khiri Khan Province. This project would have focused on the introduction of a particular legal framework, which was close to territorial use rights in fisheries (TURFs). In actuality, however, this could be started by banning some destructive types of fishing gear in a defined zone, like trawls and luring light purse seines using less than 2.5 mesh size.

8. In line with the concept of fishing rights in the same way, as did the DOF in Prachuab Khiri Khan Province, it began to arrange a project proposal. This proposed to introduce the idea of CBFM at the project site and to create practical management methods and encourage the participatory approach. This would include a series of activities and investments that were conventional comprehensive methods adopted for the development of fishing community and small-scale fisheries.

9. As Aiumrod, Suanrattanachai, and Petchkamnerd, 2003, describe the process of setting up a demarcated zone, fishers, stakeholders and DOF’s officials agreed to mark off Zone I in the sea in front of the areas covering Baan Numpu (Moobaan No.5) and Baan Thumthong (Moobaan No.3) (Aiumrod, Suanrattanachai, and Petchkamnerd, 2003). They also agreed to expand the demarcated zone toward the south of Tambol Pakklong. The new zone to be set up would be from Baan Thumtong (Moobaan No.3) to Baan Tungmaha (Moobaan No.6), with coverage of 40 square km. The great majority of fishers and stakeholders voted to agree that all fishers stop using trawls, push nets, cockle cast nets and anchovy fishing at night within the new demarcated zone (Zone II). According to the people’s demand, the DOF decided to proclaim the prohibition of using these fishing gears within the Zones I and II. This was the start point of the project. The Chumporn Provincial Office of Fisheries slightly revised the boundaries of the demarcated areas so that fisheries clearly recognize the areas, by drawing straight lines between points.

10. However, at last, the project proposal does not advocate any activity related to the introduction of exclusive fishing rights in Zones I and II. There would be little possibility to introduce exclusive use rights under the present framework of the fisheries laws and regulations. This resulted from a long discussion on the framework of the project.

4. As A Small-scale Fisheries Development Program

11. The Cabinet approved the DOF’s initial purpose, together with the allocation of a budget. The installation of artificial reefs was given the first priority in terms of budget allocation with fishing gear improvement being the second priority. The DOF had a plan to conduct a survey on resources, environment and the socio-economic aspects, releasing fingerlings, fishing gear development and organizing groups. As far as the allocation of budget and targeted activities were concerned, the project proposal was nothing but a Small-scale Fisheries Development Scheme (SFDS) ².

12. The DOF was ready to transfer the technology of marine aquaculture with the provision of

materials and fingerlings. The target species could be sea bass, grouper, red snapper etc. Promotion of marine aquaculture would be a part of the process of creating alternative job opportunities. Extending shell culture was planned as a component of another job-creation-oriented activity. These processes might offer additional income sources, and reduce the present amount of catch effort put into adjacent fishing grounds.

5. Lessons from the Past Experiences

13. The construction of fisheries-related infrastructures like artificial reefs, the provision of fishing techniques, the establishment of local fishers' groups, the promotion of marine fish culture and shellfish culture are conventional ways the DOF has adopted so far. A number of coastal communities in many parts of the coastal provinces have practiced such conventional programs. On the other hand, the project would apply the CBFM approach in the same way, as did other pilot projects.

14. The DOF implemented various patterns of CBFM projects, which designed to enhance awareness building of the resource environment, discourage the use of destructive fishing gear and encourage self-regulatory fishing activities. Preparation and provision of educational and training courses became an essential part of these CBFM projects. However, there has been no attempt made to build a legal framework that allows local communities and fishers to manage their own territories.

15. In the Phannga Bay, in 1996, the DOF and the Bay Of Bengal Program (BOBP) started collaborative projects focusing on the enhancement of awareness building for responsible fishing. Supported by the DOF's officers and NGOs, local fishers and stakeholders joined training programs and exchanged information on fisheries management (Suanrattanachai, 2001). They actively discussed some topics like banning trawls and push net within 3 km, adoption of selective fishing gears, feeding of crab in stock cages, mangrove reforestation and so on. The projects successfully aroused the fishers' awareness about the sustainable use of coastal resources.

16. It can be said, because of the religious and geographic conditions in the Phannga Bay, the cohesion and uniformity among local people were very strong, which led to their active participation in the DOF-BOBP projects. Experience on the participation and operation of community-based activities has spawned several cooperative economic activities at the project sites. Mangrove reforestation made rapid progress, increasingly attracting foreign tourists to join eco-tourism and environmental friendly tourism at the project sites (Yamao, 2001). Those fishers involved in the operation of passenger boats have established their own association that ensures lucrative boat fares and advertisements. "Central Markets" managed by fishers' groups have appeared in three Moobaans, so that fishers can sell mainly shrimp at much higher prices than before. Three small markets rotate shrimp collection and auction. Local fish dealers usually buy shrimp at auction.

17. Despite many successes in cooperative businesses, there were some problems to be solved. Firstly, this project originally intended to create awareness building on the sustainable use of coastal resources. Secondly, very few legal frameworks have existed, which are supportive to the participatory approaches. Thirdly, illegal fishing conducted by trawls and push net operators still damages coastal resources, although small-scale fishers at the project sites continue to demand control and supervision by the DOF.

6. Challenging Approach to "Fishing Rights"

18. The Fishing Right Pilot Project (FRPP) in Ban Saphan and Ban Saphan Noi Districts may be the only full-scale projects based on the concept of CBFM. Even at present, this project is considered as the most challenging among the pilot projects in Thailand.

19. There are seven fishers groups in the two districts. The DOF guided the target people to establish



groups. Their main function is the operation of micro financing, relying on the DOF's subsidies. The groups also function as a unit of a management body for the demarcated zones defined by the DOF. The FRPP could start by banning some destructive fishing gear, like trawls and luring light purse seine using less than 2.5 mesh size in the zones. This is because the concept of fishing rights was against the National Constitution and the Fisheries Act.³ The fishers' groups should enhance their member's awareness of responsible fishing and take charge of obtaining a consensus among them at Moobaan (communities) and district levels. Coordination and adjustment between different groups of fishing gear are an important task for the groups.

20. The DOF's project office often holds public hearings and gives necessary information on the management procedures of the demarcated zones. Fishers and stakeholders are encouraged to become involved in the management of the zones and to monitor illegal fishing inside the zones. Unfortunately, before the FRPP started, the concept of fishing rights had misled fishers and stakeholders. They feared a great economic disadvantage resulting from the establishment of territorial use right in fisheries (TURFs). They thought that their fishing activities would be confined within the demarcated zones, excluding them from outside their own territories (Terao, Anuchiracheeva and Ruangsivakul, 2000).

21. The FRPP is a pioneer in coastal fisheries management. Local small-scale fishers are encouraged to share part of responsibility for regulating their own territory. They actually have a higher priority in claiming utilization of fisheries resources in the demarcated zones. However, "fishing rights" has caused confusion and amplified fishers distrust of the purpose of this project. Moreover, the enforcement of fisheries laws and provincial ordinances is still very weak. The local fishers are disappointed with the weak institutional and legal support given to the FRPP. Both small-scale and commercial fishers find great difficulty in adjusting conflicts between them.

22. Without a consensus between local fishers, and between local and non-local fishers, any pilot project would hardly succeed in introducing fishing rights. Without appropriate legal support enforcing laws and regulations, any pilot project could rarely survive. These two lessons are the most important ones, leading to the success of a pilot project for coastal resource management.

7. Locally Based Coastal Resource Management Stands between Both

23. The LBCRM is not a new approach, and stands mid-way between the DOF-BOBP collaborative projects in Phannga Bay and the FRPP in Prachuap Khiri Khan Province. The LBCRM adopts the community-based participatory approach, as long as the objectives are concerned. This encourages the people to join in a decision making process of coastal fisheries management at community level, by providing a wide variety of opportunities for training and education programs.

24. On the other side, the LBCRM is modeled on the FRPP, as regards setting up a demarcated fishing zone in which particular types of fishing gear are prohibited. The main purpose of the LBCRM is to search for an effective way in which to make rules on the sustainable use of coastal fisheries resources in the demarcated zones. It will propose an acceptable framework that can regulate and manage the people's fishing operations on a formal basis, through experiments and practices.

25. However, the LBCRM differs in several ways from the FRPP. Any attempt to introduce whatever type of fishing rights will not take place, as long as the Thai government does not amend the present fisheries act and regulations. A fishing rights project seems very challenging, but is no doubt reckless at this time. Without any tradition and understanding among the people, exclusive territorial use within a defined area would hardly be adopted at the Tambol Pakklong project site.⁴ Another difference is that the LBCRM pays more attention to the role and function of local government than the FRPP. New trends in the decentralization program that has been planned and conducted by the Thai government make the LBCRM to become a practical and acceptable system of coastal resource management.

26. As a whole, the LBCRM picks up some substantial essences from both earlier pilot projects.

III. Outlines of the Project

1. Framework and Objectives

27. The project purpose is to establish a viable model and workable framework of locally based management through encouraging active participation of fishers and resource users, supported by the creation of alternative job opportunities in coastal fishing communities. The LBCRM-PD is modeled on the concept of CBFM and CM, but more specifying how to establish networks of primary management units at sub-district level.

28. The project has three overall objectives: first is the establishment of sustainable coastal resource management at local level; second is the rehabilitation of coastal resources; and third is the alleviation of poverty in coastal fishing communities.

29. At least four results will be expected from the implementation of this project: 1) locally based management in Pathew District works, 2) people's production and living conditions improve, 3) local people and organizations enhance their capability in community development, 4) practices are converted into the DOF's coastal resource management. The DOF and the TD recognize that an integrated approach should be prepared to for the LBCRM-PD, because the creation of alternative job opportunities inside and outside fishing communities helps to reduce fishing catch effort and pressure on resources.

2. The Project Activity and Its Core

30. The project has six main activities, i.e., 1) Base line survey (Activity I), 2) Extend and encourage LBCRM (Activity II), 3) Encourage local business (Activity III), 4) Enhance human resource capability and participation (Activity IV), 5) Develop extension methodologies and strengthening the extension system (Activity V), 6) Rehabilitate and enhance coastal resources (Activity VI). As *Chart 1* shows, Activity II and Activity III are at the core of the project activities.

1) Base line survey (Activity I)

The project conducts surveys to obtain the necessary information and data for the establishment of sustainable coastal resource management and community development, with the participation of resource users and stakeholders. Survey fields are mainly the oceanography and environmental aspects, fishing techniques, and socio-economic aspects.

2) Encourage and extend locally based coastal resource management (Activity II)

The project encourages responsible fishing and aquaculture operations and participation in the management of the demarcated coastal zones. It enhances the managerial ability of community-based management groups, their networks and Pakklong Sub-District Organization (Ao.Bo.To).

3) Encourage local businesses (Activity III)

The project assists the people to increase their income by improving technologies of handling, marketing and processing fisheries products, and by creating job opportunities outside capture fisheries. Any activities categorized into the Activity III will support the "One Tambol (Village), One Product" scheme that Thai government has stimulated so far. In collaboration with Ao.Bo.To and other local agencies, the project plans to give necessary technology and marketing information to the targeted people.



4) **Enhance human resource capability and participation (Activity IV)**

Participatory training and educational courses will be planned and prepared. Preparation of the courses should be considered on the purpose and practice of Activities II and III.

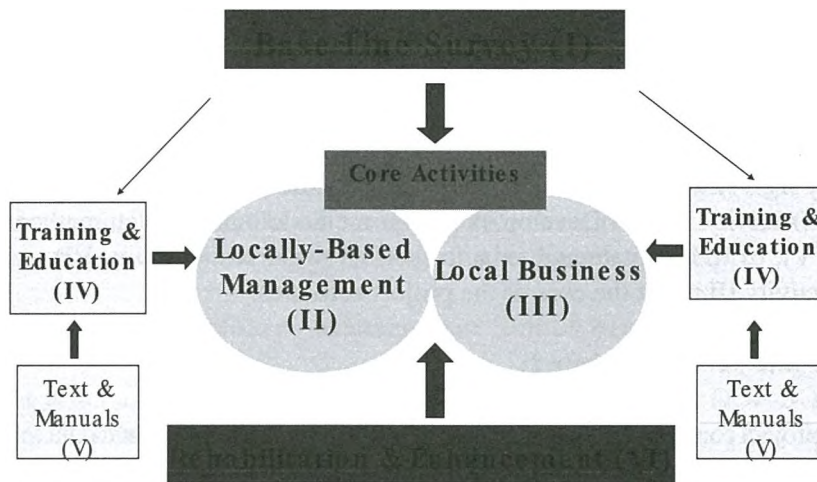
5) **Develop extension methodologies and strengthen the extension system (Activity V)**

Extension services are required to develop their technologies and methodologies. Text, manuals and any visual methods through experiments on extension and training activities should be prepared and developed.

6) **Rehabilitate and enhance coastal resource (Activity VI)**

This activity is planned and implemented by the DOF. The DOF has allocated a certain amount of budget for the installation of artificial reefs (ARs) around the demarcated coastal zones. Setting up sustainable management and utilization of resources around the areas of deployed ARs will be target activities grouped into the Activity II. Releasing fingerings is also planned.

Chart 1 Six Project Components



3. Two Phases of the Project

31. The project has two development phases. The first phase focuses mainly on the activities of a base line survey and training matters with a campaign for enhancing awareness building. Rehabilitation activities will be started in the first phase with a plan for the installation of artificial reefs. During the second phase, the project concentrates on the establishment and functioning of a management framework and the promotion of alternative job opportunities.

32. In the first phase, we plan to have a workshop in collaboration with fishers, community leaders, Ao.Bo.To council members, and local government agencies. The main purposes of this workshop are to restore the results of scientific analysis by the base line survey to them, and to make the people re-focus on their own demands for the project and re-design project activities.

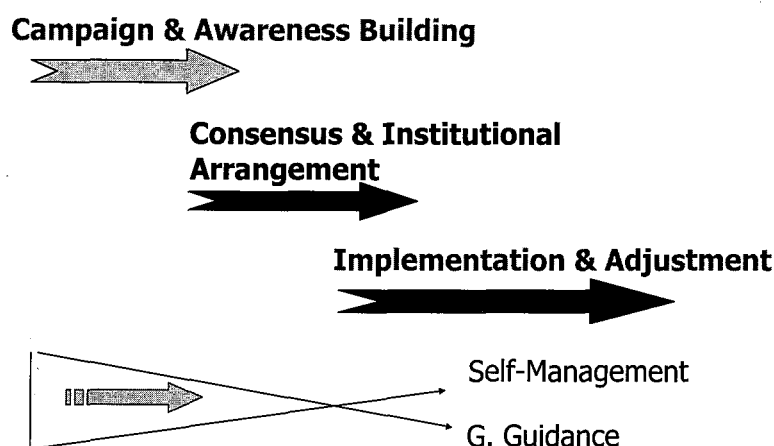
33. In the transitional stage from the first to the second phase, the mid-term evaluation investigates the

degree of achievement of outputs in the project's activities. It indicates five evaluation criteria at least, efficiency, effectiveness, impact, relevance, and sustainability. The outcomes of the project and the project design will be compared according to the figures of the evaluation criteria. Monitoring (ongoing basis) during the implementing stage is obviously important. The project staffs should check the project operation and management process on a regular basis with the appropriate figures prepared.

4. Sequence Plan for LBCRM

34. The project has a sequence plan for extending the LBCRM framework (*Chart 2* LBCRM: Sequence Plan for Establishment). Three development stages are prepared. In the first stage, the main activities are the expansion of the comprehensive coastal management campaign and providing programs of education and training. In the second stage, resource users and stakeholders are encouraged to develop their own regulating activities within the legal framework currently prevailing. Ao.Bo.To and community-based management units (CBMUs) will achieve a consensus on self-regulatory resource utilization. Institutional arrangements should be strengthened at this stage. A further development of self-regulatory activities with a monitoring function will be in the third stage. By the end of the project, LBCRM should work well.

Chart 2 LBCRM: Sequence Plan for Establishment



35. Given different geographical, resource environment, and socio-economic surroundings, there will be many variations of LBCRM framework through the country. The project proposal does not describe any adequate model of locally based management, which will be created through experiments in this project. This is still a tentative plan for LBCRM. It consists of several CBMUs, their networks and Ao.Bo.To. The CBMUs are primary groups established by fishers and stakeholders in communities (Moobaans), whose membership the majority participate in.

36. One highlight of this project is that fishers, stakeholders and local government agencies will cooperate together to organize and manage CBMUs and their networks. The CBMUs are expected to function as representative, consensus, suggestion, implementation, enforcement and adjustment. This should be a long process. Focus will be on the roles of representative and consensus at an earlier stage of the project. The local NGOs presently existing may enhance the people's concern on coastal resource management and stimulate cooperative activities, prior to establishing CBMUs. Their networks will arrange and conduct self-regulating activities, while resolving conflicts between communities at Sub-district level. Such a network is a core institution built into the Ao.Bo.To system, and acts as a representative of coastal resource users.



5. Implementing Agencies

37. As the project plan describes, the major implementing agencies are the DOF and the TD (*Chart 3 Organization Chart of the Project*). Fishers, resource users, people's groups and Ao.Bo.To will join on full partnership with these agencies. In actual implementation stage, staff members from the CMFRDEC have major roles in both research and training fields, since it consists of the Chumporn Raw Fisheries Materials Inspection Unit and the Fishermen Training Center. The staffs are to guide fishers and their family to manage community development programs, together with local government offices of fisheries.

Chart 3 Organization Chart of the Project



38. The Provincial and District Offices of Fisheries become another core agency, on generating a LBCRM and developing it in collaborating with the people. Whatever the people's agreement the LBCRM is based upon, it must be under the legitimate framework of the present fisheries act and regulations (and not being opposed to any article of the National Constitution). The LBCRM stands upon the course of delegating the authority from such local bureaucratic organs to Ao.Bo.To and people's groups. These organs take charge of supervising the management activities of LBCRM, while adjusting conflicts with outside-fishers and resource users in the demarcated zones.

39. The Prachuab Khiri Khan and Chumporn Coastal Aquaculture Centers transfer adequate technology and knowledge of fish cage and shellfish culture. The Marine Shrimp Research & Development Institute gives scientific advice on aquaculture activity and its environmental surroundings. Besides the agencies of the DOF officially approved to join the project, the IC would like to request expertise from other agencies and divisions of the DOF whenever necessary.

40. The Chumporn Provincial Office holds the responsibility for coordination with other components of the Royal Project in Pathew. This office may provide necessary information on the implication of community development and people's welfare.

41. The Pakklong Ao.Bo.To participates in the membership of the IC as a representative of the people at the project site for the time being. The Ao.Bo.To and representatives of the people's organizations involved will increase their participation and shared tasks at a later stage, and at the final stage of the project they will have full responsibility for planning and implementation.

IV. For Future Development of Policy for Coastal Fisheries Resource Management

42. Coastal fisheries management should build a well-mechanized institutional framework throughout the country. It is time to change from the earlier stages of implementing pilot projects and evolve into a full-scale development of locally based and participatory coastal management. The government begins to push forward with decentralization and devolution as a complete entity; it vests more and more responsibility for social and economic development at local levels in provincial and district offices. The focal point on the rebuilding of local administrations is on the strengthening of the Ao.Bo.To as regards development and people's welfare. Consonant with new trends of such local administration, new fisheries laws are under consideration in the Parliament.

43. Considering the past experiences on pilot projects on CBFM and CM approaches, much effort has been put into to setting up a comprehensive strategy for coastal fisheries resource management and community development by the DOF. Prior to the amendment of the laws, the DOF has taken up the challenge of building a new institutional framework at the project site through consultation with the people and their organizations.

44. The LBCRM-PD will provide one experience only. Obviously, it is hard to generalize on one pilot project. Under such different surroundings as geography, types of fisheries, and socio-economics, LBCRM frameworks would exist in different forms and develop in different directions.

45. Nevertheless, the LBCRM-PD may provide a profound insight into a future direction of the decentralization program planned by the DOF. This is chiefly because the project relies on the currently existing local administrative system, which has been standardized throughout the whole country. This is in great contrast to the many pilot projects adopting the CBFM approach, in that their success and/or failures are deeply affected by the level of people's awareness and self-consciousness, and by any other socio-economic factors rather than institutional and legal matters. In the CBFM approach, generalization of successful experiences is a very difficult task.

46. The LBCRM-PD also depends greatly on the people's awareness and self-consciousness on the sustainable use of coastal resources, but not entirely stuck to their self-encouraging and self-regulatory behavior. One goal of the project is to search for a workable and cost-effective mechanism on coastal resource management, through which energetic effort put in by both people and government can easily transfer.

NOTES

¹ *The SFDS started in 1987 and ended in 1996, passing through the Sixth and the Seventh National Social & Economic Development Plans. During the Eighth National Social & Economic Development Plan (1997-2001), the DOF arranged another series of projects entitled the "Rehabilitation of Marine Resource Program". However, there was not much difference in terms of content between the latest scheme and the former ones.*

² *On 19 October 1999, the provincial ordinance, entitled the "Regulation of fishing gear that are prohibited in some areas of Prachuap Khiri Khan", was proclaimed. This ordinance presents the legal framework of the FRPP.*

³ *This does not mean any existence of traditional and customary exclusive use right of coastal resources. On the Andaman side, there are a number of communities where the people set up their own boundaries and coordinate with neighboring communities. They are not always traditional, but based upon the consensus that has been recently obtained between the people, and between communities. There are some augments over the legal validity of setting up such exclusive use rights.*



Reference

- Aiumrod, S., Suanrattanachai, P. and Petchkamnerd, J. "Effort to Establish a Self-management Framework in the Demarcated Zone", LBCRM-PD Seminar Reports, SEAFDEC-DOF, 2003.
- Suanrattanachai, P. *Coastal Fisheries Management and Community Development for Small-Scale Fisheries: Lessons Gained through Case Studies on Pilot Projects in Thailand*, Kagoshima: Doctorate Thesis Submitted to The United Graduate School of Agricultural Science, Kagoshima University, 2001, 126 pp.
- Terao, T., Anuchiracheeva, S. & Ruangsvakul, S. *Preliminary Study Report on the Fishing Right Pilot Project in Bang Saphan Bay*, Bangkok: SEAFDEC/TD, December 2000, 105 pp.
- Yamao, M. "Local Resource Management and People's Participation", *Food and Agricultural Product in Asia*, edited by Mikuni, H. Tokyo: Otsuki Shoten, 2000, pp.163-196.
- Yamao, M. *Marine Tourism and Its Impact to Fishing Community*, Hiroshima: Hiroshima University, 2001, 106 pp.

**Past, Present and Future of Project Activity of LBCRM-PD:
Summary of Quarterly Reports**

**Panit Sungkasem¹
Masahiro Yamao, Ph.D.²**

ABSTRACT

The Locally Based Coastal Resource Management in Pathew District (LBCRM-PD) project is a collaborative project which implemented by Department of Fisheries, Thailand, SEAFDEC/Training Department and Royal Project Bureau. The conceptual framework of the LBCRM-PD project adopted effective application and concept from two former coastal resource management pilot projects that implemented in Bangsaphan noi District, Prachuab Kirikhan Province and Phangnga Bay, Phangnga Province. Gained experience and lesson learned from the two pilot projects pin-pointed that success of the pilot project implementation relied mainly on local people's participation, enactment of enforceable laws or regulations. Thus, the implementations of the LBCRM-PD project designs an action plan to approach local people to participate in the project implementation and all activities that often arranged by the local government unit. The participation between local people and local government officers are key strategy to handle the project to reach promoting applicable type of locally based coastal resource management.

Keywords: LBCRM-PD, pilot project, local government unit, local people's participation

¹ Director, Eastern Research and Marine Fisheries Development Center, Rayong

² Professor, Graduate School of Biosphere Science, Hiroshima University
1-4-4 Kagamiyama, Higashi Hiroshima, 739-8528 JAPAN
E-mail: yamao@hiroshima-u.ac.jp



I. THE OBJECTIVES OF THIS PAPER

- 1) The main objectives of this paper is to describe briefly the on-going process of LBCRM-PD activities. Other technical papers will give analytical explanations on each component of this project. Referring to the experiences of the past and present activities, the last part of the paper will provide suggestions and recommendation on the future direction of the LBCRM-PD activities.
- 2) The project consists of six main activities, i.e. 1) A Base line survey (Activity I), 2) To encourage and extend locally based coastal resource management (Activity II), 3) To encourage local businesses (Activity III), 4) To enhance human resource capability and participation (Activity IV), 5) To develop extension methodologies and strengthen the extension system (Activity V), 6) To rehabilitate and enhance coastal resource (Activity 6) (refer to the Project Proposal for LBCRM-PD).
- 3) The duration of this project is five years, divided into two phases. The first phase focuses mainly on the activities of a base line survey and training matters with a campaign for enhancing awareness building. Activities I, IV and V are at the core of the activities. Rehabilitation activities will be started in the first phase. During the second phase, the project concentrates on the establishment and functioning of a management framework and the promotion of alternative job opportunities.
- 4) During the first year of Phase I, the LBCRM-PD has involved mainly the planning for LBCRM-PD, a series of base line surveys, education and training matters. The major focal points of each quarter period are as follows;

II. SUCCESSIVE PROCESSES OF THE ACTIVITIES

1. Quarter I: October to December 2001

1. Making a project proposal and describing the annual plan for 2002 was the most important work, with a budget allocation, for three months of this quarter. According to discussions so far, members of the TD working group and DOF staff agreement was reached on finalizing a proposal and submitting it officially to the DOF and TD, on October 5, 2001. The working group began to make an annual plan for 2002. The DOF approved the project proposal on November 9th, and then asked officially that SEAFDEC/TD should collaborate together with DOF. The Secretary General/Chief of Training Department gave his approval for the implementation of this project under the Fisheries Consultative Group (FCG) Mechanism on the same day. The Deputy Secretary- General (DSG), who is the financial controller of the "Japanese Trust Fund", also approved the budget allocation plan for coverage of the activities within 2001. After this, working members of the TD and DOF staff in charge continued to prepare to implement the project activities, while communicating with the people in Tambol Pakklong.

2. At this stage of preparation, the implementing group (IC) started preparations for the actual implementation of the project. At the internal meetings, three topics were discussed in depth. The first concerned how to extend the project goals and objectives to the people at the project site. This is because the procedures and methods to make a project proposal were not adequate enough to match the demands coming from the local people and their organizations in Tambol Pakklong. It was necessary to rapidly propose a tentative project proposal. The second topic was how to enhance public awareness of the importance of the sustainable use of fisheries resources. The third topic concerned capacity building of all personnel concerned with the project, including the staff of TD, the officers of DOF (CMDEC, Provincial Office and District Office), Pakklong Sub-District Administrative Organization (Ao.Bo.To)'s leaders, and community leaders. Through the discussions thus far, members of the IC have achieved a consensus on strategies to adopt the participatory approach.

3. Most of the project activities were involved in making the project proposal with a budget allocation,

and in preparing for the project activities during the following quarter.

1.1 Activity I

Preparation for the surveys: A series of preparations for regular surveys were undertaken by TD staff in collaboration with researchers of the Chumporn Marine Fisheries Research and Development Center (CMDEC). Planning and designs for the surveys were major concerns. Socio-economic indicators of regular surveys were set up. Oceanography and environmental surveys were designed and made with a budget allocation plan. Questions were arranged and examined for the pre-test survey that would be held in the next quarter. Basic information and data concerning geographical and Socio-economic conditions of the project site were collected.

1.2 Activity IV

Preparations for leader training: The Training Division of CMDEC was involved in the preparation of training and education activities that were supposed to be held during the next quarter, these included “Development of Community-Based Fisheries Management” and. “Development of Cooperative Businesses” (A seminar organized by ZENGYOREN and CLT).

A study trip to the Philippines: Between 2nd-7th December, 2001, four staff from TD and four DOF officially went to the Philippines to observe the coastal resource management projects on Panay Island and the framework of decentralized fisheries management. Participants in this trip enhanced their own awareness of the importance of public participation in coastal resource management and recognized that local government units have a vital role in coastal fisheries management.

Assistance to a school reforestation project: Thungmaha School had a plan to undertake a mangrove reforestation project in collaboration with local NGOs. TD provided financial assistance for the school’s activities so that more students could join the reforestation project. Through this assistance, members of the IC established close links with the school teachers and local mangrove forestation groups that might become supporters of the project activities. The staff had a good opportunity to join environmental education programs.

1.3 Activity V

Advertising Campaigns: The planned advertising campaign had two objectives; 1) to extend the project goals and objectives while encouraging the public to join it, 2) to enhance awareness on the sustainable use of coastal resources. The first poster concerned mangrove reforestation with pictures of Thungmaha School’s reforestation activities. However, since the Proclamation of a Demarcated Zone was in process at the Ministry of Agriculture and Co-operative, The printing of another poster was delayed (This poster was printed and delivered in September 2002).

2. Quarter II: January to March, 2002

4. The project had begun with the planned activities on a full-scale basis since January 2002. The main objective of this quarter was to disseminate the concept and framework of Locally Based Coastal Resource Management (LBCRM) and to conduct a series of training programs targeting community leaders. Another objective was to test a regular survey plan and develop questionnaire methodologies as regards both the oceanographic and socio-economic aspects.

5. With reference to the management and administrative aspects, the project faced minor constraints, and had to solve them as soon as possible. The constraints came mainly from the lack of coordination



among implementing agencies. A number of implementing agencies joined the project, more than were expected; so, there should have been a well-defined sharing of responsibility not only between implementing agencies, but also between those staff members who were involved in the project's activities. In the earlier stages of the project planning and implementation, not much attention was paid to how to effectively implement the activities that were in process. In the process of preparing and starting the project, new members and agencies joined the project, thereby diversifying its activities. Accordingly, we came to recognize that it was necessary to propose a team-based structure plan for the project management.

6. Most of activities in this quarter were concerned with surveys, educational and training matters.

2.1 Activity I

1) The Socio-Economic Survey

Pre-survey: A pre-survey to get a true picture of coastal fisheries operations and illustrate the socio-economic conditions of fishers and their family members was conducted from 7th to 11th January 2002, at six target Moobaans. The socio-economic group set up four objectives, i.e., 1) to identify physical, socio-economic, environmental conditions, 2) to identify common problems, capacity building of the people and their participation into community development, 3) to identify opportunities for employment for the people, 4) to identify how fishers and the people utilize fisheries resources through fishing production and distribution. This information and data collection will be analyzed in depth, illustrating the overviews of fisheries and fisheries-related activities at the project site.

The Squid and anchovy fisheries survey: During the period from 25th February to 1st March, the socio-economic survey group tried to get information on squid and anchovy fisheries operations. These fisheries are very important in economic terms, as their ripple effects on the local economy are very large through having contributed to the improvement of production and living conditions. This survey focused mainly on the sites of investment and producing conditions.

Marketing survey: On 27th-29th March, a senior researcher from the DOF initiated this particular topic survey on the processing and marketing of fisheries products. The researcher and the project staff interviewed processors and fish traders, including fish agents called "Phe Pla". The food chain and system of anchovy and squid would be traced, through both production and marketing surveys.

People's group and community-based arrangement survey: The actual situation of people's groups was also an important survey topic. Some members of the socio-economic survey group started to investigate this, to propose how to develop "cooperation among the people".

2) The Oceanographic, Environmental and Landing Survey

Started regular surveys: The oceanographic and environmental surveys began in January using fishing vessels. Staff from both TD and CMDEC cooperated to conduct a series of regular investigations and data collections three times during this period. The data and samples collected were concerned with water quality, temperature, salinity, dissolved oxygen, nutrient and total bacteria count etc., water current and marine resource samples (zooplankton, fish larvae and benthos). Twelve fixed stations were selected within the demarcated fishing zones to collect data and samples on a regular basis.

Mapping: Mapping of fishing grounds, fishing gear employed, and utilization activity of coastal resources were conducted. From 26th February to 1st March, the survey team members mapped the positions and areas of fish cage cultures, shrimp farms, green mussel farms, and mangrove

areas. Illustrating coastal resource maps of various types and forms, the team would show the current environmental and resource conditions of the project sites to fishers and resource users.

The landing surveys: The landing survey group started a regular monthly sampling at the project site. Major small-scale types of fishing gear like crab gill nets, shrimp trammel nets, and fish gill nets, were targeted. Besides catch data and sampling, the group obtained useful information including fishing grounds, size and types of fishing gear through interviews with fishers.

2.2 Activity III

A demonstration of Fish Processing by A Women's Group: Encouragement of local business has developed since TD arranged a training program that leaders of women's groups would join. This program was to support them to participate in a seminar that was concerned with cooperative business. The women also observed an active fisher's group in Rayong Province, producing fisheries products and marketing them under favorable conditions. On 1st March, the women demonstrated fish processing to other members of the women's group, extending their experiences. They experimented with different kinds of value added products, and sent them to local markets. In various ways TD supported the women's fish processing, and the DOF provided technical advise.

2.3 Activity IV

The project planned three kinds of training course during these three months.

Staff Training: The "Project Cycle Management (PCM)" approach was a topic of a training course, to develop the capacity building of the project staff and the DOF officers taking charge of the project. On 13th-15th March, the CMDEC invited an instructor (who worked for the Department of Technical & Economic Cooperation, Office of the Prime Minister; DTEC). 9 TD staff, 10 CMDEC staff and another 7 DOF officers took this incentive course and learned about the planning and operation process of projects with a participatory approach.

Another topic of staff training was on "Community Development in Pathew District" (on 26th March). At the project site, there have been many different types of community development project so far, which have been planned and implemented by different government-based agencies. It was necessary to know exactly a policy framework for community development and understand the organization and activity of people's groups supported by various agencies.

Training Courses Targeting Leaders: A series of training courses targeted Moobaan leaders, group leaders, women's leaders, and council members of Tambol Pakklong Administrative Organization (Ao.Bo.To.). Consonant with the core components of the project's activities, the subjects of the training courses were related to Activities II and III.

Training on Coastal Resource Management

On 14th-18th January, the project organized a course with the title "Community-Based Fisheries Management" at the CMDEC. This course was divided into two parts. The first part consisted of lectures and discussions on the theoretical and practical frameworks of coastal resource management and encouraged participants to present their thoughts on the current situation of coastal fisheries. Then, On 16-18 January, TD, the CMDEC and the DOF staff and trainees left for Phuket Province, and visited the Andaman Sea Fisheries Development Center (DOF). The trainees observed 3 villages in Phannga Province, where they and local fishers exchanged experiences and opinions. In Krabi Province, the Head of Tambol Baan Khao-Thong explained their own system of managing traditional territorial waters and monitoring



their areas on a voluntary basis. Trainees were local leaders like Ao.Bo.To council members, a head of a Sub-district (Kamnan), and heads of Moobaan (Phuyai Baan).

Training Courses Related to III

A women's group was encouraged to develop fish processing activities by using abundant local resources including anchovy and squid. Giving incentives to the leaders through training courses has encouraged a start of fish processing activities in cooperative ways. On January 22nd, a staff member of TD guided an observation trip to Rayong Province, inviting 6 women at the project site and two DOF officials in Chumporn Province. They visited Baan Pala Fisheries Group whose members were involved in a value added production project. Trainees learned techniques of small-scale processing, and obtained information on cooperative marketing and managerial skills for group activities. Between 22nd-25th January, they also joined a seminar with the title "Business Development of Fisheries Cooperatives in Thailand". This was organized by the National Fisheries Cooperatives of Japan (Zengyoren) and the Cooperative League of Thailand (CLT). The main topics of the seminar were on fisheries cooperatives development in Thailand, fish markets and useful experiences in other countries.

2.4 Activity V

Posters and notebooks: TD planned a series of poster campaigns and printed a poster on mangrove reforestation. In collaboration with community leaders, NGOs, schoolteachers, and fishers, TD and CMDEC staff distributed more than 200 copies to every Moobaan. TD produced notebooks for the campaign of mangrove reforestation. When TD and CMDEC staff joined environmental educational programs at the primary schools of Tambol Pakklong, these notebooks were distributed to the school children (during February 28th to March 1st). In the classrooms, the staff simply explained the importance of coastal fisheries resources and the purpose of the project activities.

Videos on Fish Processing: TD audiovisual section recorded a video on fish processing activities conducted by a women group in Tambol Ban Pasae, Rayong Province. A TD staff member and a DOF officers put together a scenario, and delivered the videotapes to members of the women's groups in Tambol Pakklong. This tape has been used as a practical textbook for fish processing.

3. Quarter III: April to June, 2002

7. During this quarterly period, the project had two major focal points. The first was the implementation of on-site training courses. The second was the socio-economic survey adopting a simple census approach. Both activities were long and complex and took some time to prepare and carry out.

8. A series of on-site training courses were designed and planned passing through the following procedures. Prior to the design and planning for this training, the project had a special training program targeting its staff and local government officers in charge of local fisheries management. Participants were trained in, and practiced, how to undertake on-site training programs to encourage people's participation in the project activities. The primary purposes of the on-site training courses were to disseminate the basic concept and framework of the project activities and to find solutions to problems as regards coastal resource management and community development. Through the processes of preparation and implementation, the project staff learned many things, including the people's attitude toward resource utilization, and their demand for community development.

9. Another focal point of the project activities was a basic household survey in all Moobaans. The socio-economic survey group proposed to conduct this survey to gain an overview of the agro-based society in Tambol Pakklong. Such basic data on household, occupation and ownership of fishing devices

would outline the socio-economic surroundings of all Moobaans, and represent basic figures upon which any future research and monitoring activities could rely. It took much more time to plan and implement this survey than was expected, because of a lack of the basic information and data including maps in the Tambol.

10. The details of the activities are as follows:

3.1 Activity I

1) Socio-Economic Survey

Data input and analysis: While conducting additional interviews and obtaining supplemental figures, members of the survey were involved in data input and analysis that its members had accumulated. As regards the results of the pre-survey, some members have continued to analyze the figures and make an analytical description. The tables and figures were distributed to the project staff for reference. A marketing system survey of anchovy and squid went into a final stage of analysis and description.

Household survey: A household survey was planned for all Moobaans. This had the objective of obtaining the most basic data on households. The figures of the Marine Fisheries Census (1995) were too old to indicate the present situation of fishing households. To illustrate an accurate picture of fishing households, the necessity of a household survey was realized and it was planned to adopt simple questionnaires as a survey instrument. All households including agricultural, fisheries and other occupation households were interviewed. The simple questionnaire sheets included fishing and its related income sources, land property and so on. In collaboration with the local people the socio-economic survey group mapped all the households including the non-registered ones. The maps would be a valuable resource to identify changes in social and economic surroundings.

2) The Oceanographic, Environmental and Landing Surveys

Rearranged regular surveys: the oceanographic surveys were rearranged to regular sampling that would be conducted once every two months. On the advice of a senior researcher of the DOF, an estimate on the carrying capacity of fish cage culture in the front of Moobaan 7 started.

Data collection: Landing surveys were conducted on a monthly basis. The surveys collected information on fishing grounds and the size and types of fishing gear used. The landing survey team was also responsible for mapping the fishing groups, the fishing gear employed, and resource utilization at the project site. Both landing and mapping information provided basic information for all project staff, even if the final result of survey was not published.

3.2 Activity II

Strengthening the Ties with the Local People: In the process of preparing a series of on-site training courses, household surveys, and other project activities, members of the extension team supported other team members. Through discussions with fishers, resource users and the people, the team very well understood the current situation of coastal fisheries, and gained enhanced knowledge about the problems and conflicts that coastal fisheries face. The members of the extension team encouraged fishers and resource users to join the training programs.

The Plan for Management Activities: The Extension Team began to put together three types of management activities. The first was to formulate rules on the cage culture in front of the Moobaan. The people are increasingly interested in fish cage culture, but adequate areas for fish cage



cultures are scarce at the project site. There should be adjustments and coordination among aquaculturalists, and between them and the fishers who may use the preserved areas for fishing operations. On 25th-26th June, the CMDEC arranged a training course concerning fish cage culture. A second was on the management of shellfish culture. Those fishers living in Moobaan Nos.6 and 1 established a new group for shellfish culture and raised a demand for financial support from the Provincial Government to purchase bamboo stakes. There should be coordination between shellfish culture and fish cage culture, as their fishing grounds overlap. Thirdly, crab trap fishery was a target for discussion. They have exploited crab resources and now face a reduction in the resources. The Research Team provided basic information and background about the fisheries.

3.3 Activity III

Impact of training activities: On 23rd-24th May, a training course was set up by the CMDEC, inviting trainers from the DOF. This course was conducted twice, once each in Moobaans Nos.1 and 3. It successfully gave great incentive to the participants. The number of women who were interested in fish processing steadily increased. Immediately after the training course, more than 20 members established a new group for women with its membership being only from Moobaan No.7. The group attempts to exploit marketable products that use the local raw materials effectively.

Development of the Processing Business: In Moobaan No.1, the women's group successfully expanded the scale of production and strenuously marketed its products through provincial and nationwide networks. The group was often invited to join festivals and sell their products. Members tried to create new marketable products and test them during the festivals. They paid great attention to packing and the quality control of the products. The group opened a permanent store close to the pier. The operation of the store has become the core of women's activities, by advertising their cooperative activities to the local people.

3.4 Activity IV

Mobile Training Courses: Between 22nd – 26th April 2002, the project staff from the CMDEC and TD arranged a mobile training course at five sites. The purposes of this course were to disseminate the concept of the LBCRM-PD, and to discuss the current situation and problems of coastal fisheries and steer the direction of the project activities.

Selection of sites: The project staff had to select training sites through consultation with the leaders of fishers' groups and Moobaans, considering the geographic distance and people's intimacy. The project organized one training course for Moobaans Nos.1 and 6, although the number of participants reached 68 persons, which was more than those in other Moobaans. In Moobaan No.2, the number of participants was no more than 40 persons, as most of fishers were engaged both in agriculture and fisheries. In Moobaan No.5, the project staff targeted not only the fishers living there, but also other stakeholders who lived in neighboring Moobaans in Prachuab Khiri Kan Province and fished in the sea in the front of the project site. Considering the specific local surroundings, it was decided to set up a training course in a neighboring Moobaan. This was a correct decision, as 56 fishers joined the course and exchanged opinions. In Moobaan No.7, the number of participants was 35.

Training for cage culture: Between 25th -26th June 2002, the CMDEC arranged a training course for fish cage culture. The course had the objective to disseminate modern, production and environmentally friendly technology to fishers who are presently, and in the near future will be, engaged in cage culture. The main culture grounds will be in the sea in front of Moobaan No.7. The number of participants was 35, coming from the whole area of Tambol. At the end of the training course, the participants agreed to establish a group whose membership consists of aquaculturalists

only. The group would have the function of coordination and adjustment.

Training for fish processing (I): Between 27th – 29th May 2002, the CMDEC and TD conducted training courses on fish processing technology, targeting the women in fishing households. The project prepared two sites for training: Moobaans Nos.1 and 3. There were 37 and 30 participants, respectively. The course held on 29th May focused on the packaging and marketing aspects. The 35 participants were impressed with the cost-effective packing methods.

Training for fish processing (II): On 23rd-24th June 2002, the Fish Processing Training Course, Phase II, was undertaken, to accommodate the requests from the participants in Moobaans Nos.1, 3, 6 and 7. The DOF staff demonstrated many different kinds of product and the participants tried to make new ones. There were two sites for this course. The total number of participants was 49. By participating in this course, more than 20 women established a new group extending its membership over their Moobaan.

3.5 Activity VI

Brochures: TD made and printed a LBCRM-PD brochure for effective advertising. It included the introduction, objectives and activities of the project. The demarcated zones map was also included. The project staff distributed more than 500 copies to all Moobaans and those who were related to the project. This brochure was used as the text for the mobile training course held in April.

Textbook Outlines of the Project Proposal: a Thai version of the proposal for LBCRM-PD planning was published. It was distributed to Moobaan leaders, Ao.Bo.To leaders, and all the related government agencies. The book defines the background, objectives, target groups, designed activities, of the first year plan and the five-year plan.

TD staff drew up and opened an LBCRM-PD homepage. This homepage gives the outlines of the project purposes, designed activities, and implemented activities with many photographs and figures. It is on the SEAFDEC/TD website at <http://td.seafdec.org/Locally-based/index.html>

4. Quarter IV: July to September, 2002

11. During this quarter, the LBCRM-PD focused on the following four points. Firstly, the project encouraged fishers and resource users to discuss the establishment of zoning to be reserved for fish cages and shellfish culture. Secondly, the Survey Team undertook the analysis and description of the survey results. Some of the scientific figures and data must be disclosed as quickly as possible, for the reference of the zoning activities. The Local Business and the Training Teams also began to make progress reports on their activities.

12. Thirdly, a series of campaign programs were planned and implemented, including preparations for publishing the research, a newsletter and posters. Fourthly, the project staff arranged two types of meeting. One was an on-site workshop, and the other was a seminar targeting local government officers and leaders of sub-district administrative organizations (Ao.Bo.To.). In the next quarter, the project activities would place greater emphasis on submitting the survey results and the outcomes of the project activities. The preparations for this have started in this quarter.

13. The content of the project activities are as follows:

4.1 Activity I

1) Socio-Economic Survey



Household Survey in Tambol Pakklong: In the previous period, the household survey was conducted. During this quarter, the survey group conducted supplementary surveys from 30th June to 4th July, to get accurate data. In Tambol Pakklong, there are a number of households that are non-registered. Various forms of extended family exist, which is not amenable to correct grouping.

Preparations for surveys on crab trap and crab gill net fisheries: On 23rd -26th September, the socio-economic group conducted interviews on crab fisheries. According to the pre-survey, a large number of small-scale fishers engage in the operation of traps and gill nets for catching crab. Besides the shrimp trammel net fishery, crab fishery provides an important income source for the fishers. Collapsible crab traps are covered with fine mesh nets that catch smaller sized crabs. The mesh size has become smaller and smaller, which causes conflict with the fishers who employ crab gill nets. The marketing channels of fresh crab and crab meats were illustrated, by analyzing the economic incentives given to increase production capacity of the crab fisheries. Linked to the landing and fishing ground survey, the socio-economic group plans to interview fishers and propose an applicable management method.

2) Oceanographic, Environmental and Landing Surveys

Resource utilization map: Regular survey was continued. The highlight of the survey, during the period of this quarter, was the preparation of resource utilization maps for aquaculture zoning. Advised by the Extension Team and the socio-economic survey group, the oceanographic and landing survey group concentrated its efforts on drawing maps showing the locations of fish cage and shellfish cultures. Using these maps, fishers and resource users have started a discussion on aquaculture zoning. Before reaching a consensus about the zoning in the Moobaans, the simply illustrated maps were distributed to fish farmers, fishers and leaders of the Moobaans. Prior to setting up a meeting at Tambol level, they exchanged opinions on aquaculture zoning at Moobaan level by referring to the maps.

3) Publishing reports and passing the survey results to the people

The Survey Team began preparations for publishing a number of survey reports. All fields and subjects of regular and topic survey activities should be given to the people and local communities. The members made a plan for publishing reports. As of the end of September, six reports were published were in the process of being published. The contents of all scientific reports contain the fullest amount of scientific data and information. To pass and disseminate them to the people and local communities at the project site, members of the Survey Team must simplify the reports and describe the essentials and summaries in Thai. All project staff were making the plans like leaflets, mobile exhibition boards, and on-site workshops.

4.2 Activity II

1) Zoning Plans for Fish Cage Culture and Shellfish Culture

Urgent need: The number of fish culture cages has increased since last year. The fish farmers who have already constructed cage frameworks occupy a wider sea area than they actually need. Several fishers just reserve areas for future cage culture using wooden stakes. The possible areas for fish cage and shellfish cage cultures are limited to the area in front of Iang Island. There is no adjustment and coordination between resource users (including fish farmers and fishers). None register at the Pathew District Office of Fisheries. The first-come-first-served principle works even in aquaculture, too.

Achieved consensus: The Provincial Office of Fisheries (members of the Extension Team) arranged

meetings for the making of rules on managing aquaculture. The people in Moobaans Nos. 1 and 6 gathered together on 19th August. They decided to propose to alter the present regulation for shellfish culture into that for aquaculture, to expand areas reserved for both cultures, and so on. They intimated that they would need 600 rais for shellfish culture and 300 rais for fish cage culture. They stressed that the demarcated zones for shellfish culture and fish cage cultures should be separated. On 29th August, participants from Moobaans Nos.2, 3, 5 and 7 also agreed to amend the present regulations issued in 1984. A provincial officer gave a detailed explanation of the 400 rais for shellfish culture. No fish cage culture is allowed in this demarcated zone. They should first obtain agreement to change the title of the regulation and request the DOF local offices to announce a new regulation for aquaculture. At both meetings, all participants agreed to select five representatives from each Moobaan to be in charge of putting together a plan of demarcation and have a Tambol-level meeting at the next stage.

Preparations for the next meetings: All project staff recognize that the demarcation of the aquaculture zone is good experience, not only for local resource users, but also for themselves. While exchanging opinions about appropriate decision-making processes with the people and leaders of the Tambol, the Extension Team proposed a step-by-step procedure for obtaining a consensus. The project staff and the DOF local officers provided the necessary information, for them to make an accurate decision. Moobaan administrative organizations have a decisive role in arranging meetings.

Final agreement: Through several stages of discussion at Moobaan and Tambol levels, more than 60 persons joined a Tambol-level meeting on 26th September. The representatives of the Moobaans first explained the results of the discussions and gave comments on what problems they would face arising from aquaculture zoning. They agreed to demarcate zones for fish cage and shellfish cultures. However, many of them claimed that some fish farmers constructed cage frameworks in the areas where a number of fishing boats would anchor during the monsoon season. They would resolve that three fish farmers should remove their obstructive frames. A decision on that resolution was deferred to the next meeting. On September 27th, representatives of Moobaans (excluding Moobaan No.5) went to sea with a few members of the Survey Team who would measure accurate locations using mobile GPS equipment. The representatives agreed that they would propose a zoning plan at a Moobaan meeting, which may be the final step toward making a regulation at Tambol level.

Making a plan and drawing lessons from the first experience: Several important management issues on aquaculture still remain unsolved, like preserving aquaculture grounds, limiting the numbers of fish cages according to the estimated carrying capacity, adopting appropriate feeding and so on. These would be discussed at later stages.

2) Another Important Management Issue: Anchovy and Crab Traps

Increasing fishers' awareness: Deeper discussions on anchovy fisheries and crab trap fisheries have not yet started, but fishers and resource users now pay more attention to these issues. The "Sathaban Sing Wetrom Thai" (Thailand Environmental Institute) plays an important role in enhancing fishers' awareness. Supported by this NGO, fishers and resource users deployed a number of tyre-based artificial reefs. They started with a "crab bank". At present, staff of the CMDEC and the Provincial Office of Fisheries keep a close linkage with the NGO's members. Both parties often join together at meetings held in Moobaans, while distinguishing each other's responsibility.

4.3 Activity III

1) Fish Processing Activity and Women's Groups

Expansion of fish processing in Moobaan No. 7: A remarkable development of fish processing



activity was seen in Moobaan No.7. A number of women in the Moobaan joined a training course for fish processing, which was held in the previous quarter. They began to produce on a commercial basis. They established a women's group and held share capital. They worked collectively. Members involved in the processing expect an additional income. The number of members gradually increased to 26. They were mostly young housewives of fishing households. Although they had some problems to be solved in group operations, they were enthusiastically involved in the new additional income sources. In addition, the project arranged a brief training course introducing a simple book keeping method. They regularly visited and talked with members about their business.

Continuous increase of production in Moobaan No.1: Tambol Pakklong decided to provide finance of 100,000 Baht to the group. The duration of the repayment was five years, without interest being levied. This amount would be divided into two parts: one part was for the processing business, while the other was for a source of loans. At present, a majority of members do not join in any processing activity, only utilizing the credit and deposit facilities. Women of the fishing households in Moobaan No. 1 are quite busy in drying and grading anchovy and squid. Leaders expect that some of them may join during the fishing off-season.

4.4 Activity IV

1) Study Trip to Malaysia

The DOF in Malaysia: Between 9th and 14th July, a study trip to Kedah State was conducted, guided and supported by the Department of Fisheries (DOF) in Malaysia. The purposes of this trip were as follows: 1) to observe how the government-centered regime of fisheries management works effectively at local level, focusing on the fisheries zoning system, 2) to observe how the government manages fish cage culture and shrimp pond culture at local levels, 3) to study the role of local fisheries associations on community development and coastal resource management, and sharing responsibility between the government and the associations, 4) to have discussions and an exchange of information on local resource management frameworks.

2) Training at Primary Schools

Between 20th and 27th September, the project staff from the Provincial Office of Fisheries and the CMDEC conducted an environmental education program. The target group of this program was primary school children (Grades 5 and 6) in Thungmaha, Bangwan, Thamtong, Nampoo, Bosamrong and Bonrai schools. A staff member of TD joined this activity. The topics and subject of this program concerned coastal environments, coral reefs eco systems, mangrove conservation, and fisheries resources. The introduction of LBCRM-PD was one important topic.

4.5 Activity V

TD printed an LBCRM-PD brochure for effective advertising in English. It included the introduction, objectives and activities of the project. A demarcated zones map was included. A second poster was designed and printed introducing the project activities, with a map of the demarcated zones. A newsletter was being prepared.

4.6 Activity VI

On August 7th, the DOF held a ceremony for the release of fingerling. The Chumporn Provincial Governor and other senior government officials were invited. School children also joined this release activity. The Chumporn Marine Culture Center provided the shrimps on that day. A number of fishers assisted in the release activity. The Royal Forestry Department prepared a mangrove

reforestation program in collaboration with local NGOs. In the mangrove area of Moobaan No.7, school children, the people and the project staff transplanted mangrove trees.

5. Quarter V: October to December, 2002

14. The LBCRM-PD continually emphasized Activity I (the regular base line survey), and gave great attention to the preparation of aquaculture area demarcation. The socio-economic survey group conducted a 'crab fisheries survey', to compile fundamental data to alleviate conflict between crab gill net fishers and collapsible crab trap fishers. The result of the survey would be used for formulating action plans and activities to solve this conflict in Tambol Pakklong.

15. The preparation of aquaculture area demarcation was a progressing part of the zoning plan for fish cage and shellfish culture in September and October. The project staff joined the committee and the representative from each Moobaans to mark feasible areas to contribute to the zoning of fish cage and shellfish culture demarcation. The staff used GPS to scientifically define the areas and then used GIS software to decorate the marked areas as a firm and complete picture to present to all stakeholders to achieve community consensus on area demarcation.

16. The Training Team arranged two kinds of training course. One was for the project staff skill improvement. The other was for members of the women's group at Moo 7 to increase the awareness of the variety of women's group establishment and management through study trips to adjacent communities. It was expected that the experience gained from the study trips was solid information to develop and manage the Moobaan No. 7 women's group to become a more effective and active group.

17. The contents of project activities are as follows:

5.1 Activity I

1) Socio-economic Survey

Crab fisheries survey: A questionnaire sheet for the crab fisheries survey was designed. By referring to basic information from the household survey held in July, this survey was planned and conducted. The total number of respondents was 80 from 7 Moobaans including Ban Bangbird (Moobaan No.5, in Prachuab Khiri Kan Province) who kindly participated in completing the questionnaire. Moobaans Nos.7, 2 and 1 had large numbers of respondents being 36, 17 and 12, respectively. The Ban Bangbird respondents were included to respond to the questionnaire, because they also utilized and exploited crab resources in the fishing ground as well as the other 6 Moobaans of Tambol Pakklong.

Damage to resources: Conflicts of interest between crab gill net and collapsible crab trap fishers led to severe competition in crab resource utilization. Crab gill net fishers vehemently complained the collapsible crab trap fishers were fishing irresponsibly. They caught all sizes of crab. They did not select only the marketable size and throw away the non-marketable or immature sizes back into the sea. This has caused crab resources to become rapidly depleted and smaller and smaller in size.

Formulated action plan: The result of the survey is fundamental information to contribute to formulating the action plan for responsible and selective fishing gear expansion. The parameters of the number of collapsible crab traps, crab gill nets and the number of fishers was helpful to Chumporn provincial fisheries officers and policy makers to arrange appropriate subsidies and encouragement to target fishers. The expectation of the policy was to alleviate conflict among users and other stakeholders.

2) Oceanographic, Environmental and Landing Surveys



Descriptive reports: Scientific analysis was conducted. Members of the survey prepared both scientific reports and leaflets with simplified content. Visual graphs and figures were illustrated that would be presented at Participatory Resource Assessment meetings at the project site. The scientific reports would be published in the next quarter.

Provisions of all necessary information for zoning: Together with the process of achieving consensus on aquaculture zoning, the people requested more and more information and data on fishing and aquaculture grounds.

5.2 Activity II

1) Preparations for fish cage and shellfish culture area demarcation

Map preparation for culture area demarcation: In regard to the agreement of the community meeting on 29th August, 2002, five representatives of each village took the responsibility to join provincial fisheries officers and CMDEC staff to mark feasible areas for community aquaculture engagement. TD staff was in charge of arranging the map of coastal areas based upon marked point data. As a result, the people made a plan that the Bay area would be categorized into six utilization areas. Areas 1 and 2 were defined for shellfish culturing. Areas 3 and 4 were reserved for public use as an anchorage for fishing boats during the monsoon season. Areas 5 and 6 were utilized for fish cage culture engagement.

Provincial fisheries officer' recommendations on area demarcation: The provincial fisheries officer recommended that the number of demarcated areas was too great and separated, this might cause difficulty in management control. He proposed that areas 5 and 6 should be combined together as Area 5. This was to easily control and manage fish cage culture management. The provincial fisheries officers and the project staff attended the Tambol Pakklong fishers' group network meeting at Moobaan No.7 (Ban Ko Teab) on 16th November 2002. They showed the map of fish cage culture and shellfish culture to the group's members to illustrate the progress of the work on area demarcation.

Discussion continues: Some fishers proposed that shellfish culture areas should be expanded. The expanded areas included Areas 1 and 2. However, the final decision was not made yet. The provincial fisheries officer and the project staff were asked to display these maps to all users and stakeholders to obtain community consensus on area demarcation. The CMDEC staff attended the monthly village meeting to inform all stakeholders of the progress in area demarcation preparation and ask them for an appropriate time and venue to arrange a second meeting for considering the subject.

2) Effectiveness of Provincial Announcements

The provincial announcement, to enforce against illegal fishing operations in Areas I and II, is effective from 4th November 2002. The provincial fisheries officer informed the Tambol Pakklong fishers group network and also explained the effectiveness of this provincial announcement to easily define an offender encroaching into the two areas.

5.3 Activity III

1) Development of Women's Groups for Processing

Quality improvement: Members of the women's group at Moobaan No.1 usually improve recipes

and develop the quality of production. The group members often brought the group's production to sell at local and urban markets both inside and outside Chumporn province. The group members have tried to create new production and new recipes to increase the variety of production. The group's outlet is a stable channel to distribute the production to local people and outside visitors.

Observation on other successful projects: Members of the women's group at Moobaan No.7 were more actively proceeding and developing production and quality control. The village fish trader is a member of the group and takes the group's products out to urban markets. The members requested to the project staff to take them to visit successful women's groups to gain knowledge on group business and management. A study trip was arranged to educate members to better understand the methodologies of group management and development. Six representatives of the group joined the study trip to a successful women's group in Paknam Langsuan District. The representatives recognized that member's participation was an important factor contributing to the group's development and management.

5.4 Activity IV

1) Training course arrangements for the project staff

The TD's oceanographic team set up a short on-site training course. The title of this training course was 'training on geographic information systems (GIS) and databases for the locally based coastal resources management project staff'. There were two objectives being, 1) to educate the project staff to understand the GIS system and database; 2) to increase and develop the project staff skills to be able use the GIS system and database as a tool to analyze collected database and information compiled from research activities and surveys, under the LBCRM-PD project.

2) Training course on boat engines for local fishers

Course Planning: The staff of the TD's marine engineering section joined the project staff to assess powered engines in fishing boats to arrange a training course. This course would be arranged for local fishers who were interested in powered engine maintenance and repair. The marine engineering section staff also took the opportunity to discuss with local fishers what problems frequently occurred with their engines.

Simple questionnaire: The project staff and marine engineering section staff agreed to distribute a questionnaire on the training course on engines to survey how many local fishers needed this training and to understand what type of engines they were using. The result of this questionnaire would be useful to the marine engineering staff to set up a short course curriculum for this training program.

5.5 Activity V

Preparation for publications, text and manuals: Besides publishing a number of scientific papers, the Training Team began to prepare visual figures, graphs, and tables that would make people better understand the project purposes, objectives of coastal resource management, procedures of achieving consensus, improvement of quality of life, possibility of alternative livelihood programs, and the results of discussions on any topics. These materials would be used at on-site seminar, workshop, and any other occasion.

III. OUTCOMES, PROBLEMS, AND SOLUTIONS FOR FURTHER DEVELOPMENT



1. Starting with Awareness Building

18. At the earlier stages of the first year of the Phase I, the LBCRM-PD concentrated its activities on a series of base line surveys, training and educational matters with diffusion of vital information. Not much incentive was given to the people and local communities to increase their participation in the process of making a project proposal for the establishment of a sustainable coastal resource management and the promotion of local business. This was chiefly because the DOF had already allocated budget for 2002 with official approval from the Cabinet, and SEAFDEC/ TD had rushed to compile an activity plan to get financial support from the “Trust Funds from the Government of Japan”. As a result, the project proposal would not comprise practical action plans and concrete objectives for each component. Local people, stakeholders, DOF officials and TD staff should have joined forces to put forward a more concrete plan. Thus the LBCRM-PD started with enormous efforts in awareness building activities.

2. Outcomes of Activity I (the Base Line Survey)

2.1 Regular surveys bring valuable information

19. The regular surveys provide the most basic figures and data on many aspects, including oceanographic data, fishing grounds, techniques and socio-economic fields. To get these data, the project staff always communicates with the local fishers and residents. They often explain the background and factors to determine and influence the figures. Based upon the scientific data and information, the project staff can provide precise information at the later stages. At the outset of the survey activities, some fishers and residents complained about the frequent interviews and complicated questionnaires. However, before and after fish-farmers and fishers started with discussions on aquaculture zoning activities, their cooperative attitude towards the base line surveys changed favorably.

20. Comprehensive surveys including socio-economic, oceanographic and fishing grounds aspects get the true picture of fishing business in Tambol Pakklong. The results of the comprehensive surveys give profound suggestions in management activities, especially the demarcation of aquaculture areas.

2.2 Restore the results of survey

21. Researchers make much effort to analyze the data and information they collect on both a regular and occasional basis. 10 topics are already printed, and a few papers are in press. At the latest Moobaan and Tambol-level meetings, these scientific reports are opened to the public. At the same time, provincial and district government officers in charge of fisheries management always rely on the results of the survey. They often request the survey team to collect data and illustrate the charts they need for extension work.

3. Outcomes of Activity II (Extend and establish the LBCRM framework)

3.1 People attempt to set up aquaculture zoning

22. Through joining the training courses on aquaculture technology and fishing ground management, fish farmers, fishers and stakeholders have come to realize that they should set up certain rules that regulate their investment in construction of fish cages and in shellfish culture. Supported by the project staff, they have attempted to achieve consensus on the allocation of fishing grounds for aquaculture business. Their discussion has almost come to a conclusion.

3.2 Crab fisheries will adopt resource-friendly devices

23. In collaboration with NGOs, fishers built a system of “crab banks”. The DOF advice was to reduce

the number of collapsible crab traps and employ gill nets by introducing a subsidy scheme for responsible fishing operation. Fishers often have a deeper discussion on this project. There are still many arguments and disagreements between them, but they do not cease such discussion.

3.3 Trials-and-errors of arranging Moobaan and Tambol-level meetings suggest a step-by-step approach and alternative procedures.

24. In the process of achieving consensus on aquaculture zoning, the people and the project staff have learned that there are several alternative procedures to achieve consensus and make rules at Tambol-level. At earlier stages of discussion, they tended to rush to attain a conclusion. However, now, they realize that management aspects have to pass several informal and formal steps of discussion and consultation at Moobaan level. Democracy is a crucial tool in the decision making process. At one and the same time, there may be alternative procedures to be adopted in different fields. The people themselves will soon develop effective ways to achieve consensus and make rules.

3.4 Ao.Bo.To increases its role in making and announcing rules

25. Principally, fishers and stakeholders stand at the center of the decision-making process. They come to realize that the Ao.Bo.To (or its council members) will act in formulating rules and demanding any kind of legal permissions to district and/or provincial government on an official basis. They expect that the Ao.Bo.To will empower the results of discussions and their decisions. At present, we do not yet know what functions the Ao.Bo.To has: however, this will be a lead experiment in coastal resource management.

4. Outcomes of Activity III (Local Business)

4.1 Fish processing is widespread

26. The expansion of fish processing is a remarkable success in the first year. At the beginning, the women's group at Moobaan No.1 began to process anchovy and squid products, and then produced a greater number of products. Members joining the group's processing are not many in number, but they explore new marketing channels both at local and urban markets. Supported by the project staff, the group has continued to increase production, and opened a store. A women's fish trader leads this group activity with great success. This group applied to the "One Tambol, One Product" scheme to get financial assistance from the government. Another two groups appeared in Moobaans Nos. 3 and 7. Though members still lack the knowledge and experience, they enthusiastically expand fish processing businesses. Besides traditional products, they challenge with new marketable products.

4.2 People realize fish processing is an additional income source

27. Since fish processing began to develop, the people recognize that it is a lucrative business. Those housewives who are interested in it increase in number. Fish processing is labor-intensive in nature, so that many housewives of the fishing households cannot enter this business. Drying and salting of squid are their main work

5. Outcomes of Activity IV and V (Training and Education Activities)

5.1 Increased awareness on sustainable use of coastal resources

28. The project emphasizes the enhancement of people's awareness about sustainable use of coastal resources and their devotion to achieve consensus on self-regulatory rules in the fishing grounds in the front of Tambol Pakklong (the demarcated zone). It takes much time, not only for the people, but also for



the project staff to realize the actual situation of fisheries businesses and coastal resources. The people have a gradually, but steadily increased awareness on the importance of the sustainable use of coastal resources through joining training and education courses. Various types of leaders, including Moobaan heads, Tambol councils, fishers' groups, and women's groups, belong to the main target group of participants in the training courses. An increasing number of these leaders have become actively involved in aspects of fisheries management. They diffuse the ideal and thought of coastal resource management over the whole area of Tambol Pakklong.

5.2 Give incentives to attempt of aquaculture zoning

29. At the later stages of the first year, training programs gave more incentives to the introduction of demarcating aquaculture areas. A Moobaan-based consensus pushes forward a Tambol-based arrangement of setting up aquaculture areas. By referring to scientific data and information on fishing grounds that the project staff provides at training courses, the people themselves have tried to achieve consensus and generate rules. This is still the first step in a long process of sustainable management, but a small successful step.

5.3 Promote women's activities in fish processing

30. Training programs are arranged to support alternative job creation activities. Increasing additional income sources is a tool that may reduce pressure on the decrease of fisheries resources. Women's groups are given the first priority in training programs. As the summary of the project activities explains, an increasing number of women (mostly housewives of fishing households) involve in fish processing. At present, three groups exist to conduct cooperative processing, with diversified kinds of products and improving quality. The content of the training programs satisfies the participants. Leaders of women's groups share their technologies with other members.

5.4 Improved human capacity of the project staff

31. The LBCRM-PD occasionally arranges training courses, internal workshops and meetings at which the project staff absorb knowledge, technology, and information. Many staff have practiced at the project site, and have opportunities to exchange the lessons learned with others. Now they are becoming competent organizers at any project site. Such human capacity improvement will lead to a further development of the CMDEC training function.

5.5 Environmental education developed in collaboration with primary schools

32. The LBCRM-PD contributes to the development of environmental education at primary school, in collaboration with local NGOs.

6. Outcomes of the Activity VI

6.1 Released juvenile fish and enhanced stock

33. The DOF released juvenile fish and shrimp into Pathew Bay. In the mangrove area of Moobaan No.7, school children, the people and the project staff transplanted mangrove trees.

IV. PROBLEMS AND SOLUTIONS FOR FURTHER DEVELOPMENT

34. More than one year has passed. The LBCRM-PD has developed especially in the base line surveys and in education and training matters. People's participation has steadily increased. Women's groups successfully expand the lucrative fish processing, with increasing household incomes. One year's

experiences have given many hints to the project staff and local government officers on how to encourage self-regulatory activities among the people. Also they may be able to propose new adoptions of legal procedures in accordance with the local reality of fisheries management. For further development, the following problems should be solved.

1. Delay of the provincial announcement of the demarcated zones

35. This project started with agreement on setting up the demarcated zone. However, the people and the LBCRM-PD staff had to wait for official approval of the provincial announcement for the demarcated zone, for more than one year. Therefore, some project activities designed were postponed or even conducted with much deliberation, without demarcated zone legitimacy.

2. Different understanding on the functions of the demarcated zone

36. At the beginning, there was a large gap in understanding of the functions of the demarcated zone between the DOF (including the project staff) and the people. Some fishers strongly requested the DOF to undertake quick action against commercial boats operating within the zone and using destructive devices. Some were greatly afraid that their legal operation would be hampered and excluded immediately from the zone. The project staff had disagreements over the direction of the demarcated zone management. These problems were finally solved, but in the process they had a negative effect on the people's participation.

3. Relationship with local leaders and local government administration (Ao.Bo.To.)

37. Since the project should cover a very wide area of Tambol, the project staff often found difficulty in communicating with local leaders. It took some time to establish a close tie with them. At a transitional stage of restructuring local government organization, there existed plural systems of Moobaan and Tambol administration. Roles and functions that old types of leadership are responsible for are duplicated with the Ao.Bo.To. The project staff often mismanaged a local communication line. At present, of course, they understand the present political and bureaucratic system. In the process of aquaculture zoning, the people have developed their own legitimate framework of obtaining consensus and decision-making, so that a good partnership is being established with local leaders and Ao.Bo.To.

4. Lack of coordination with other government agencies and NGOs

38. The LBCRM-PD consists of the King's Royal Project with other counterpart sub-projects. Many government agencies and NGOs are involved in community development. As a result, many programs and activities have been implemented in similar ways within Tambol Pakklong. With coordination with other agencies, the LBCRM-PD should have effectively operated its activities. In the fisheries management aspect, the NGO staff and the DOF officers have increasingly cooperated together.

5. Establishment of a project management body at the site

39. Many agencies are involved in the LBCRM-PD activities. At the project site, leaders, representatives and stakeholders flexibly work together with the project staff in accordance with their own topics. Moobaan administrative organizations often stand in the middle between the people and the project. There might be a voluntary network covering the whole aspects of project activities at the project site, besides the Ao.Bo.To and old types of leaders. In the second year, this will be given a higher priority among the project activities.

40. There are still some problems to be solved in the project operation and management, but the people will increase their roles in the operation of the projects and solve these problems. In the second year, the



project staff and government will decrease their involvement. It is obvious that the legal matters of fisheries management should be explicit; otherwise, participatory fisheries management for the demarcated zone will get into a chaotic state of confusion. Strict control over illegal operations within the demarcated zone is the most urgent need, too. The project evolves into a new stage of development.

**Extension and Media Development for
Locally Based Coastal Resource Management in Pathew District
(LBCRM-PD), Chumporn Province**

**Kongpathai Saraphaivanich ¹
Nopporn Sitthikasemkij ²**

ABSTRACT

Two main objectives of implementing extension program in coastal resource management are to contribute local people to commonly understand framework of the LBCRM-PD project implementation and to encourage local people participate in the project. Information dissemination of the project is presented through many types of media arrangement such poster for mangrove reforestation and the project implementation, notebook for students, and leaflets. The project staff evaluates how all types of media are useful to help disseminating the project information after the media distributed to local people at the project. The result of evaluation came from conducted random survey of interviewing with questionnaire. Numbers of respondents are 100 respondents from 6 villages of Pakklong sub-district. Result of the survey notifies that all types of media should be directly handed to target people to most effective information distribution. Words or phrases are used in media should be simple and easy that people can understand easily. Most of local people are interesting in poster type much more than other type of media. This is because local people clearly understand activities presented in picture than wording or phrases. Training course is a contributive activity to develop, improve skill and knowledge of local people and transfer an innovative activity to community.

Keywords: Extension program, information dissemination, local people' s participation, media arrangement, coastal resource management

¹ *Socio-economic Section, Research Division, SEAFDEC/TD*

² *Chumporn Marine Fisheries Research and Development Center*



I. Introduction

Extension and media development is a tool of Activity V (Develop extension methodologies and strengthening the extension system) of the LBCRM-PD. This tool facilitates the project information dissemination to scatter an understanding of the LBCRM-PD project to local people at the project site. The project information is presented through many types of media such poster, leaflet, etc.

II. Main Objectives

- 1) Promote common understanding on the concept and implementation of LBCRM-PD to local people
- 2) Promote local people's participation in coastal resource conservation for sustainable use of resource utilization

III. Project's Media Development for Extension program and information dissemination

Project's media development is crucial tool to strengthen extension program and information dissemination. The objective is to scatter concept and information of the LBCRM-PD project to easily understand. This results to an increase of local people's participation in the project implementation.

1. Poster

Two series of poster are produced which are on topics of mangrove reforestation and conservation and framework of the LBCRM-PD project implementation. Concept of these two poster series basically used scenery of Tambol Pakklong as background of the poster and attached project activities pasted the printing posters. This is expected to remind local people to pay their attention on resources and environment. Mangrove reforestation and conservation poster has target groups are primary school students of Tambol Pakklong to strengthen their awareness of mangrove reforestation and conservation. Framework of the LBCRM-PP poster has main target groups are fishers and other stakeholders. This information is useful to fishers and stakeholders to decide what activities of the project they should join and/or participate.

2. Notebook

Notebook is a tool to disseminate information concerned the implementation of the LBCRM-PD. The project implementation illustrated tangible through Activity V (media activity). The project contributed Thungmaha primary school to arrange mangrove reforestation activity for students. The project picked up hinted pictures of the activity to be a cover of notebook. Therefore, the cover is a tool to remind students to be aware of an importance to mangrove forest.

3. Video Tape

The project produced anchovy processing VDO tape to support Activity III (local business development). The anchovy processing was demonstrated by successful anchovy processing group in Rayong Province. The VDO was distributed to women's group in Tambol Pakklong. Members of the women's group in Tambol Pakklong applied processing technique and information from watching VDO to develop the group's product.

4. Brochure

The project produced LBCRM-PD brochure into 2 versions (Thai and English). The introduction, objectives and activities of LBCRM-PD project are contents of the brochure that printed out and

distributed to local people and household in Tambol Pakklong. These medias are expected to increase numbers of local people to understand project's implementation.

5. Newsletter

The project produced newsletter and distributed to local people and target group after project's activities implemented. They knew progress of the project implementation. The newsletter's contents consisted of socio-economic survey, oceanographic and environment survey, training activity, project media and release fish fingerlings to project site.

IV. Evaluation of Post-Project's Media Distribution

The project staff conducted an evaluation of post-project's media distribution after the media was distributed to local in Tambol Pakklong, Pathew District, Chumporn province. The project staff randomized to get respondents to answer questionnaire of the evaluation. Objectives of the questionnaire placed an emphasis on how far the local people gained knowledge and understood the project information. Therefore, the questionnaire also emphasized on design of media, and wording whether it is attractive and easy to understand. Numbers of random respondents were 100 persons of 7 villages in Tambol Pakklong. Types of media evaluation were mangrove conservation poster, LBCRM-PD poster and the project newsletter.

V. The results of the random evaluation:

Respondents gave answer a question whether respondent saw each type of the media. 90%, 77% and 56% of total respondents said they have seen mangrove conservation poster, LBCRM-PD poster and newsletter, respectively. This result probably means that local people prefer to get information through picture presented on posters with a few wording rather than many of wording pasted on newsletters.

Table 1 Places attached media and notified by Respondents

Place	Self-receiving (at home)	Grocery store	Neighbor hood	Fisher trader place	Others
Mangrove forest conservation poster	37	38	16	7	6
LBCRM-PD poster	52	17	11	6	1
Newsletter	42	2	5	4	1

Note: 1 respondent might (notify) the media more than 1 place

Respondents gave information on how they notified the media. 38% of total respondents notified the mangrove conservation poster at grocery store. 37% of total respondents got the poster by themselves. 16% of total respondents got information from neighborhood. Percentage of respondents that got LBCRM-PD poster is 52% of total respondents notified from self-receiving, 17% of total respondents saw at grocery store and 11% of total respondents saw from neighborhood. 42%, 5% and 4% of total respondents received newsletter at their home, from neighbor and fish trader, respectively. This means that the effective way is to distribute media should pass directly to target group.

Table 2 illustrates that respondents acknowledge information of mangrove forest conservation from poster are 36% of total respondents at high-level, 24% of total respondents at average level. LBCRM-PD poster is informative media that respondents answer that they gain knowledge from this media which



Table 2 Number of Respondents who gain knowledge from media distribution

Media	Highest	High	Average	Less	Never
Mangrove forest conservation poster	10	36	24	12	1
LBCRM-PD poster	6	25	19	12	5
Newsletter	3	19	15	7	4

Note: Some of respondent does not answer

are 25% of total respondents at high-level and 19% of total respondents at average level. Newsletter is preferable media that is effective to distribute information to target group. 19% and 15% of total respondents notify that they gain knowledge from the newsletter at high-level and average level, respectively. This result can clarify that most of respondents prefer to get information from poster, which composes of picture rather than words typed in newsletter.

Table 3 Comprehension of the LBCRM-PD project implementation

Media	Excellent	Best	Good	Poor	Poorer
Mangrove forest conservation poster	9	29	34	10	8
LBCRM-PD poster	6	20	31	10	7
Newsletter	3	14	20	8	6

Note: Some of respondent does not answer

Table 3 shows five levels of the project comprehension that respondents answer. All types of distributed media are useful to respondents to comprehend the project implementation are at average level. The result is 34%, 31% and 20 of total respondents gain their comprehension from mangrove forest conservation poster, LBCRM-PD poster and newsletter, respectively. Therefore, the table also illustrates that there is some respondents do not understand the project implementation. These percentage are 8%, 7% and 6% of total respondents which categorized to mangrove forest conservation poster, LBCRM-PD poster and newsletter, respectively. The respondents' comprehension is at average level that this may cause from the project has long project title which is difficult to remember. Therefore, there are many government agencies and organizations implement their project at the same stie, so this may cause respondent cannot identify the project implementation. This means that project staff have to make plan of the project information distributing continually.

Table 4 Media design and its attraction

Media	Excellent	Best	Good	Poor	Poorer
Mangrove forest conservation poster	22	57	12	1	-
LBCRM-PD poster	17	52	14	1	-
Newsletter	11	48	12	4	-

Note: Some of respondent does not answer

Table 4 explains level of media design and its attraction, which how good it is. Each type of media is given an evaluation at good-level. 57%, 52% and 48% of total respondents express that the two posters and a newsletter reach good-level of media design and its attraction. There are only 1%, 1% and 4% of total respondents do not satisfy with the poster and newsletter design. Pictures of posters and newsletter are scenery of community's location, local people and local activities, so these may make attraction to respondents.

Table 5 Media's phrase and clearnace

Media	Excellent	Best	Good	Poor	Poorer
Mangrove forest conservation poster	16	56	13	4	-
LBCRM-PD poster	11	42	16	4	-
Newsletter	8	32	8	3	-

Note: Some of respondent does not answer

Table 5 is to evaluate level of media's phrase and clearance. 56%, 42% and 32% of total respondents satisfy with media's phrase and clearance of all distributed media types. This may mean that using phrase and printed clearance are supportive factors to explain information, which is transferred to target group to easily understand.

VI. Conclusion

The result of evaluated media distribution to local people shows that the effective way is all media should be passed to target group directly or pasted at grocery or store. The media should compose of simple and easy phrase to facilitate target group to easily understand. The picture of community's location, scenery, activities are attractive material which should be pasted in poster, newsletter and other type of media. Local residents live in Tambol Pakklong are confusing which activities are implemented by the LBCRM-PD project. This is pin-pointed reason that information dissemination through media distribution should continually implement to expand number of residents comprehend the project implementation.

**Women's Activity in Fish Processing in Tambol Pakklong, Pathew District,
Chumporn Province**

Sumitra Ruangsivakul ¹

Jirapa Kamhongsa ²

and

Jinda Pethkamnerd ²

ABSTRACT

Activity III (Encourage local business) is strategy to concretely contribute an increase of income and creation of alternative job opportunity. Members of women's group in savings is main target people. A value added fisheries product activity is set up and introduced to members of the group. The members attended training course on value added fisheries products and packaging product. Objectives of the training course were to transefer fish processing technique, knowledge and skill to the group's members and other women in community. Training course was arranged through study trip that took representatives of women's group members and women in community to observe successful women's group at Ban Pala, Chang District, Rayong Province. These representatives distributed information gained from study trip to other members and women in community after they had sceneric experiences. They tried to develop recipe of fish processing by their own knowledge and skill. The women's group received funds from Pakklong Sub-District Administrative Organization which source of funds was allocated by Ministry of Interior. The women's group fish products is elected to be representative of community product. This leads the group's product implemented and contributed by One-Tambol, One-Product project which is under national policy year 2001.

Key word: Encourage local business, creation of job opportunity, women's group processing of fisheries products, value added fisheries products

¹ *Socio-economic researcher, Research Division, SEAFDEC/TD*

² *Chumporn Marine Fisheries Research and Development Center*



I. Background

Locally Based Coastal Resource Management in Pathew District, Chumporn Province (LBCRM-PD) project has established on 9 November 2001 by collaborated between TD/SEAFDEC and the DOF, Thailand. The aims of this project are to achieve sustainable use of coastal resources and transfer experience and lessons learned through the implementation of the project to other ASEAN member countries.

LBCRM-PD project has six main activities, Base Line Survey (Activity I), Extend and encourage LBCRM (Activity II), Encourage Local Business (Activity III), Enhance human resource capability and participation (Activity IV), Develop extension methodologies and strengthening the extension system (Activity V), Rehabilitate and enhance coastal resource (Activity VI).

Encourage Local Business (Activity III) places an emphasis on an increase of income and creation of alternative job opportunities. The way of increasing income is not means of expanding numbers fishing effort and an investment; but it is by means of handling technology improvement, marketing and processing of fisheries products. The development of value added fisheries products is an effective tool to increase income. Women play a vital role in this fish processing activity. Many of them are members of women's group. They are participating in the active women group's activity, which mainly concerns community-based saving and financing groups. This active activity is main source of loan that members can access.

Activity III (Encourage local business) concretely contribute women' group to handle fish processing products. The women's group product is elected to be representative of community products. The women's group received funds from Pakklong Sub-District Administrative Organization (Ao.Bo.To) which source of funds was allocated by Ministry of Interior. The Ministry of Interior is a government agency implements national policy of One-Tambol, One-Products, which started in year 2001. Then, the group's product become product of One-Tambol, One-Product project.

II. Objectives of Fish processing activity

- 1) Develop low economic value of local fish products to be more value added products
- 2) Increase an additional source of income to fishers' households
- 3) Improve women's skill and knowledge on fish processing and product development

III. Outcomes of Fish processing activity

- 1) Improved role of women to be more active and skillful in technique of fish processing and product development.
- 2) Instituted systematically women's group to handle fish processing activity.
- 3) Created an alternative job opportunity to women in community.

IV. Procedure of implementing fish process activity

Women in community at the project site are target group to participate in Activity III (Encourage local business). Top priority of objective of this activity is an increase in income to fishing households. Project staff introduced and arranged activity of value added fisheries products to women in community. The value added fisheries product activity is effective tool to reach the objective of the Activity III. The project staff conducted two accumulative methods to design and implement value added fisheries product

activity. The methods are as follows:

- 1) Conducted base line survey through questionnaire. The questionnaire composed of two parts. Part 1 was general data survey and part 2 was placed an emphasis on characteristics, function and members of women's group.
- 2) Appriaisal assessment of collected data was used to formulate and arrange training course and activities for women. The activities arranged for women were as follow as:
- 3) Study trip on fish processing at active and successful women's group in other province
- 4) Seminar on local business adminstration and management
- 5) Training course bases on women's need
- 6) Providing of coordination between government agencies related
- 7) Arranging discussion and problem analysis including solution

V. Activities

5.1 Study Trip Activity

On 22 January 2002, SEAFDEC/TD and Chumporn Marine Fisheries Research and Development Center arranged study trip on fish processing for 6 representatives of women's group. They visited Ban Pala Fisheries Group that handled a value added product activity. All representatives practically learned techniques of fish processing products, marketing on fish product distribution and skill of group's activity management. After attended the study trip, all representatives disseminated all gained information to women's group member through demonstration of fish processing product. Many of group's member agreed to eagerly adopt new activity of value added product to be group's activity. The group requested the project staff to provide training course and practice on fish processing technologies. The course focused on squid and fish processing technologies and packaging methods.

During 22-25 January 2002, representatives of women's group in Tambol Pakklong joined a seminar on "Business Development of Fisheries Cooperatives in Thailand". This seminar was organized by the National Fisheries Cooperatives of Japan (Zengyoren) and Cooperative League of Thailand (CLT). The main topics of the seminar were on fisheries cooperatives development in Thailand, fish markets and useful experiences in other countries. The representatives were very interested in cooperative functions on how to organize and manage business activities.

On 6-7 February 2002, SEAFDEC/TD staffs were from socio-economic section and audiovisual section visited a women's group in Tambol Ban Pasae, Rayong Province. They shot a recording video on seasoning anchovy processing methods. The recording video was made many copies and sent to women's group in Tambol Pakklong. This media was cost-effective tool to encourage members of the women's group to learn fish processing and develop variety of fish products.

5.2 Coordination activity

On 1 March 2002, members of women's group of village No. 1 and No.6 arranged group's meeting to ask their agreement on the displacement of the group's name. The name of the group was renamed from women's savings group to be women's group for fisheries processing and products. Project staff subsidized the group by provided label-sticker, which outlined the group's name and contacting address in



the mid of May. This was to contribute group's product distribution.

On 27 June 2002, there were 20 women of village No. 7 submitted to establish women's group for fisheries processing. The project also arranged subsidies for the group. The project granted necessary equipment to the group to encourage members handle fish processing products.

5.3 Training Activity

On 27-29 May 2002, project staff arranged two training courses for women in community and member of women's group at village No. 1,3, 6 and 7. The topics were fish processing course and product packaging course. There were 60 women from 4 villages attended the courses. Women of village No. 3 established women's group after they attended the training courses. The project staff continually arranged training course for the women's group to enhance their expertise and practice.

VI. Result of Implementing fish processing activity

6.1 In Case of Women's group in Tambol Pakklong

There are six women's groups established in Tambol Pakklong after the project staff introductory implemented value added product activity. These groups have different group's structure and means of group's administration. However, they are standing on the same objective that would achieve an increase in income to their own households.

1) Women's group for Production, Tambol Pakklong

After the women's group renamed from savings group in 2001 to be fisheries processing and product in 2002. Direction of group's objective is focused on increasing and developing value added fisheries products by using raw material in local community. The second objective is to encourage member to accumulate tiny amounts of money as savings. They deposit a fixed amount of savings on a monthly basis. The third objective is to provide financing short-term credit to members. At recently, numbers of members are 79 members that they are housewives of fishing households of village No. 1 and No. 6. The group is funded by Ministry of Interior to raise group's product handled under One-Tambol, One-Product project. This project is to enhance local and small business.

2) Women's group of Village No.2

In 2001, this group has established by Community Development Department, and provided the pigs (amount 25,000 baht) for members for set up new group, the purpose has increasing pooled micro credit funds bring wide variety of opportunity whereby members invest in their present jobs and alternative livelihoods. There are 15 of memberships. The problem is lack of marketing system.

3) Women's group of Village No.3

In 2001, this group has set up by Community Development Department, and provided the rice mill (amount 25,000 baht) to member for micro credit funds. 9 of members are operating this fund, and people in this village can buy rice by credit and cheaper than other market. This group does not develop as much as it should be, because most of members are fishers' wives that they do not have much time to spend for the group's development and management.

4) Women's group for fish processing, Village No.3

In 2002, women's group for fish processing was established by Department of Fisheries and

SEAFDEC, and provided the necessary equipment (amount 3,000 baht) to group for processing activities. There are 25 memberships of housewives. The main activities are savings and fish processing.

5) Women's group for development of Village No.4

In 2001, this group was formed by Community Development Department, but got fund from Sub-District Administrative Organization was amount 100,000 baht, the group's activities are savings, loan and making paper flowers. The numbers of members are 88 members, the most of members engage in agriculture. At present, some of member joins as member of women's group for fish processing.

6) Women's group for fish processing of Village No.7

In 2002, this group was established by Department of Fisheries and SEAFDEC, and provided the necessary equipment (amount 3,000 baht) to processing activities. The group has 22 members, most of members engage in fisheries. The leader of this group is still lack of experience on market and the process of group work.

6.2 Women's group on means of business management

Members of women's group have learnt and practiced in fish processing after they attended training courses. They gained self-experience on fish processing product development and group's task administration. This leads to variety of means of group's business management.

Enhance entrepreneurship

The women's group activities of village No. 1 and 6 successfully enhance entrepreneurship and awareness about a new business chance among members. In Moobaan No.1, some members of women's group recognized possibility of fish processing development and its profitability immediately after the TD and the DOF took leaders of Tambol Pakklong to observe a successful women's group in Rayong Province, which undertook fish processing and market products at lucrative prices. A women fish trader (Pae Pla) takes as chairman of women's group, has a decisive role in extending entrepreneurship. The chairman and her colleagues started with several experiments on small-scale basis at the outset, and then they have gradually expanded the scale of production and explored new market channels. In this process, she invested a large amount of capital by herself, to buy necessary equipments and materials. Her knowledge concerned marketing channels and business administration is by no means the same as others, because she has involved in large-scale fish dealing for long time. She realizes that fish processing product used local raw materials are lucrative enough to investment. The project activities have succeeded to give incentives to her and her colleagues. At a next stage, we anticipate that her and her colleague's entrepreneurship will be disseminated to other members of the groups, and people at the project site.

In Moobaan No. 7, several women have just begun to try fish processing led by a women who has had some experiences. Young married women are actively joining a cooperative work for processing. Although their means is different from the group in Moobaan No.1, they and their leader inspire to achieve the success of earlier trials. However, the activities of the Local Business group just started in January 2002. It takes several steps and time-consuming to disseminate the means of entrepreneurship to sustain growth of fish processing.

6.3 Seek for Proper Approaches to Encourage Fish Processing



Implementation of training programs has given a strong impetus to the women. The programs are becoming a supportive factor to develop their ability of creating alternative income sources. Through the planning and implementation of the training programs, the project staff came to realize the following two points. Firstly, many people's organization and activity of a processing group with in whole area in Tambol Pakklong is not practical, and cost-effective. Secondly, there should be defined proper approaches, which consider based on problems and needs of community for promoting fish processing in Moobaans.

Three women groups were established in Moobaan No.1, 3 and 7. The women were joining training program forced to establish women's group in their own village. We assess that the training program often seems inflexible and much stereotyped. The establishment of group at the end of training program is a typical example. The DOF brings a small amount of subsidy, which needs solely one group establishment per training course. The women joined the training program from Moobaan No. 7 wanted to establish their own group. They eventually did so. Their group is now actively involved in exploiting new products.

6.4 A Variety of Fisheries Processing Products

Women's group arranged self-experiment on recipe of fish processing product in long period of seven months. This results to variety of fish products. In Moobaan No.1, the women's group produces 2 kinds of fish products at present. One type is very traditional taste; other type is just introduced through the DOF and TD training programs. The total numbers of products are five products.

In Moobaan No.7, women seek raw materials by themselves and develop processing techniques on their own view. They have produced 3 kinds of products. However, all types of fish products are not favorite taste at urban market, but some of fish products is very tasty and reach consumer's required taste.

VII. Recommendation

Outcomes of women's group establishment and administration leads to alternative and proper approaches to strengthen women's group on fisheries processing and products. Group-based or individual-based processing is one selection. Some of target women and people would much prefer to begin a processing activity on individual basis than group one. We diversify our own approach toward promotion of fish processing.

However, experiences gained during these days indicate that encouraging and sustaining group works are very difficult, and often need enormous amount of energy. Of course, it does not deny the necessity of people's cooperation in general.

Effort to Establish A Self-Management Framework in the Demarcated Zones

Sayan Auimrod¹
Phattareeya Suanrattanachai²
and
Jinda Petchkamnerd³

ABSTRACT

The Department of Fisheries (DOF) formulated Thai sea rehabilitation program, which was under the Eighth National Social and Economic Development Plan (1997-2001). This program adopted concept of territorial use right in fisheries (TURFs) and fishing right system to contribute alleviation of resource user conflicts. The main concept of TURFs and fishing right system is demarcation of coastal areas. A demarcation of coastal zone will possibly encourage development of decentralization process in local administration. Sub-district Administrative Organization (Ao.Bo.To.) was established in 1994. Ao.Bo.To. may take responsibility and function as a local management body to execute community development and coastal resource management. The DOF set up a demarcated zone (Area I and Area II) in Pathew Bay, Pathew District, Chumporn Province. This demarcated zone reached an agreement of local people's consensus. The consensus of the demarcated zone became official Chumporn Provincial Proclamation. This proclamation has been effective since 4 November 2002 after publicly announced to local people, stakeholders in the province. The DOF (headquarter), the Provincial and District office of DOF, Chumporn Marine Fisheries Research and Development Center and SEAFDEC/TD plan to encourage and improve capacity building of Ao.Bo.To. to be lead and core institution to control the demarcated zone proclamation.

Keywords: TURFs, demarcation of coastal zone, decentralization process, people's consensus, Ao.Bo.To.

¹ *Fishery extension officer, Provincial Office of Fisheries, Chumporn Province*

² *Socio-economic Section, Research Division, SEAFDEC/TD*

³ *Chumporn Marine Fisheries Research and Development Center*



I. Background of Demarcation Program Adopted in LBCRM-PD

1. Policy of coastal resource management

1. The Department of Fisheries (DOF) recognizes that competition of commercial and small-scale fishers lead to conflict of interests and social problems. The Eighth National Social and Economic Development Plan (1997-2001) formulated Thai Sea Rehabilitation Program to contribute alleviation of resource user conflicts. This program adopted concept of territorial use right in fisheries (TURFs) and fishing right system as mechanisms to alleviate conflict of resource users. DOF brought main concept of TURFs and fishing right system that is demarcation of coastal areas.

2. DOF also introduced local people and stakeholders to comprehend concept of community-based fisheries management (CBFM) approach to manage local resource base in the demarcated coastal areas. The CBFM is creative and practical management methods and encourage people's participation.

2. Prepared A New Project in Tambol Pakklong, Pathew District, Chumporn Province

3. DOF implemented the Thai Sea Rehabilitation Program at Bangsaphan Noi and Bangaphan Districts in Prachuabkirikhan Povice, namely Fishing Right Pilot Project (FRPP). The demarcated coastal areas has legal framework to control and prohibit destructive types of fishing gear to fish in the demarcated coastal areas. Trawls and luring light purse seines have to use mesh size is bigger than 2.5 cm (Yamao & Suanrattanachai, 2001).

4. DOF planned to extend lessons and experiences on coastal resource management gained through a pilot project in Prachuabkirikhan Province to adjacent provinces. It decided to merge a coastal resource management project, which would be planned in Tambol Pakklong, Chumporn Province, with the Royal Project Scheme. This is to avoid a duplicated work between DOF, the Royal Forestry Department and the Royal Project Bureau and to achieve cost-effectiveness of coastal management project.

5. DOF became a lead department in fisheries sector to implement coastal resource management project. Marine Fisheries Institution, DOF took responsibility to establish a workable framework of sustainable coastal resource management in the sea in the front of Tambol Pakklong (Yamao & Suanrattanachai, *Ibid*).

3. Decentralization and New Challenge to Community Development

6. A demarcation program of coastal zone will possibly develop, keeping pace with a process of decentralization in local administration that Thai government has undertaken. Devolution of authority has been an important issue of Thai politics since 1980s. Mechanism of this policy was an establishment of Sub-district Administrative Organization (Ao.Bo.To) in 1994. Member of Ao.Bo.To and its council are elected from local residents in its own Moobaan (village). They have to take responsibility to execute community development and provision of the local people's welfare. The new constitution, proclaimed in 1997, defines a decentralized and democratic mechanism at which people should participate in decision-making process of community development and welfare with budget allocation. They gain more opportunities to participate in the planning and implementation of social and economic development programs.

7. In coastal and small-scale fisheries, Ao.Bo.To may take responsibility and function as a management body for local fisheries and coastal resource management guided and supervised by the Provincial Office of Fisheries.

II. Implementation of Demarcation Program

1. Application of Zone Demarcation

8. DOF implemented the coastal resource management project in Pathew District by using application of FRPP in Bang Saphan and Bang Saphan Noi Districts, Prachuabkirikhan province. In the same way as did the FRPP, the DOF planned to set up a demarcated zone in the Pathew Bay, Pathew District.

9. Chumporn Provincial Office of Fisheries arranged public hearing meetings twice. These meetings followed the mandate of Thai new constitution that let local people participate in the decision-making process in the demarcation of coastal zone plan. Members of Ao.Bo.To council, of course, have to join the meetings in order to propose the final agreement and consensus of people to the Pathew District Office and the Chumporn Provincial Office.

2. Agreements in the Meetings

10. The first meeting was held on 11 August 2000. Fishers, stakeholders and DOFs officials met to discuss and debate an appropriate demarcated zone. They agreed to mark off Area I in the sea in the front of the areas covering Ban Numpu (Moo 5) and Ban Thumthong (Moo 3). The Royal property is located between both communities. The Area I was lined up with 3 km distance from the beach and is 46 square km.

11. The second meeting was held on 5 June 2001. The Chumporn Provincial Office of Fisheries officer proposed to expand the demarcated zone toward the south of Tambol Pakklong, Pathew District. This was to contribute the objective of the Royal Project Bureau to cover areas of mangrove forests for enhancing nursery ground and spawning ground. The new area has boundaries from Ban Thumthong (Moo 3) to Ban Thungmaha (Moo 1). This area is approximately 70 square km.

12. These two demarcated zones are fundamental requirement to contribute the coastal resource management project. However, these two demarcated zones are not defined as an exclusive use right in the Area I and Area II. Thai fishers customarily utilize fisheries resources that they usually exploit any kinds of marine species in anywhere they want to go fishing. They fully support the idea of demarcated coastal areas to prohibit illegal fishing boat encroachment. However, they strongly reject the concept of an exclusive use right in the Area I and Area II. As a result, local people and stakeholders demanded that DOF should proclaim the prohibition of using trawls, push net, cockle cast net and anchovy fishing at night within the demarcated zones.

13. DOF designed a project that would encourage the local people, stakeholders and communities to enhance their capability of management and development methods to achieve sustainable use of coastal resources in the demarcated coastal zones. This fundamental requirement is a very effective approach toward an expansion of comprehensive community development programs.

III. Arrangement of the Demarcated Zone Proclamation and its Effectiveness

1. Procedure of the Demarcated Zone Proclamation

14. Procedure of the demarcated zone proclamation officially developed through three steps. The first step was on a stage of local people and stakeholders making consensus (at Tambol or Moobaan level). This stage opened chance to all local people and stakeholders to propose their need and maximize their common interests. DOF's Chumporn Provincial officers took roles to give information to all local people's consensus and stakeholder for their debate of opinion and consider the priority of task and/ or solution. At

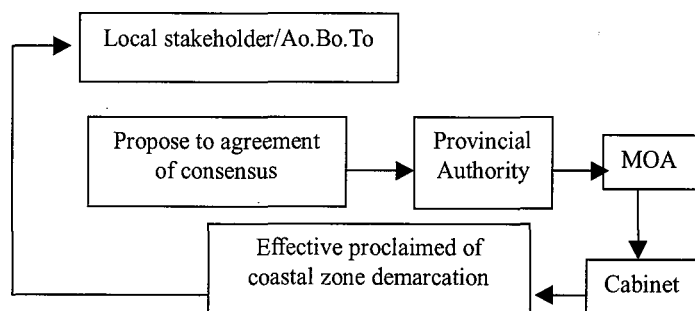


this stage, members of Ao.Bo.To councils also joined the meeting and contributed to propose the community to the officers.

15. At the second stage, the DOF's Chumphon Provincial officer convinced the local people and stakeholders to present the community (Tambol) consensus on the demarcated zones to committee of the Chumphon provincial office. This committee considered the community consensus and legally justified the consensus that should not conflict with Fisheries Act, B.E. 2490. The DOF officer proposed the consensus to the committee of the DOF, headquarter.

16. The committee of DOF headquarters proposed to the cabinets to ask for their consideration and approval. The consensus of the demarcated zones was put into effective after the cabinet approved the consensus on 4th October 2002 (see *Map of Demarcation of Area I and II*). The consensus of the demarcated zones became official Chumphon provincial proclamation. This proclamation was effective since 4th November 2002 after this was publicly announced to local people, stakeholders in the province (see *Chart 1*, process of consensus approval).

Chart 1 Process of Consensus Approval



IV. Mechanism to Strengthen the Demarcated Zones Proclamation and Management

1. SEAFDEC/TD-DOF Collaborative Project Implementation

17. Under the Fisheries Consulting Groups (FCG) scheme, SEAFDEC/TD collaborates with DOF, Thailand to implement a coastal fisheries management program. TD is lead implementing department of the SEAFDEC. DOF take role as lead country of ASEAN member countries. TD and DOF coordinated and shared ideas to formulate a project proposal to implement the program. These two counterparts have formulated the proposal of collaborative project entitled "Locally Based Coastal Resource Management in Pathew District, Chumphon Province" (LBCRM-PD) project in October 2001.

18. This project proposal developed from the basic concept and methodologies adopted as the same as the DOF's initial proposal. Therefore, DOF and TD have reached agreement that both counterparts will be involved in the King's project in Tambol Pakklong, Pathew District, and Chumphon Province under the FCG scheme.

19. The LBCRM-PD project has three overall objectives.

- 1) The establishment of sustainable coastal resource management at local levels
- 2) The rehabilitation of coastal resources

- 3) The alleviation of poverty in coastal fishing community

2. The LBCRM-PD Project Framework and its Activities

20. The project framework adopted three applicable approaches, namely, 1) a community-based fisheries management and co-management approaches, 2) a resource enhancement approach, and 3) a job creation approach. The first approach composes of participatory management and institutional strengthen methods.

21. The LBCRM-PD project consists of six activities to achieve overall of objective of the project. The six activities are 1) base line survey (Activity I), 2) encourage and extend the locally based coastal resource management (Activity II), 3) encourage local business (Activity III), 4) enhance human resource capability and participatory (Activity IV), 5) develop extension methodologies and strengthening the extension system for sustainable use of coastal resource (Activity V), and 6) rehabilitate and enhance coastal resources (Activity VI).

22. These six activities are multi-disciplinary management approach that each activity has interaction among them in different place and workflow implementation.

3. Improvement of Capacity on Management of Demarcated Zone

23. The implementing agencies are DOF (headquarter), the Provincial and District office of DOF, Chumporn Marine Fisheries Research and Development Center (CMDEC) and SEAFDEC/TD plan to build and improve capacity building of Ao.Bo.To to be lead and core institution to control the demarcated zone proclamation. They recognize that local people and stakeholders' participation are very important to execute the capacity building of Ao.Bo.To.

24. In the implementation of LBCRM-PD, training course (Activity IV) and extension program (Activity V) are key mechanisms to strengthen the capacity building of Ao.Bo.To to effectively proclaim the demarcated zones. TD and CMDEC collaborated to arrange on-site seminar of the LBCRM-PD project in April 2002. This on-site seminar was to increase numbers of local people and stakeholders to understand aim of the project. On the other hand, this seminar was to increase number of local people and stakeholders to participate in the project and activities implementation. This on-site seminar was held at all seven villages of Tambol Pakklong, Pathew District for five days.

25. TD and CMDEC input more information concerned the LBCRM-PD through series of leaflets and posters. Contents of poster placed a great emphasis on the progress work of the LBCRM-PD project. This poster's contents included map of the demarcated zones to help disseminating this map to public and other communities. Therefore, this was to enhance local people and stakeholders to participate in regulating self-management on the demarcated zones.

4. Facility Arrangement for Monitoring and Enforcement on the Demarcated Zones

26. Chumporn Provincial Office of Fisheries, CMDEC and SEAFDEC planned to propose Ao.Bo.To. to share responsibility and budgetary arrangement to monitor and control any illegal fishing boat encroaching in the demarcated zones. This conceptual plan was application of CBFM and CM approaches that emphasized local people and stakeholders to participate in monitor, surveillance and control (MSC). The three parties' team staff gained a concrete view and experience from study trip in Iloilo city, Philippines in December 2001. They intended to apply the concrete view into the MSC of the demarcated zones, which was supported by the Thai new constitution, 1997.

27. The three parties arranged information of people's participation in MSC to Ao.Bo.To., local people



and stakeholders through a round table discussion at on-site meeting. The parties guided Ao.Bo.To. that the community should have patrol boat by its owned arrangement. Therefore, all parties of community should set up committee to undertake responsibilities on MSC in the demarcated zones. The local government officers are fisheries officer and police; they should join this community's committee to execute MSC.

28. The King Royal Project Bureau provided an amount of budget to Ao.Bo.To. to construct the project office. This office attaches radio equipment to settle radio station inside the office. This radio station is built up to contribute MSC.

5. Requirement to Strengthen the Demarcated Zone Management

29. Guideline and training course for the local people to participate and contribute MSC system at local level. Information arrangement and practical training course are to support local people to understand how far they can protect their community resource base and what they should do.

30. Budgetary arrangement for supporting MSC system at community (Tambol) level. This arrangement should be shared by all sectors concern such Chumporn Provincial Office of Fisheries, Ao.Bo.To and other stakeholders.

31. Strengthening of all parties' concern for effective coordination local government officers are such Chumporn Provincial Office of Fisheries, Pathew District Office of Fisheries and other government sectors. These all parties should give advisory guide and recommendation to institute and organize local people's organization that takes responsibility to implement MSC system at local level.

6. Limitation of the Demarcated Zone Management

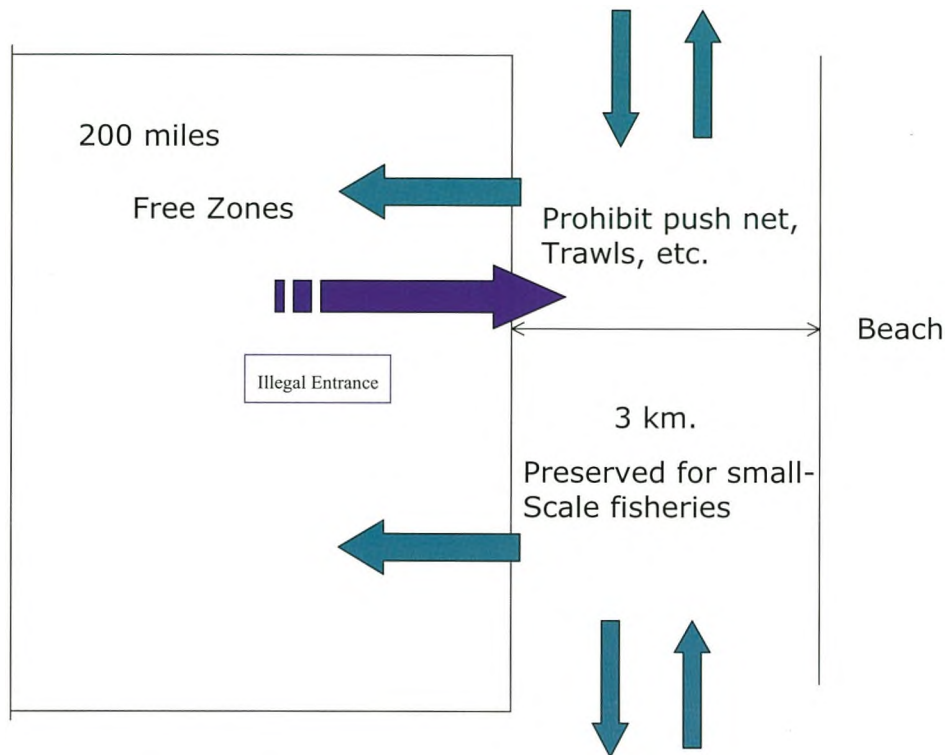
32. Devolution of authority is still not enough. Central government makes a plan to delegate responsibility of coastal resource management to community. However, at present, the government does not devolve any authority to Ao.Bo.To, not empowering any proclamation of coastal resource management. The Ao.Bo.To can take full responsibility to manage and develop coastal resources. The Ao.Bo.To takes responsibility as witness to inform local government officers to arrest any offenders intrude in the coastal areas.

V. Conclusion:

33. Reformation of Thai new constitution (1997) and decentralization of authority through establishment of Sub-district Administrative Organization are workable policy to support the expansion of CBFM and CM approaches to manage coastal resources. The demarcation of coastal zones is regarded as an applicable component of TURFs and fishing right system. Principle of this applicable component is to transfer "common property" under de-fact open-access regime to communal property under a new regime with more excludability and less rival ness (see *Chart 2*).

34. However, most of local fishers (both small-scale and commercial ones) reject to adopt any exclusive fishing right and territorial use rights in fisheries. DOF has so far made much effort to enforce 3 km zoning line that exclude destructive fishing methods like trawls from in near seashore. In LBCRM-PD, the DOF would promote local fishers and stakeholders to achieve consensus and make agreement on how to use demarcated coastal zones within the present framework of fisheries management. Ao.Bo.To. is a lead local government unit to gather local resource users and stakeholders to participate in making resource development and management plans and activities. Of course, this demarcated zone is open to any fishers and stakeholders coming from outside.

Chart 2 Present System within Thai Territorial Waters



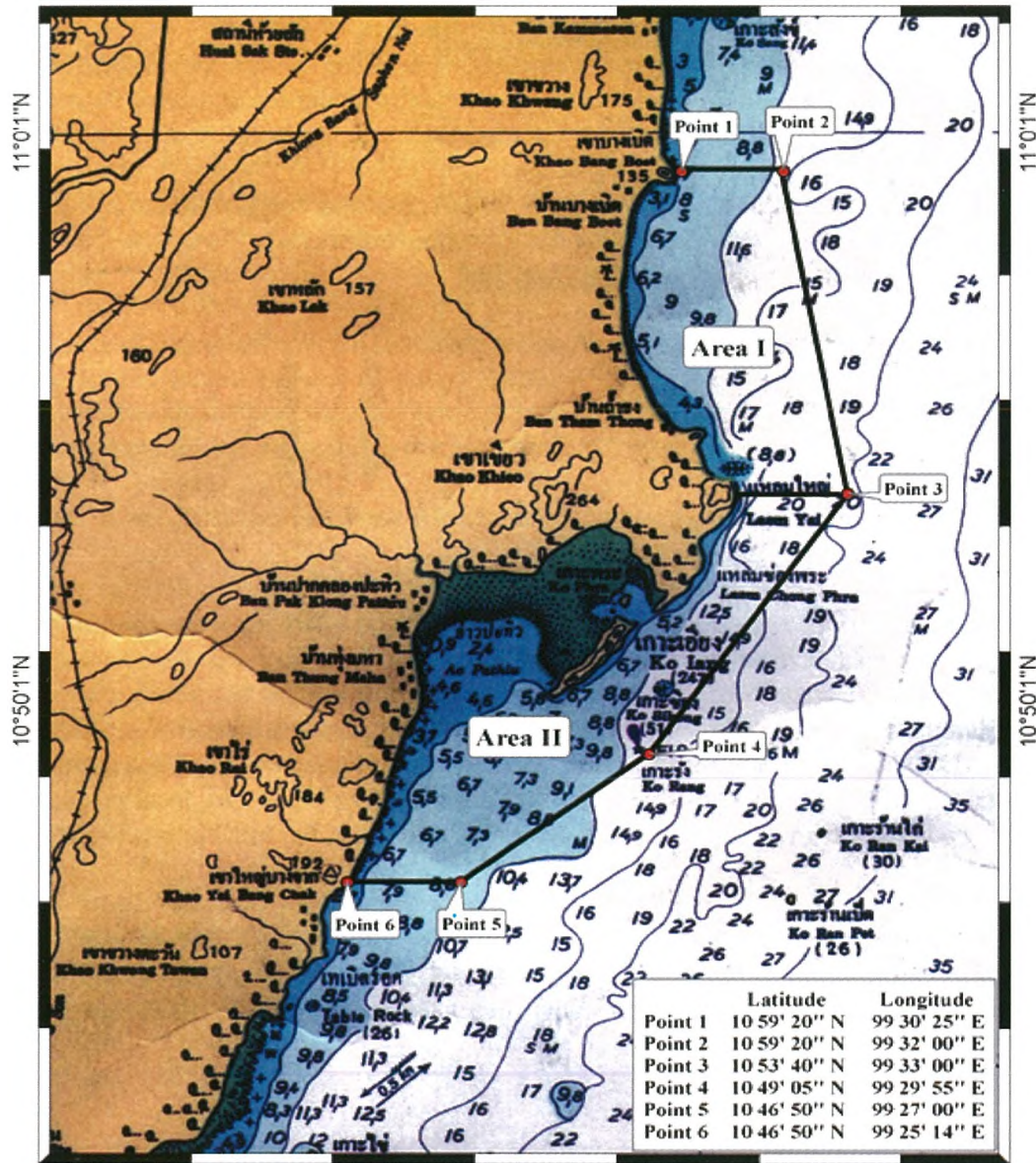
35. The demarcated zone management introduced in the Pathew Bay is an example of procedure of local people's participation in achieving community consensus to manage coastal resources. Ao.Bo.To., local resource users and other stakeholders debate their opinion on the public meeting stage to reach the common community's interest. Then, they made community consensus on the demarcated zones on Area I and Area II. The demarcated zones are authorized and enforced by the Chumporn Provincial Proclamation. An effectiveness of this proclamation depends upon Ao.Bo.To, local people, and other stakeholders coordinate with local government officers to strengthen the MSC of proclamation.

Reference

Yamao, Masahiro and Suanrattanachai, Phattareeya, Background and Project Proposal of Locally Based Coastal Resource Management in Pathew District, Chumporn Province (LBCRM-PD), TD/RES/No.55, LBCRM-PD No.2, July 2002. 50 pp.



Map of Demarcation of Coastal Area in Pathew Bay with officially proclaimed
 by Chumphon Province on 4 October 2002



99°30'2"E
 Arranged by Siripom Pangson, Research Division.
 Southeast Asian Fisheries Development Center, Training Department, February, 2003.

Experience in the Zoning of Fish Cage and Shellfish Culture Areas

Phattareeya Suanrattanachai¹
Jinda Petchkamnerd²
and
Sayan Auimrod³

ABSTRACT

The demarcation of coastal areas in Pathew Bay officially proclaimed by the Chumporn province. Local fishers, fish-farmers and other stakeholders utilize these areas for fishing, cruising boat and engaging in fish cage culture and shellfish culture. The Chumporn provincial office of fisheries proposed the concept of the zoning of fish and shellfish culture to all local stakeholders. Objectives of this concept are to control numbers of fish-farmers and numbers of fish cages and areas. The concept of aquaculture zoning areas composed of two purposes. The first purpose was to change allowable areas for utilizing only shellfish culture areas cited in the provincial proclamation. This area should be changed to a purpose from shellfish culture areas to be community (Tambol) culture areas. The second purpose was to designate coastal zones for utilize as fish and shellfish allowable culture areas that local stakeholders have marked, considered and agreed by local people's consensus. The preparation of aquaculture zoning areas predicates two steps that are 1) at the Moobaan based step is to achieve the sharing of common interests and satisfaction of local users and stakeholders and 2) at the Tambol (sub-district) step is to strengthen the community needs and requirement through Ao.Bo.To.'s approval and contribution.

Keywords: aquaculture zoning areas, local people's consensus, Moobaan based step, Tambol based step, Ao.Bo.To.

¹ *Socio-economic Section, Research Division, SEAFDEC/TD*

² *Chumporn Marine Fisheries Research and Development Center*

³ *Fishery Extension Officer, Provincial Office of Fisheries, Chumporn Province*



1. The Rationale of Aquaculture Zoning Areas

1. The coastal areas of Pathew Bay effectively proclaimed by the Chumporn provincial demarcated zones are fundamental fishing ground areas. All local fishers, fish farmers and other stakeholders always utilize these areas for fishing operations, cruising and engaging in fish cage and shellfish culture.
2. Conflict between fishers and fish farmers seems to be becoming a serious problem in Tambol Pakklong. Fish farmers and newcomers try to extend the areas of fish cage culture. The newcomers marked areas to reserve them for their own fish cage culture use. Some of these marked areas encroach into the cruise track of fishing boats. And some of these marked areas are used as anchorage for fishing boats in the monsoon season to avoid any disasters from strong winds.
3. Figure 1 shows the utilized areas for fishing grounds in Ban Thungmaha Bay. This figure illustrates the cruise track of fishing boats, fish cage culture areas and shellfish culture areas. Fish farmers set fish cages along the areas of Ko Iang Island. These fish farmers have household registrations at Moo 1, Moo 6 and Moo7.
4. Any increase in newcomers into fish cage culture and areas without control may not give a reasonable incentive to both fish farmers and newcomers. Moreover, this may cause severe conflict among fishers, fish farmers, newcomers and other local stakeholders. Thus, the project staff and local government officer proposed the concept of the zoning of fish and shellfish culture to all local stakeholders. This concept has the objective of controlling the numbers of fish-farmers and the numbers of fish cages and areas. Therefore, it is a strategic tool to alleviate conflict between fishers and fish farmers on utilizing the fishing grounds in the Thungmaha Bay.

2. Proposing the Concept of Aquaculture Zoning Areas

5. The Chumporn Provincial Office of Fisheries officer proposed to the local stakeholders two concepts of aquaculture zoning areas. The first concept was to change the purpose of utilizing culture areas cited in the provincial proclamation. This proclamation allows local stakeholders only to carry out shellfish culture in the area (the DOF' area, see *Figure 1*). Actually, fish farmers mostly engage in fish cage culture rather than engage in shellfish culture. This area should be changed to a purpose from a shellfish culture area to be a community (Tambol) culture area.
6. The second concept was to designate coastal zones for use as fish and shellfish culture areas that local stakeholders have chosen, considered and finalized by consensus. This was to extend areas for culture engagement to local stakeholders. Therefore, this concept would be a method to manage the utilization of fishing grounds and control any increase in aquaculture engagement.
7. Chumporn Provincial Office of Fisheries officer anticipated that these visionary management concepts may contribute to local users and stakeholders so that they gain benefit distribution and equitably engage in capture fisheries and aquaculture establishment.

3. Preparation of Aquaculture Zoning Areas

8. The preparation of aquaculture zoning areas predicates two steps that are 1) at the Moobaan based step and 2) at the Tambol (sub-district) based step (see *Chart 1*). In the Moobaan based step, this is to give strengthen to procedure for local users and stakeholders' consideration, the sharing of common interests and to achieve satisfaction among local users and stakeholders. The Tambol based step is to strengthen the community needs and requirements through Ao.Bo.To's certification and contribution.

3.1 At Moobaan Based Step (Step 1)

Key Approaches: The Moobaan based step places emphasis on two approaches. One is the people's participatory approach and other is an awareness building approach. This step follows the demands of the new Thai constitution proclaimed in 1997 that local users and stakeholders must participate in the decision-making process of community development and management plans and actions. Local people's consensus is at the Moobaan based step and can be conducted through village (Moobaan) meetings until all local people are satisfied and give their agreement.

Main Issues of Local People's Pre-consensus: The Chumporn Provincial Office of Fisheries officer and the LBCRM-PD project staff pay attention to this local people's consensus at the Moobaan based step. All concerned officers and staff facilitate local users and stakeholders to participate in debate to give their opinion and to share common interests through on-site meeting arrangements. The first on-site meeting was on 19 August 2002 and the second was on 29 August 2002 (*Table 1*). The two main issues of the meeting were 1) to change the objective of area utilization under the Chumporn provincial proclamation, 2) the feasibility of designated aquaculture areas.

Application of Participatory Resource Assessment (PRA): The Chumporn Provincial Office of Fisheries officer and the LBCRM-PD project staff organized an on-site meeting. They applied PRA to assess and debate the feasibility of aquaculture area arrangements. A fishing ground map that was provided by the project staff was a helpful and visual tool for all audience and participants to use and offer their opinions to achieve the satisfaction of their common interests (see *Figure 1*). The organizing officer and staff, local users and stakeholders exchanged information of coastal area utilization and its limitations. Local users and stakeholders can mark the location of resource utilizing areas, where there are sand dunes and the where they may be avoided, etc.

Result of the First Local People's Pre-consensus meeting: *Table 1* shows the results of the local users and stakeholders' pre-consensus (Yamao, 2002). Local users and stakeholders debated issue No. 1 that the objective of area utilization under the Chumporn Provincial Proclamation should be changed from shellfish culture only to be for aquaculture. They proposed that aquaculture areas should be divided into two main areas. One area is for fish cage culture areas, which should be 300 rai, the other is for shellfish culture in which the area should be 600 rai. They generally agreed that a monsoon-avoidance place should be assigned to allow a safe place for fishers. They also agreed that regulation be used to control and manage the aquaculture areas.

1 rai= 0.16 ha

Site Selection: The Chumporn Provincial Office of Fisheries officer guided local users and stakeholders in electing representatives of each village to join the officers in conducting site selection in the sea. These representatives took the responsibility as a committee of the community to select the sites of aquaculture areas. These representatives joined local officers and the LBCRM-PD project to select the sites by using the GPS for marking the sites.

The representatives contributed fully in site selection, which was based upon their customary life and knowledge of the fishing grounds. They recommended which sites should be marked and selected to support aquaculture operation. *Figure 2* shows the site selections that are the results of the local government and local representative participation and consideration. Six designated areas and locations were presented to all local users and stakeholders to ask for their second agreement.



Table 1 First Pre-Consensus of Local People in Tambol Pakklong: Zoning Allocation and Management for Coastal Aquaculture

Pre-consensus of Moo 1 and 6 (19 August 2002)	Pre-consensus of Moo 2,3,5 and 7 (29 August 2002)
1. Change the provincial proclamation made in 1984, from allowed areas for shellfish culture to be allowed as areas for coastal aquaculture	1. Change the provincial proclamation made in 1984, from allowed areas for shellfish culture to be allowed as areas for coastal aquaculture
2. Zone of allowed areas for coastal aquaculture to be divided into two main areas: 2.1 for shellfish culture about 600 rais 2.2 for fish cage culture about 300 rais	2. Mandate regulation or ordinance to manage coastal aquaculture needed
3. Zone for fish cage culture and shellfish culture must be clearly defined.	
4. Provide place for fishing boats to avoid destructive monsoon winds.	
5. Elect a representative of each village to establish a group/committee to consider: 5.1 Zone for shellfish culture and fish cage culture to be clearly defined. 5.2 Look for a place to avoid destructive monsoon winds for fishing boats.	

Adjustment of Site Selection: The Chumporn Provincial Office of Fisheries officer recommended that the six designated areas should be reduced from six areas to be five areas (see *Figure 3*.) This was to make it easier to manage and control the areas. Then, the project staff presented the results of the designated area map (*Figure 2*) and the recommended areas map (*Figure 3*) to local users and stakeholders to debate upon which types of designated areas they were happy with and satisfied their common interests. After they finished their debate on the designated areas, they proposed that areas 1, 2 should be combined together and that these areas should be expanded. (see *Figure 4*.)

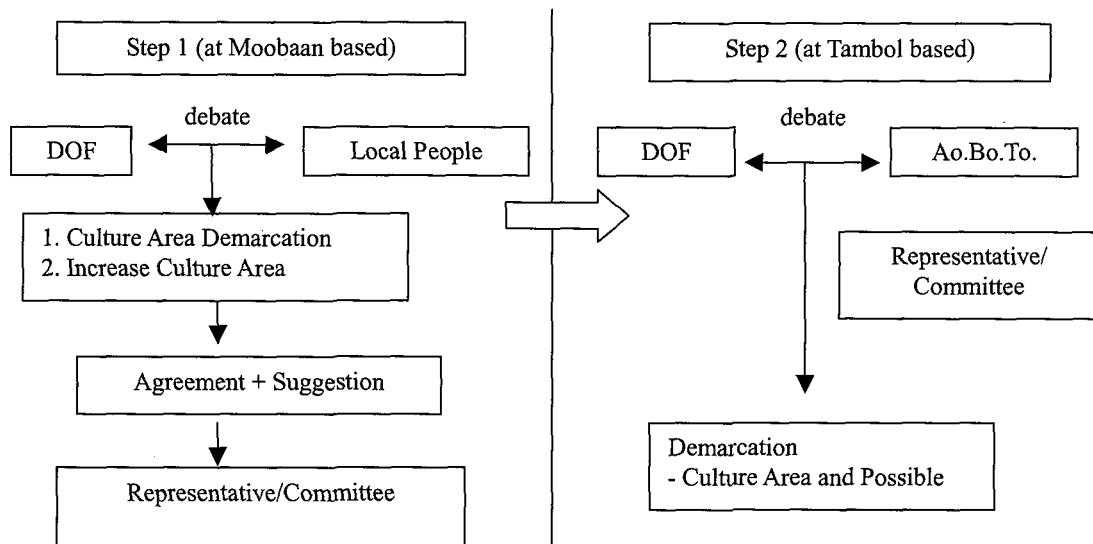
The LBCRM-PD project staff are currently following up the results of the internal agreements from seven Moobaans in the project. The project staff has results from Moos 2, 3, 4, 5, 6 and 7. The project staff are waiting for the internal consensus of Moo 1 that will be held in March 2003.

3.2 At the Tambol Based Step (Step 2)

Propose the local people's consensus to Ao.Bo.To: The Chumporn Provincial Office of Fisheries officer will summarize a final local people's consensus on the designation of aquaculture areas. Then, the officer will call for an on-site meeting at Tambol level. This is to debate and finalize the local people's agreement on the areas. The final agreed map would be a tool to give a profile of aquaculture area designation to Ao.Bo.To. At this on-site meeting, it is anticipated that Ao.Bo.To will comprehend and contribute to the community's common interests. Then, the local organization will appoint an official leader of the community to manage and control the designation of the aquaculture areas.

The Chumporn Provincial Office of Fisheries officer will facilitate the presentation of the community (Tambol) agreement on the designated areas to the Province and cabinet for their consideration and official approval (see *Chart 1*).

Chart 1 Process of People’s Decision-making on the Demarcation of Aquaculture Zoning Areas



4. Limitations of Aquaculture Area Designation Management

4.1 Carrying Capacity of the designated areas

9. The carrying capacity of the designated areas is a key factor to use in considering and regulating rules for area management. This is because some designated areas cannot find local users and stakeholders to engage in aquaculture and gain reasonable incentive on their investment because of inappropriate geographic and physical factors.

4.2 Sharing of Common Interests among Local users and stakeholders

10. Local users and stakeholders have deficiency in their understanding of the environmental impact of aquaculture operations. This environmental impact is very crucial information to remind local users and stakeholders to share their interests and set effective investment plans and rules to avoid the effects of environmental impact.

5. Conclusions:

11. This type of management is supportive strategy to reach achievement with Activity II (Encourage and extend the locally based coastal resource management). Effectiveness of designated area management is expected to alleviate conflict among fishers and fish-farmers. Therefore, this management is helpful to control the numbers of fishers and the numbers of fish cages and the number of stocking aquatic fingerlings that automatically and naturally justified by the carrying capacity conditions and the geographic and physical factors. This type of management is a creative pattern that can modify the concept of management to application to other coastal resource managements.

12. The procedure of aquaculture area designation through local people’s consensus and Ao.Bo.To’s acceptance give a valuable lesson and experience to government officers, the project staff, local users and stakeholders to formulate other related coastal management models. Lessons and experiences gained through this establishment, is a practical lesson that develops and educates local users and stakeholders to



understand the benefits of the participatory approach and to enhance awareness building in coastal resource management.

13. Designation of aquaculture zoning areas is a sample component that uses for coastal management. This component may not be actually adopted to applicably manage coastal areas in another communities. Simple procedure of aquaculture area designation, which is under collaboration of local users, stakeholders and local government officers, can be formulated. Actually, lesson gained through the designated areas in Thungmaha Bay took repeated step at Moobaan based step to reach the agreement of local users and stakeholders.

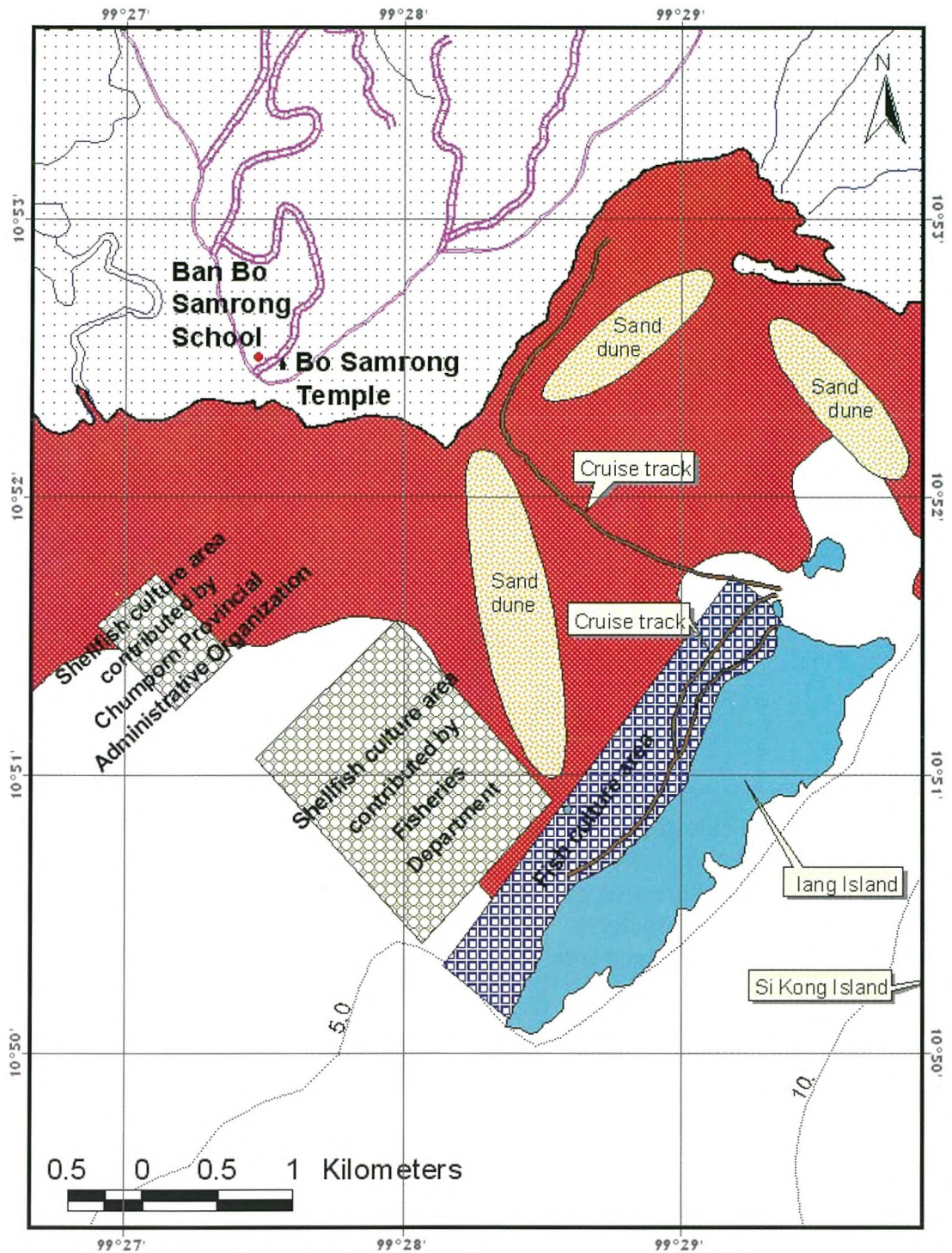
14. Any procedure of the designated areas must be simplified, since local users and stakeholders would easily adopt it. There should be a local users' group. Its members elect committee to take responsibility to consider area demarcation, allocation and management. This committee presents the group's agreement to Ao.Bo.To. Ao.Bo.To officially presents the agreement to get Provincial approval (if necessary, cabinet approval). This procedure does not seem reducing time-consuming for getting effective approval; however, with increasing degree of self-decision in the users' group, this would avoid time-consuming in long-term. (for collaboration between local users' group, Ao.Bo.To and local government officers => unnecessary) The LBCRM-PD may propose a viable model on the procedure of zoning and its management.

15. Local governments and the project plan to establish fish-farmers' group and strengthen this group by arranging training course and extension program. First action plan may be an extension program that emphasizes on voluntarily assigning number of fish cage and amount of stocking aquatic fingerling. This enables to avoid environmental impact and to reach a reasonable incentive returns. Then, this assignment will be developed as a rule of aquaculture area designation and management to carry out fish and shellfish culture for a long-term.

Reference

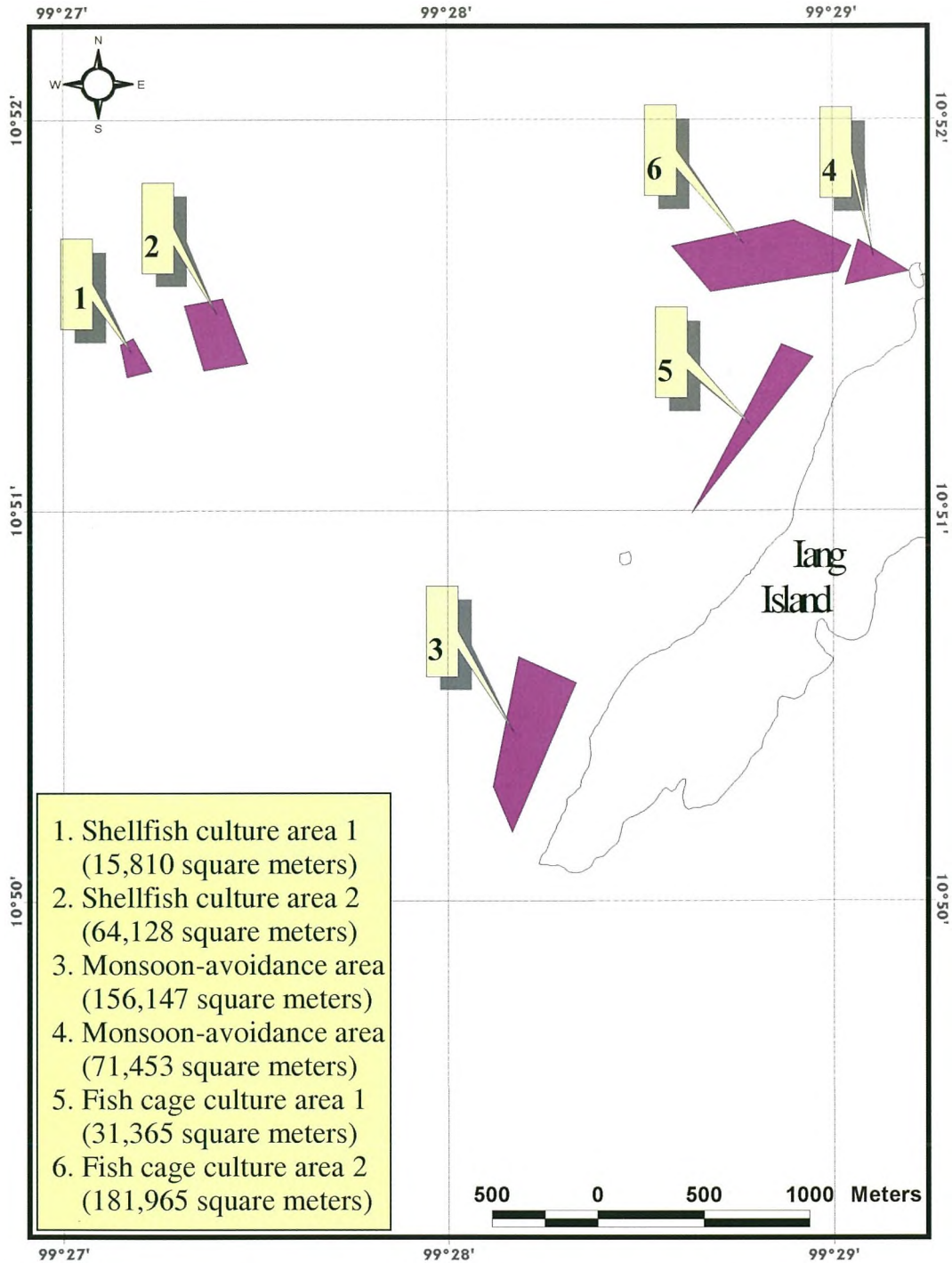
Yamao, Masahiro.2002.Quarterly Report No. 4 Jul.-Sept. 2002 of Locally Based Coastal Resource Management in Pathew District, Chumporn Province (LBCRM-PD).TD/RES/65, LBCRM-PD No. 12, October 2002. 30pp.

Figure 1 Utilization of Fishing Ground Areas in Thungmaha Bay.



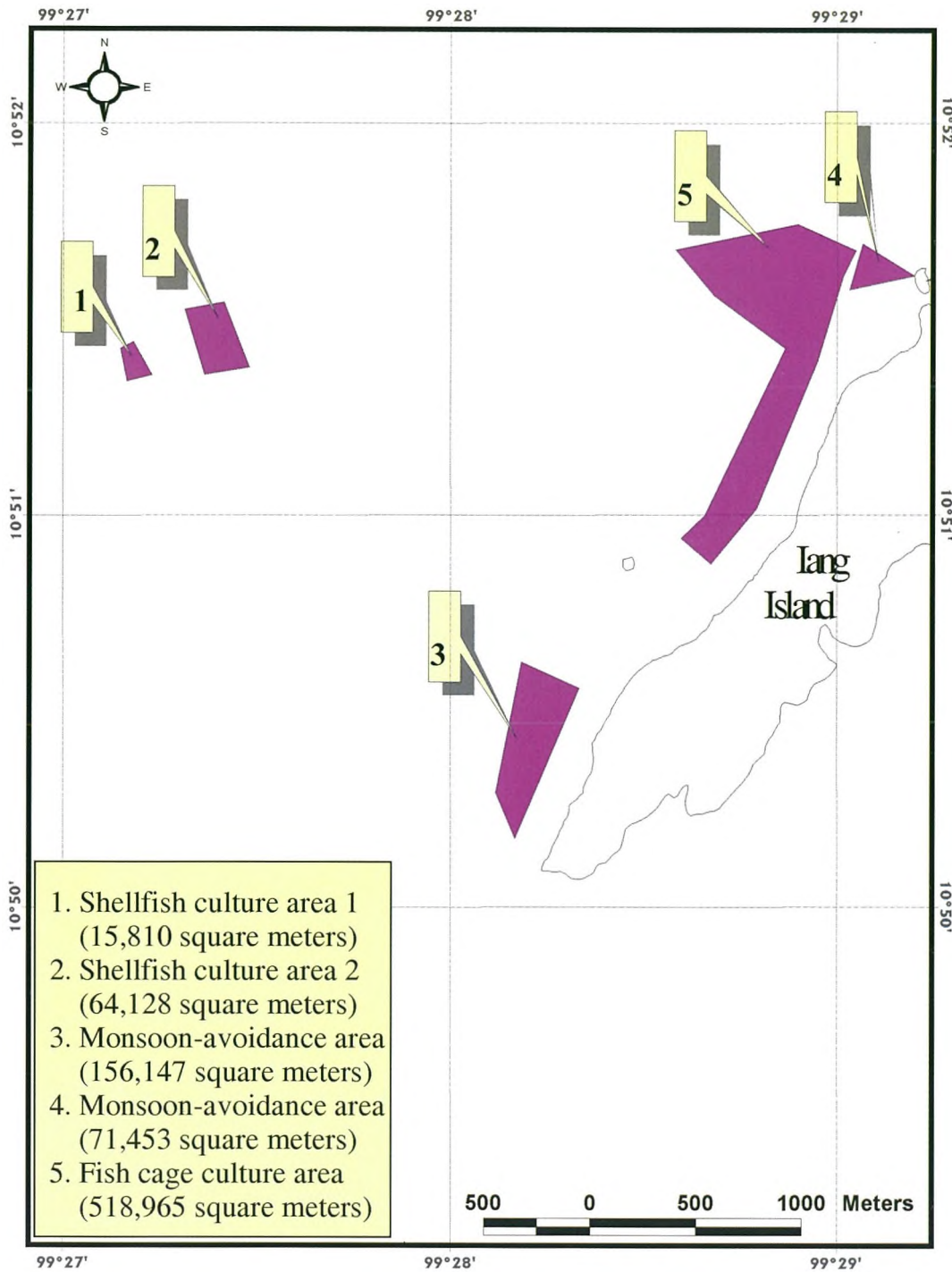
Arranged by Sukchai Amupapboon and Siripom Pangson, Research Division.
Southeast Asian Fisheries Development Center, Training Department. February, 2003.

Figure 2 Results of the First Conducted site selection



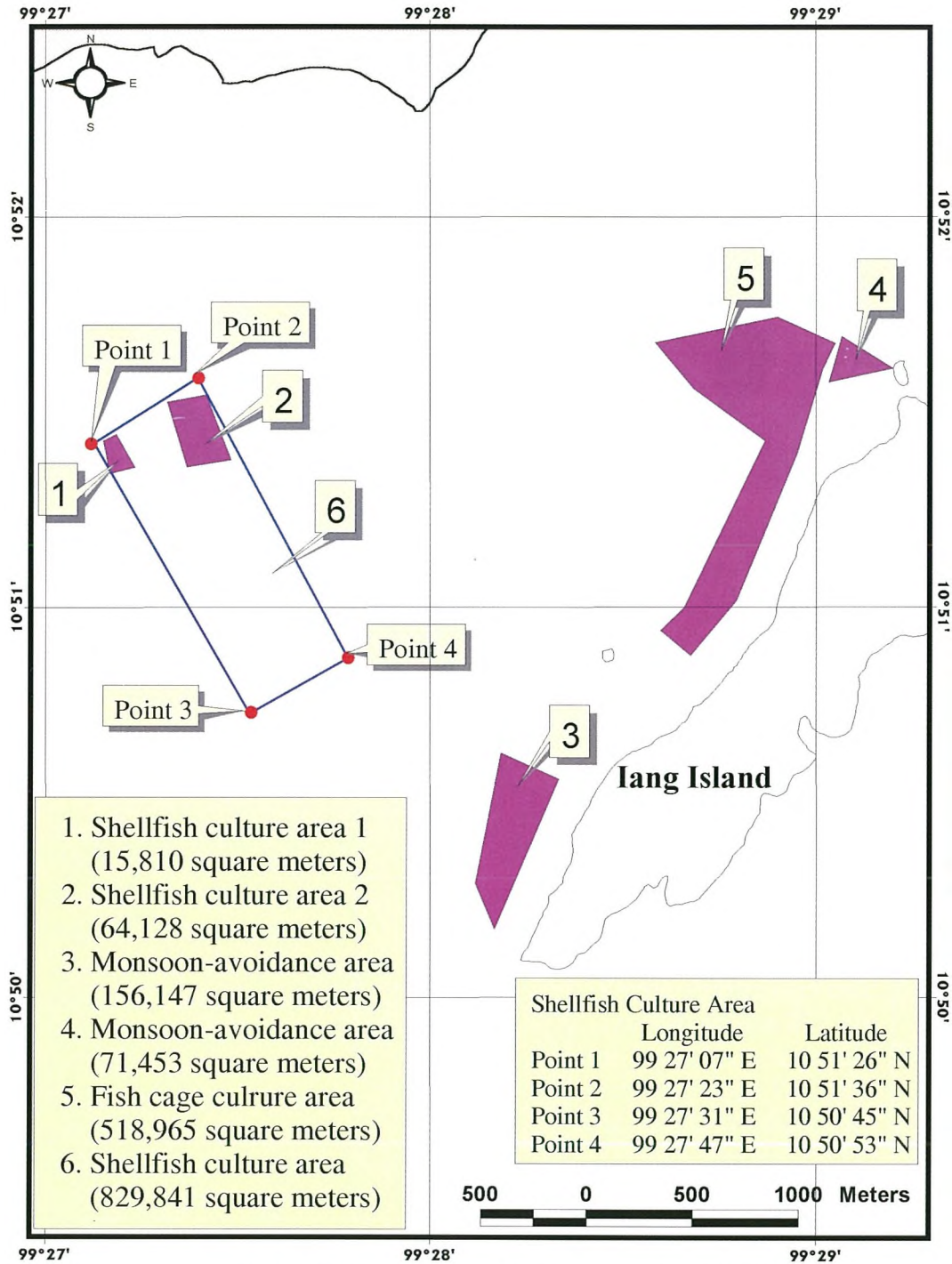
Arranged by Sukchai Arnupapboon and Siriporn Pangson, Research Division.
 Southeast Asian Fisheries Development Center, Training Department. February, 2003.

Figure 3 **Combination of Site Selection by
Local government's Recommendation.**



Arranged by Sukchai Arnupapboon and Siriporn Pangson. Research Division.
Southeast Asian Fisheries Development Center, Training Department, February, 2003.

Figure 4 Combination and Expansion of Site Selection by Community's Propose.



Arranged by Sukchai Arnupapboon and Siriporn Pangson, Research Division
 Southeast Asian Fisheries Development Center, Training Department. February, 2003.

Coordination between Crab Trap and Crab Gill Nets Fisheries: Change and Adjustment of Fishing Gear for Responsible Fisheries Projects to Contribute Locally Based Coastal Resource Management

Jinda Petchkamnerd ¹
Phattareeya Suanrattanachai ²
and
Sayan Auimrod ³

ABSTRACT

Crab fisheries in Tambol Pakklong composed of collapsible crab trap and crab gill net fishers. Collapsible crab trap fishers were classified into three sub-categories by size of wire. These were small sized wire, large sized wire, and both engaged in small and large sized wires. Crab gill net fishers were categorized into three sub-categories by depth of sea water. These were fishers operated in deep sea areas, in shallow sea areas, and both deep and shallow sea areas. Landing survey team reported the data collection from collapsible crab trap and crab gill net that Catch per Unit of Effort (CPUE) of total species composition were 33.98 g/trap and 1.09kg/net. However, fishers engage in crab gill net and collapsible crab trap have conflict of utilizing blue swimming crab in the same fishing ground areas. Marine Fisheries Institute, Department of Fisheries (DOF) formulates 'Change and Adjustment of Fishing Gear for Responsible Fisheries Project to alleviate severe conflict among small-scale fishers. Main objective of this project is to enhance aquatic resources particular increase of marketable sized catch exploitation and un-utilizing fertilized crab. DOF provides net, which has mesh size about 4 inches to subsidize collapsible crab trap fishers. This 4 inches mesh size net will be used to replace bottom net of crab trap, which mesh size is 1 inch.

Keywords: Collapsible crab trap, crab gill net, CPUE, fishing gear for responsible fisheries project

¹ *Chumporn Marine Fisheries Research and Development Center*

² *Socio-economic Section, Research Division, SEAFDEC/TD*

³ *Fishery Extension Officer, Provincial Office of Fisheries, Chumporn Province*



I. Contents of the Paper

1. The contents of the paper compose of two parts. Part 1 is status of crab fisheries in Tambol Pakklong, which considers based on data collection through series of landing, environmental and socio-economic surveys in year 2002. Part 2 is rationale of Change and Adjustment of Fishing Gear for Responsible Fisheries Project and its action plan. Objective of this paper is to provide fundamental data of crab fisheries and comprehend efficiency and effectiveness of crab gill net and collapsible crab trap in fishing operation.

II. Part I: Status of Crab Fisheries in Tambol Pakklong

2. Status of crab fisheries in Tambol Pakklong assesses based upon the data collection through series of regular base line survey (Activity I Base line survey). These series of data collection consists of landing, environmental and socio-economic surveys. Results of these data are crucial to local government officer, central government officers and the project staff to formulate multi-disciplinary activities for crab fisheries development management.

3. The results of all criteria surveys are fundamental database that it will be used for local users and stakeholders' discussion on fishing ground utilization. This is to define sharing of common interests among local users, stakeholders particular crab trap fishers and crab gill net fishers.

1. Characteristics and Number of Crab Fisheries

4. The socio-economic team staff conducted two surveys which topics were household survey in Tambol Pakklong and Crab fisheries survey. The results of these surveys show in *Table 1* that illustrate number of fishing households engaging in crab gill net and/ or crab trap gained through the two topics of surveys.

Table 1 Number of Fishing Households Engaging in Crab Gill Net and/or Collapsible Crab Trap Fisheries in Tambol Pakklong, Pathew District

Moo (Village No.)	Number of fishing households		Change in number
	From household survey	From crab fisheries survey	
Ban Thung Maha Moo 1	10	11	1
Ban Bosamrong Moo 2	15	16	1
Ban Thumthong Moo 3	4	3	-1
Ban Nampu Moo 5	0	2	2
Ban Bangbird Moo 5	6	6	0
Ban Bonrai Moo 6	4	4	0
Ban Tha-at Moo 7	32	31	-1

5. Fishers live at Ban Tha-at Moo 7 have highest number of fishing households engaging in crab fisheries which numbers of households are 31 or 32 households. Results of the crab fisheries survey categorized type of crab fisheries engagement into three main types (see *Table 2*). The types are fishing household engaged in 1) crab gill net only, 2) collapsible crab trap only and 3) crab gill net and collapsible crab trap. Fishing households engaged in crab gill net only, characterized into three sub-categories by depth of sea water, which operated in deep sea areas, in shallow sea areas and both in deep and shallow sea areas.

Table 2 Number of Fishing Household by Type of Engagement, Tambol Pakklong, Pathew District

Moo (Village No.)	Households							Total
	Crab gill net only			Collapsible crab trap only			Crab gill net and Collapsible crab trap	
	Deep area	Shallow area	Deep & Shallow	Small wire	Large wire	Small & Large		
Ban Thung Maha Moo 1	2	6		2			1	11
Ban Bosamrong Moo 2	4	11					1	16
Ban Thumthong Moo 3	1	2						3
Ban Nampu Moo 5		2						2
Ban Bangbird Moo 5	2	3	1					6
Ban Bonrai Moo 6	3	1						4
Ban Tha-at Moo 7	12	3		9		2	5	31
Total	24	28	1	11		2	7	73

6. Collapsible crab trap was classified into three sub-categories by size of wire. These were small sized wire, large sized wire and both engaged in small and large sized wires. Last type was fishing household engaged in both crab gill net and collapsible crab trap.

7. *Table 3* illustrates number of fishing gear such gill net and collapsible crab by net length and number of trap. Fishers in every village favor employing in crab gill net particular using in shallow seawater areas. Crab gill net fishers live at Ban Thungmaha Moo 1 employ in gill net using in shallow seawater areas estimately 70 sets of maximum owned net in numbers. Collapsible crab trap fishers live at Ban Tha-at Moo 7 use number of small and large sized wires which maximum numbers are 350 traps.

Table 3 Number of Fishing Gears Employing in Crab Gill Net and Collapsible Crab Trap, Tambol Pakklong, Pathew District

Moo (Village No.)	Crab gill net								Collapsible crab trap					
	In deep area				In shallow area				Small sized wire			Large sized wire		
	Max (sets)	Min (sets)	Mean (sets)	Mean length (m)	Max (sets)	Min (sets)	Mean (sets)	Mean length (m)	Max (sets)	Min (sets)	Mean (sets)	Max (sets)	Min (sets)	Mean (sets)
Ban Thung Maha Moo 1	6	2	4	353	70	1	22	334	240	180	210			150
Ban Bosamrong Moo 2	20	3	7	400	10	2	4	400			60			60
Ban Thumthong Moo 3			15	420	4	2	3	256						
Ban Nampu Moo 5					4	4	4	300						
Ban Bangbird Moo 5	11	3	7	653	13	3	6	403						
Ban Bonrai Moo 6	3	1	2	500	0	0	2	500						
Ban Tha-at Moo 7	120	8	28	288	25	1	7	343	350	45	208	350	50	125

2. CPUE and Species Composition

8. The landing survey team of the project summarized data collected from regularly conducted landing survey of catch, which landed at Tambol Pakklong in whole year 2002. *Table 4* figures Catch per Unit of Efforts (CPUE) of collapsible crab trap and species composition. CPUE of total catch of all species composition is 33.98 g/trap. Blue swimming crab is main species gained from this type of fishing gear. CPUE of blue swimming crab is 33.13 g/trap or 97.5% of total catch.

9. *Table 5* shows CPUE and species composition gained from crab gill net gears. CPUE of total catch is 1.09 kg/net length 100 m. Blue swimming crab is also target species of crab gill net which CPUE is 1.05 kg/ net length 100 m or 96.38% of total catch.



Table 4 CPUE from Collapsible Crab Trap since January-December 2002 at Tambol Pakklong, Pathew District

Species	CPUE	
	g/trap	%
Total catch	33.98	100.00
Blue swimming crab	33.13	97.50
Crucifix crab	0.39	1.15
Three spot swimming crab	0.37	1.09
Mud crab	0.07	0.21
Other species	0.02	0.06
Sampling trap	9.675	

Table 5 CPUE from Crab Gill Net since January-December 2002 at Tambol Pakklong, Pathew District

Species	CPUE	
	kg/net length 100 m.	%
Total catch	1.09	100.00
Blue swimming crab	1.05	96.38
Crucifix crab	0.03	2.89
Other species	0.01	0.73
Sampling size (meter)	105,280	

3. Length of Catch

10. Length of catch is given an imaginary size of crab catch how big they are. *Table 6* indicates length of catch gained from collapsible crab trap, which conducted landing survey from January to December 2002 at Tambol Pakklong. Length of catches categories by species and sex which length classification is minimum and maximum length, mode of length and mean of length. Length of male blue swimming crab has mean of length is 9.17 cm. Length of female blue swimming crab has mean of length is 9.56 cm.

Table 6 Length of Crab from Collapsible Crab Trap since January-December 2002 at Tambol Pakklong, Pathew District

Species	Min - Max	Mode	Mean
Blue swimming crab (Male)	5.0-13.5	9	9.17
Blue swimming crab (Female)	6.5-14.0	9.5	9.56
Crucifix crab	6.0-11.0	8.5	9.55
Mud crab	11.5	11.5	11.5

11. *Table 7* figures length of catch caught by crab gill net, which conducted landing survey from January to December in year 2002 at Tambol Pakklong. Length of male blue swimming crab has mean of length is 11.8-cm. Length of female blue swimming crab has mean of length is 12.91 cm.

Table 7 Length of Catch caught by Crab Gill Net since January-December 2002 at Tambol Pakklong, Pathew District

Species	Min - Max	Mode	Mean
Blue swimming crab (Male)	8.5-15.5	12.0	11.8
Blue swimming crab (Female)	9.0-15.5	12.5	12.91
Crucifix crab	9.0-14.0	10.5	12.39
Mud crab	13.5	13.5	13.5

12. Blue swimming crabs are main target species of both crab gill net and collapsible crab trap fishers. *Figure 1* shows length of catch and quantity of catch, which caught by crab gill net and collapsible crab trap. Collapsible crab trap is efficiently caught a large number of crab catch which is higher than crab gill net. However, crab gill net is effectively caught crab catch which size is bigger than crab catches are caught by collapsible.

III. Part II: Change and Adjustment of Fishing Gear for Responsible Fisheries Project

1. Rationale of the Project

13. The Department of Fisheries (DOF), Thailand recognizes severe competition of resource utilization. This causes to conflict among commercial and small-scale fishers and also among small-scale fishers themselves. Resource users get tough to operate fishing. They often meet conflict of utilizing marine resource in the same fishing ground areas and the same target species. This cause is main problem of resource utilization in Tambol Pakklong. Fishers engage in crab gill net and collapsible crab trap gears have conflict of utilizing blue swimming crab in the same fishing ground areas (see *Figure 2*).

14. Marine Fisheries Institution, DOF formulates Change and Adjustment of Fishing Gear for Responsible Fisheries Project to alleviate severe conflict among small-scale users. The institution inputs the project arrangement into Tambol Pakklong. This project is effective action plan and mechanism to contribute the locally based coastal resource management to achieve long term of resource utilization.

2. Objectives of the Project

- 1) Encourage resource users to participate in utilizing marine resource in proper and responsible ways and point out how marketable sized catch gets valuable price and return reasonable incentive.
- 2) Contribute resource users to involve in extension program that relies on an increase of marketable sized catch exploitation and un-utilize fertilized crab to enhance aquatic resources.

3. Action Plan of Subsidy

15. DOF fully provide net, which has mesh size about 4 inches to subsidize collapsible crab trap fishers. This 4 inches mesh sized net will be used to replace 1 inches mesh sized net. DOF officers and the fishers agreed to change bottom net from 1 inch to be 4 inches. DOF officer and the fishers had controversial on position of net change that should be at the bottom of the crab trap. This is to save bait from other marine species. This controversial is specifically used only in Tambol Pakklong.



16. DOF primarily provides net subsidies to 25 fishers. It qualifies particular poorest fishers, low income, good human relationship and range of 25-60 year olds.

4. Implementation of the Project and its Progress

17. Chumporn Marine Research Fisheries and Development Center staff announces the project proposal and action plan to fishers in Tambol Pakklong. The center staff proposes to select Ban Tha-at Moo 7 to be the project site for the project's implementation. This is because there are number of collapsible crab trap larger than other village. Therefore, fishers of this village has household economic status is lower than other by observation of household settlement and sanitary in community.

18. The center staffs have gotten name lists of collapsible crab trap fishers who nominate themselves to participate in the project.

5. Expectation of this paper

19. This paper provides only database of crab fisheries status, problems and the project arrangement for solving problems. All the project staff anticipates that this database and information arrangement will useful to all sectors concerned to participate in brainstorming to define proper solution. This proper solution will take all resource users particular collapsible crab trap fishers and crab gill net fishers to satisfy with their common interests.

IV. Acknowledge

20. Author and co-authors would like to thank to the landing survey team staffs (particular Ms. Pamonpan Chatpumi and Ms. Phattarajit Kaewnuratchadasorn) that kindly and helpfully provide a valuable database for all participants' comprehension. Therefore, we owe gratitude to local fishers, Ao.Bo.To. and all who concerned that kindly support us both indirectly and directly without any stinginess.

Figure 1 Blue swimming crab were caught by crab trap and gill net at project area

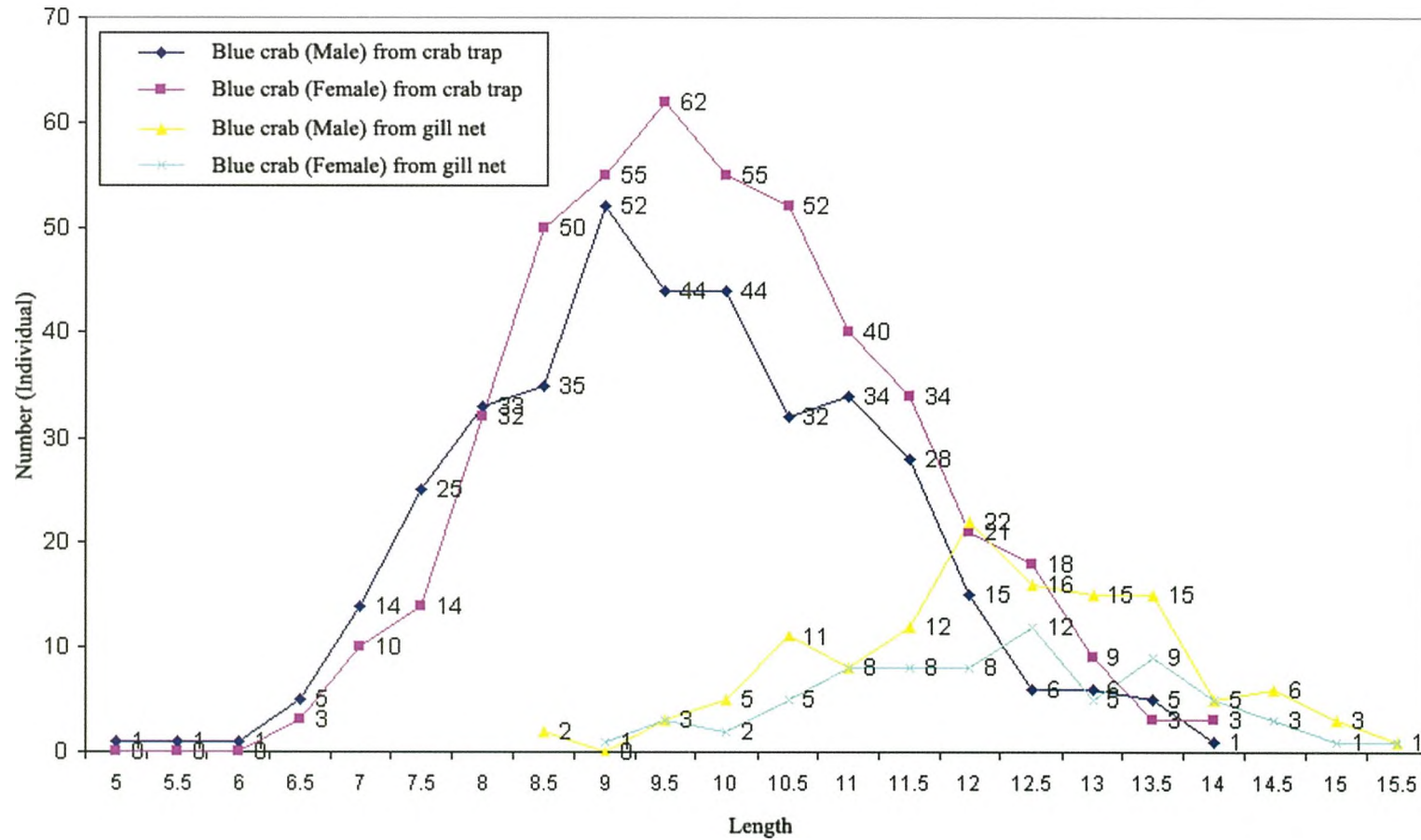
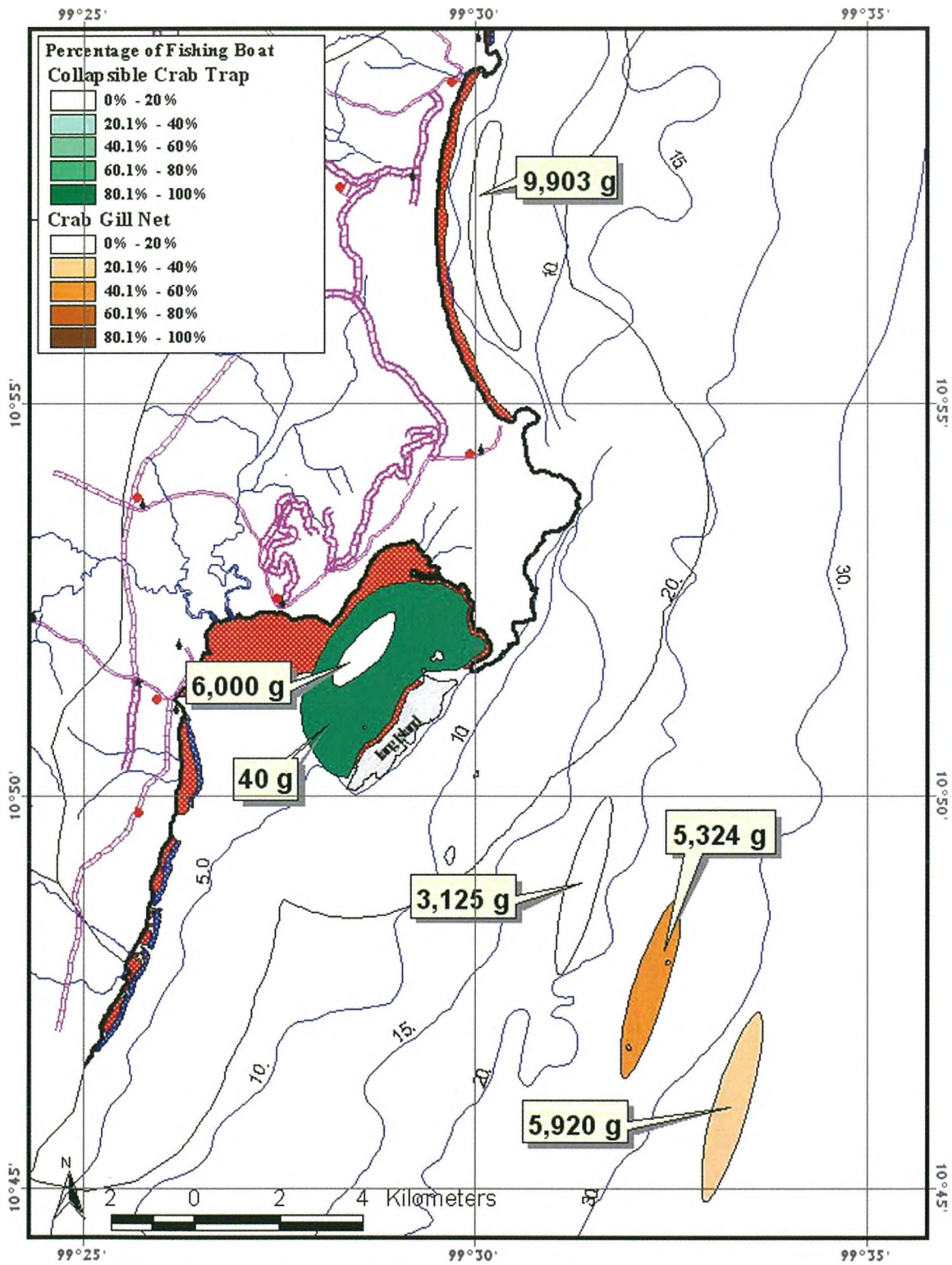


Figure 2 Fishing Ground Areas of Collapsible Crab Trap and Crab Gill Net Utilization.



Arranged by Sukchai Amupapboon and Siripom Pangson, Research Division.
 Southeast Asian Fisheries Development Center, Training Department. February, 2003.

**School-Community's Participation in Mangrove Reforestation and Conservation in
Thungmaha Bay, Pathew District, Chumporn Province**

Sukanya Marasri ¹

Decha Payakkin ²

ABSTRACT

School-community's participation in mangrove reforestation and conservation in Thungmaha bay is collaborative project among local organization, community leaders and adjacent communities. The conservative network of mangrove forests is key local organization to lead handling local resource base management and protection. The network is core organization to communicate with local government officers, non-governmental organization and community to manage mangrove forests and marine resources. Main tasks of the network categorize into mangrove forest resources, awareness building and marine resource management. The network establishes crab cage bank activity to enhance numbers of crab recruitment to the sea. Collapsible crab trap fishers contribute this activity that they leave fertilized crab into the crab cage bank. After crab delivered eggs into the sea, the fishers can harvest crab and spend income of crab selling for arranging welfare for the fishers' group. Fish habitat is also established to demarcate 3,000 m coastal areas and to be assembling place of aquatic resources. Tires are used as material of fish habitat construction attached with concrete box. Implementation of these two activities leads local fishers aware of importance of coastal and aquatic resource management and development. Pakklong Ao.Bo.To. adopts these two activities into master development plan of the Pakklong sub-district.

Keywords: Mangrove forest conservation and management, conservative network of mangrove forests, fish habitat, crab cage bank

¹ *Field coordinator, Thai Environmental Institute*

² *Mangrove reforestation and conservation network of Thungmaha Bay, Pathew District, Chumporn Province*



1. Introduction

1. School-community's participation in mangrove reforestation and conservation project in Thungmaha bay, Pathew District, Chumporn Province is a collaborative project between Mangrove forests conservation club in Thungmaha bay and Chumporn Environmental Education Center. These two local organizations collaborate to implement mangrove reforestation and conservation activities in Thungmaha bay. They also kept taking care of 6,552 rai (1,048.32 ha) of mangrove forest areas since 1997. They received funds from Ministry of Science, Technology and Environment.

2. The School-community's participation in mangrove reforestation and conservation project in Thungmaha bay conducted through information dissemination campaign to local people and students. This was expected them to be aware of importance of mangrove forest conservation and environment surrounding to community. The project activities placed an emphasis on learning process and practice. Therefore, the activities included strengthen of people and youth's participation in-group. Manpower of each group is very important to contribute the mangrove reforestation and conservation.

2. Importance of Target Areas and its Problems

3. Mangrove forest areas in Thungmaha bay are one-fifth areas of national mangrove forest conservative areas, which belong to Chumporn provincial territories. This area is under control of Ministerial Act No. 836, 1980. This mangrove forest areas has 8 km along the coastal areas of Pathew District where is also huge and important nursery ground of aquatic resources. This area also consists of primary productivity that convinces fishers to engage in fisheries and other stakeholders enjoy eco-tourism and study natural resource educational areas.

4. Unfortunately, mangrove forest areas in Thungmaha is de-forested by an expansion of shrimp farming engagement where is totally getting large and larger about 2,000 rai (320 ha). Besides, there was road construction (from Ban Thungmaha Moo1, Ban Bosamrong Moo 2 and Ban Tha-ad Moo7).

5. Impact of mangrove de-forestation affected to reduce productivity of aquatic resources. The reduction of aquatic resources caused to local people migrated out from their village and gave up engaging in fisheries. Some people made reservation on mangrove forest areas and personally held the right for his/her utilization without getting permission from government. This cause led to decrease number of tourists visited in the mangrove forest areas.

3. Concept of the school-community' participation in mangrove reforestation and conservation project

6. The school-community's participation in mangrove reforestation and conservation project adopts concepts of local people's participation and self-awareness on sustainable coastal resource management and conservation. Local people's participation is tool to facilitate all fishers and stakeholders in all communities to finalize their common interests. Local people's self-awareness is important and contributive tool to encourage local people keep managing and conserving local resources for sustainability.

4. Target areas and target group

7. Target areas: Mangrove forest areas for conservation and enhancement

- 1) The national mangrove forest areas for conservation in Thungmaha bay, this area has total areas around 6,552 rai (1,048.32 ha). However, the areas have total de-forested areas around 2,000 rai (320 ha).

- 2) The national mangrove forest areas are divided to provide and decorate for natural study site areas. The natural study site areas of the mangrove forests locate in Ban Thungmaha (Moo1), which is around 5 rai (8 ha). Pakklong Ao.Bo.To. and Chumporn provincial office of Royal Forestry take responsibility to manage and maintain the study site areas.

5. Target group: categorized into two groups

- 1) Target community: consisted of seven villages of two sub-districts in Pathew district. First target community is in Pakklong sub-district, which composed of 6 villages. Second target community is in Donyang sub-district, which attached only one village.
- 2) Target school: all schools locate in target villages and adjacent areas.

6. Period of the project implementation

From July 2001 to June 2003.

7. Conservative Network of Mangrove Forests in Thungmaha Bay

7.1 Gained lessons from community: Towards coordination of multi-agencies to develop local resource base management

8. Conservative network of mangrove forests was established after the mangrove reforestation and conservation project implemented in the first year. The members of the network consisted of community, school, local government agency and non-governmental organizations (NGOs). They categorized network's member tasks into three main fields. The first field relied on coastal and marine resources, second field relied on mangrove forest field and the third filed was awareness building and information distribution. This network arranges monthly meeting on 28th every month to discuss on work plan and exchange information.

7.2 Goals of the conservative network

9. Aims of the conservative network are to achieve sustainability and enrichment of local resource base in Thungmaha bay. This result to local people can avoid unemployment/ underemployment and earn more income to improve their livelihoods.

7.3 Perception of the network

- 1) Mangrove forest areas are place that are enrichment of biological and ecological areas.
- 2) Means of livelihood of local people in community depend mainly on local resource base in proper and cost-effective ways
- 3) Study and learning process on mangrove forest conservation and management should highlight on local knowledge and wisdom.
- 4) Encouragement of coordination of multi-agencies among government and non- governmental organization.

7.4 Strategy

- 1) Encourage community and coordination of multi-agencies including national level to participate in local resource base and environment management



- 2) Contribute mangrove forest and environment enhancement and management
- 3) Strengthen knowledge, awareness building and capacity building of local people including students
- 4) Establish Thungmaha data and information, knowledge and technology transfer center at Thungmaha bay
- 5) contribute establishment of financial source to promote Thungmaha bay development
- 6) Increase and create alternative job opportunity to reduce a dependence on marine resource in Thungmaha bay

7.5 Structure of conservative network of mangrove forests

1) Walk way for natural study

Construction of walk way for natural study has main objective to provide natural study site for students in local community. The study site is place that facilitates local students to learn and practice from real situation and visible samples. The students are expected to concretely comprehend characteristics of mangrove forest, its benefit and wealth. These results to students are aware of importance of mangrove forest to environment and eco-system.

2) Fish habitat and crab cage bank

Chairman and members of conservative network agreed to do self-protection for their local resource base from destructive fishing gear operation. They finalized to install fish habitat into coastal areas to protect an encroachment of destructive fishing gear operation, therefore, they build crab cage bank to enhance number of crab to the sea. Members of the network live in Ban Thungmaha Moo1, Ban Bosamromg Moo 2, Ban Thumthong Moo 3, Ban Bonrai Moo 6 and Ban Tha-at Moo 7 participated in building these two activities.

3) Fish habitat (*Ban Pla*)

Aim of fish habitat installation is to demarcate 3,000 m coastal areas to notice and verify an encroachment of trawl, push net and anchovy purse seine fishing boats. Other aim of fish habitat installation is to be assembling place of aquatic resources. The members of network used tyres as material of fish habitat attached 500 kg concrete box and sank them down to the sea bottom.

4) Crab cage bank (*Thanakarn Poo*)

Crab resources rapidly decline, because there is increase of collapsible crab trap in number. Beside, fishers caught all size of crab yield without selecting marketable and fertilized size. Crab cage bank is an activity to increase and enhance number of crab recruitment. Fishers engage particularly in collapsible crab trap donate small-sized crab and fertilized one into the cage bank. They can harvest crab in the cage bank after the fertilized crab deliver eggs into the sea. They can use income comes from crab selling to be fund for supporting crab cage bank operation.

Implementation of these two activities leads local fishers and other stakeholders aware of importance of coastal and aquatic resource management and development. Therefore, members of Pakklong Ao.Bo.To. adopts these two activities into master development plan of the Pakklong sub-district.

Greater People's Participation and the Increasing Role of Local Government in Coastal Fisheries Management: Toward Decentralization of Resource Management

Masahiro Yamao, Ph.D.*

ABSTRACT

This paper describes a possible proposal for a decentralized management system with a participatory approach, according to observation and investigation on the present system of local fisheries management in Chumporn Province. One major purpose of "Locally Based Coastal Resource Management, Pathew District, in Chumporn (LBCRM-PD)" is to experiment with a decentralized system within the existing legal framework of fisheries management that brings greater people's participation. The content of this paper is divided into three parts. The first part refers to new trends in decentralization under preparation for the proclamation of new fisheries acts. The second part discusses the elements of LBCRM. These are community-based management units (CBMU), and local government (including Sub-district Administrative Organizations). The last part concerns a perspective of a decentralization mechanism that is proposed in the context of LBCRM-PD practice and experiences. This paper concludes that LBCRM is a primary unit in decentralized coastal fisheries management, standing between the local fishery committee and local communities. The committee may contain a partial assembly of LBCRM units within a defined locality, while government fisheries agencies, provincial and district offices instruct the committee's activities. While sharing responsibility with the people, the role of local government certainly increases under the new regime.

Key words: decentralization, participation, LBCRM, local government, shared responsibility

* *Professor, Graduate School of Biosphere Science, Hiroshima University
1-4-4 Kagamiyama, Higashi Hiroshima, 739-8528 JAPAN
E-mail: yamao@hiroshima-u.ac.jp*



I. The Objectives of this Paper

1. This paper describes a series of proposals for a new decentralized management system based upon a participatory approach, according to our observation and investigation on the present system of local fisheries management in Pathew District, Chumporn Province. One major purpose of “Locally Based Coastal Resource Management in Chumporn (LBCRM-PD)” is to experiment with a decentralized system within the existing legal framework of fisheries management, a system that has greater people’s participation. Any proposal and analytical description hereafter is tentative and ascribable to the author alone.

2. The content of this paper is divided into three parts. The first part refers to new trends in decentralization under preparation for the proclamation of new fisheries acts. The second part discusses elements of LBCRM. These are community-based management units (CBMU), and local governments (including sub-district administrative organizations, namely Ao.Bo.To). The last part describes the perspective of a decentralization mechanism that is proposed in the context of LBCRM-PD development.

II. The New Trends of Decentralization and the New Fisheries Act

1. Decentralization and Sub-District Administrative Organization

3. Decentralization has become a most important issue in Thai politics since the mid 1980s. One highlight of the decentralization is the establishment in 1994 of Sub-District Administrative Organizations (Ao.Bo.To). The conventional top-down local administrative mechanism, being the Province (Changwat), District (Amphur) and Sub-District (Tambol), began to move toward localization and devolution. Members of Ao.Bo.To councils are elected from the people in the Moobaans, who hold great responsibility for community development and people’s welfare. The Ao.Bo.To council members elect a president, who manages the administrative work on a daily basis in collaboration with the Ao.Bo.To secretary and managerial staff. The Ao.Bo.To gradually grows into an independent entity with the functions of taxation and budget allocation, taking over several administrative functions from the district office.

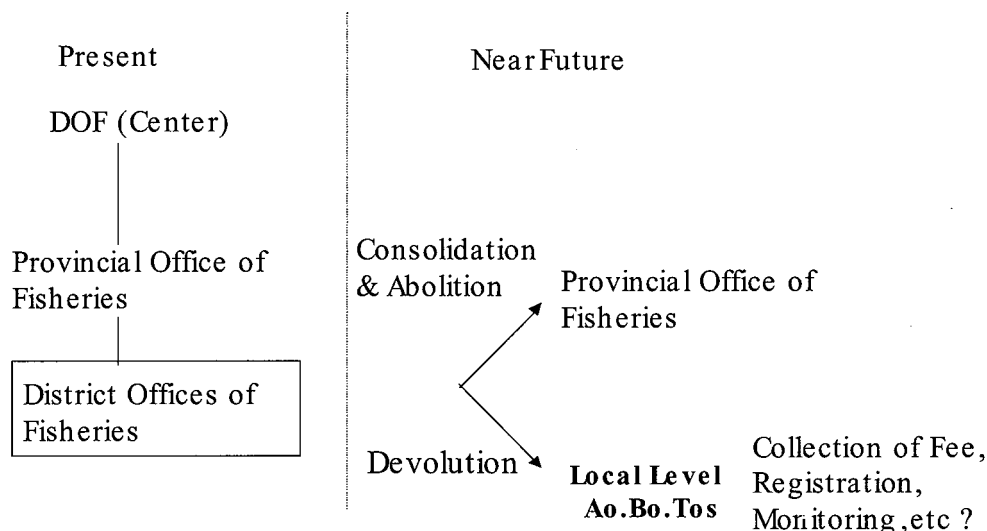
4. The Thai local administration holds the district office fully responsible for local security, community development, and people’s welfare. The Ministry of the Interior appoints a district head (Nai Amphur) from government officials. Its staff members belong to the administrative lines of different ministries (and/or departments) through a Provincial Office. In the case of fisheries management, a District Office of Fisheries (Pramong Amphur) takes charge in fisheries and aquaculture registration, planning and extension activities under the supervision of the Provincial Office of Fisheries (Pramong Changwat).

5. Generally speaking, the local administrations currently existing will move quickly towards a process of polarization. This movement is still uncertain from a political aspect, but it may soon be possible to get a picture of decentralization and de-officialization. Obviously, some roles and functions that a district holds will be absorbed both into the operations of the Provincial Office and Ao.Bo.Tos (*Chart 1 Devolution of District Function*). Uniting district offices into a provincial office is one notable trend.

6. At primary level, Ao.Bo.Tos are likely to share greater responsibility in the community development fields and various sorts of administrative work. Local people have more opportunities for participation in the planning and implementation of social and economic development programs, with more access to funds and sources for an improvement of living and producing conditions. In coastal and small-scale fisheries, too, Ao.Bo.Tos (and their networks) may become a management body for local fisheries and coastal resource management, guided and supervised by the Provincial Office of Fisheries.¹

7. Thus, any pilot project on coastal resource management in Thailand should consider such on-going processes of decentralization, although there may be unforeseen changes.

Chart 1 Devolution of District's Function



2. Towards The New Fisheries Laws

8. In Thailand, central government still keep the majority of authority to control licensing and to manage fishing activities in territorial waters. The present fisheries act and regulations² do not have any specific issue on the mechanism and procedure of localized coastal fisheries management that allows for the participation of fishers and stakeholders. The legal framework currently existing does not contain issues on devolving management functions and roles to local government. Of course, many provisions of these acts and regulations have so far been revised from time to time. They empower Provincial Governors, the Minister of Agriculture and Cooperatives, and the Director General of the DOF to control and manage fishing and aquaculture activities to some extent.³ However, both commercial and coastal fisheries cannot co-exist nor accord themselves with old-fashioned and non-systematic legal and administrative frameworks. Conflicts between highly intensive and small-scale fisheries, and among small-scale fisheries, should be reduced in accord with appropriate legal procedures.

9. The Thai Government is considering amending the Fisheries Act, B.E. 2490 (1947) in all aspects. A new act is already in the process of formulation, even though it has to pass through several stages. The DOF proposes new approaches and frameworks, with reference to coastal fisheries management.⁴ Firstly, Thai territorial marine waters are divided into two zones, i.e., A "Commercial Marine Fishery Zone" and A "Coastal Marine Fishery Zone." Although there may be disagreement over the definition of a coastal zone with a distance from the high water mark, the zones preserved for coastal fisheries will be further expanded.

10. Secondly, a "designated community" becomes a primary management body in coastal fisheries.⁵ A "designated community fishery area" means a specific geographic area set up by the Ministry or the Director General of the DOF, in which the designated community will be delegated rights and responsibilities regarding the management and implementation of appropriate measures for the sustainable use of aquatic resources. Thirdly, a "Local Fishery Committee" functions as a management and coordination body within certain defined areas. Its membership consists of fishers, communities, the public, provincial and local authorities, working together for the purpose of managing, conserving and developing the aquatic resources in defined areas. Given by the Ministry or the Director General, the local committee has the exclusive authority to issue local fishing permits for particular areas, and to issue written permissions.

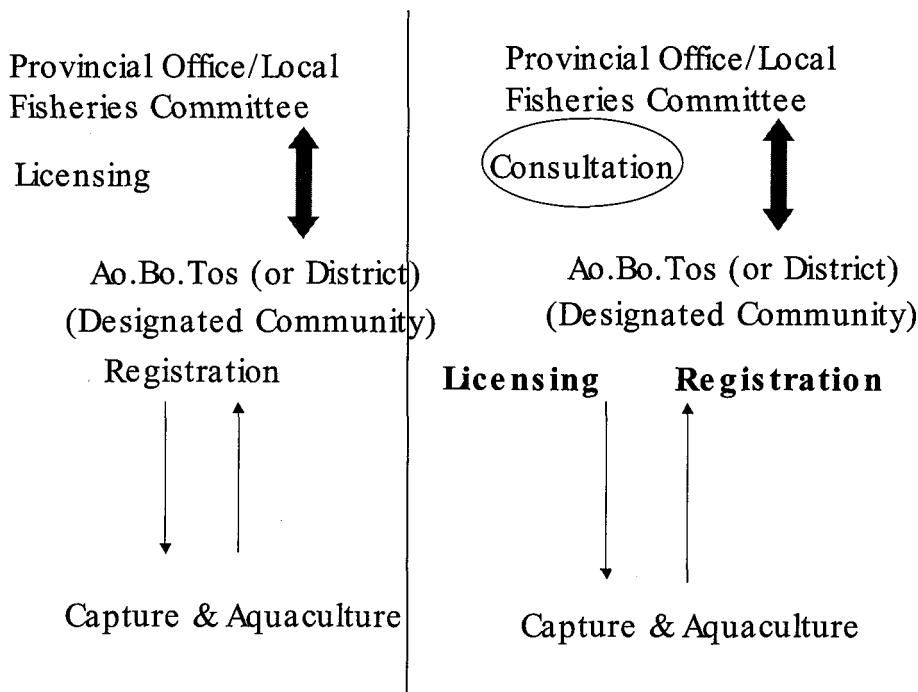
11. Together with such new concepts, the proposed new fisheries act describes the issues of



community-based management. It will give a designated community responsibility and mandate to control and manage fishing activities in a certain defined zone. Members of the community can join a decision-making process of coastal fisheries management. The community develops its management and implementation functions while law enforcement takes place. It is necessary to discuss the adjustment and coordination as regards sharing responsibility and the inter-links between a designated community and local fishery committee.

12. Chart 2 indicates a system of registration and licensing under a new regime of fisheries management (*Chart 2 Registration System for Small-scale Fisheries*). There may be several patterns of management body according to the types of fishery, biological, geographical and other socio-economic surroundings. Prior to the enactment of a new fisheries law, it may be realistic that Tambol(s) become a management body that undertakes registration by taking the place of the District and Provincial Offices of Fisheries. In actuality, a district office would be unlikely to complete all management activities because of a lack of budget and personal. In Pathew, two officers are assigned to do the registration, monitoring, and any other administrative procedures required. They must take care of a far wider area extending over six Tambols (sub-districts). The total number of fishers and aquaculture farmers amounts to 669 establishments, who are scattered all over the Tambols. Enforcement of fisheries laws is very difficult work.

Chart 2 Registration System for Small-scale Fisheries



III. Elements of LBCRM in Tambol Pakklong

1. Management of Demarcated Zones

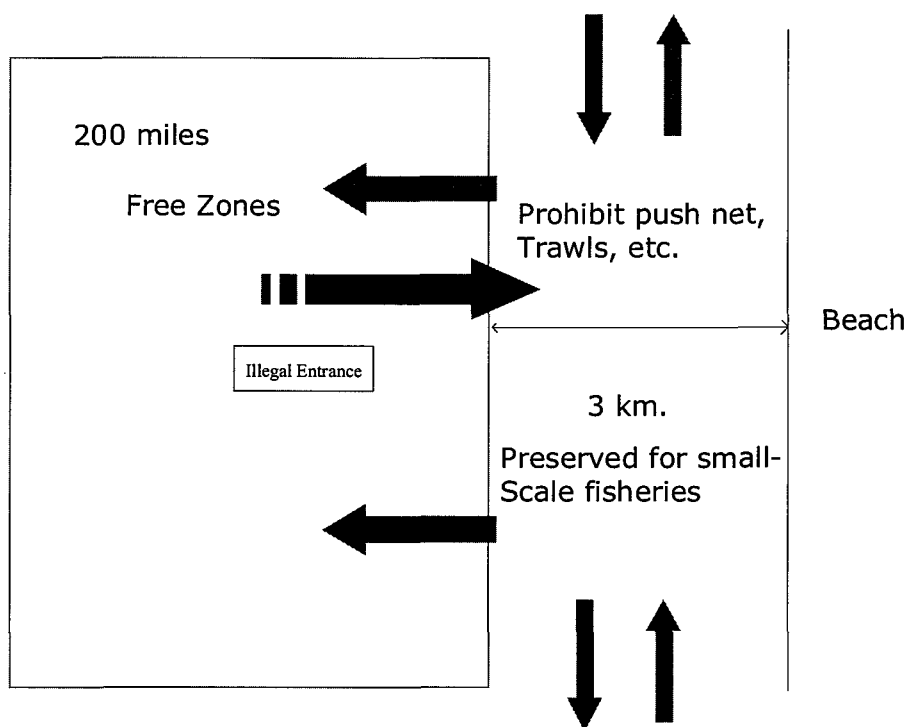
13. The project proposal for LBCRM-PD does not describe what function and authority a LBCRM will have in Tambol Pakklong. The completion of proclaiming a new fisheries act takes much time and many sequential steps for adjustment and compromise among the stakeholders. Before the contexts of the new act are settled, a community-based management body with the exclusive right to control fisheries activities in the demarcated zones cannot be established.

14. Though, having not yet proclaimed a new fisheries act, the government puts forward a decentralization program of local administration and development with the empowerment of Ao.Bo.Tos and people's organizations. Management and conservation of local resources and the environment are the main tasks in the Ao.Bo.To (or networks of Moobaans). ⁶ Considering the on-going process of decentralization and a new fisheries act, an appropriate LBCRM in Tambol Pakklong should be designed.

15. Given the conditions whereby local fishers and the DOF agree to set up the demarcated zone in the front of Tambol Pakklong, local fishers, stakeholders and leaders of Tambol will have opportunity whereby they consider appropriate rules and regulations, achieve consensus and generate Tambol-based rules. They manage the demarcated zone, but neither the occupying coastal resources there nor excluding those fishers coming from outside Tambol Pakklong. Any rules and regulations that they draw up must not strain the present fisheries law to suit themselves.

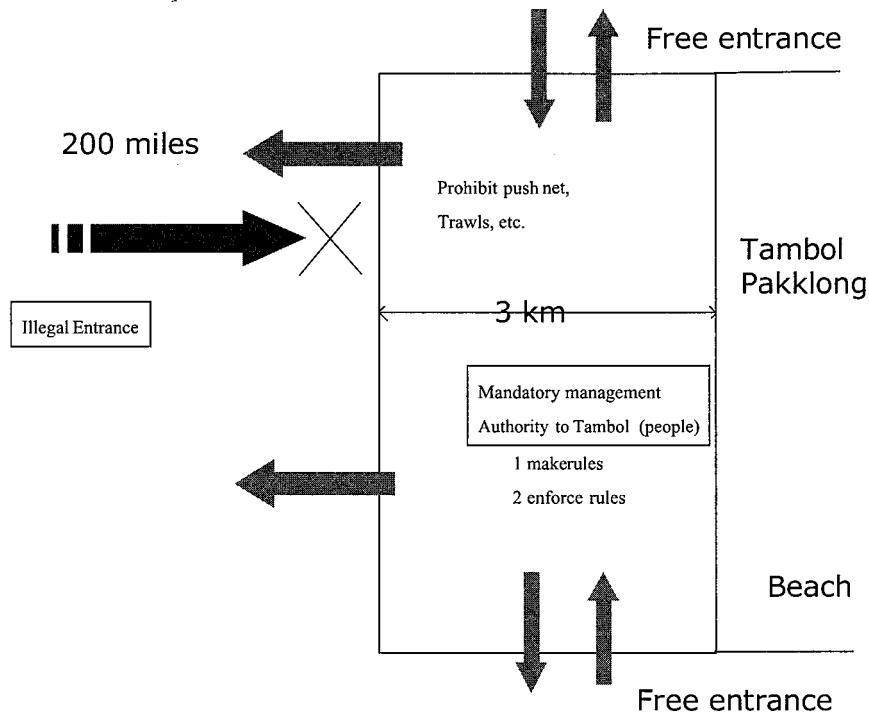
16. As seen in Chart 3, the present management regime holds a boundary 3 km out from the beach. The area inside this line is preserved for small-scale fisheries, prohibiting destructive operations using trawls, push nets, and other destructive fishing gear (*Chart 3 Present System within Thai Territorial Waters*). In principal, any small-scale fishers can access the resources within the boundary. Free entrance is a basic principle. With some exceptions of traditional boundaries in communities in the South, no type of management body proclaims its own territory or reinforces an exclusive territorial use right. Moreover, illegal operation of destructive fishing devices inside the 3 km boundary is common. It is very hard for provincial and central governments to excise strict control over commercial fishing vessels over the long coastlines throughout the country. Of course, governments have so far exerted enormous amounts of effort to keep control over illegal entrance into the preserved coastal zones.

Chart 3 Present System within Thai Territorial Waters



17. The LBCRM-PD proposes the establishment of an appropriate management body in charge of the sustainable use of coastal resources in the demarcated zone, while keeping the present boundary system regulated by the fisheries act (*Chart 4 Function of LBCRM-PD*). Resource users, stakeholders and local government achieve such consensus including reducing destructive fishing operations, adjudicating conflicts between fishers, making local rules, enforcing rules, and increasing collaboration with the DOF's

Chart 4 Function of LBCRM-PD



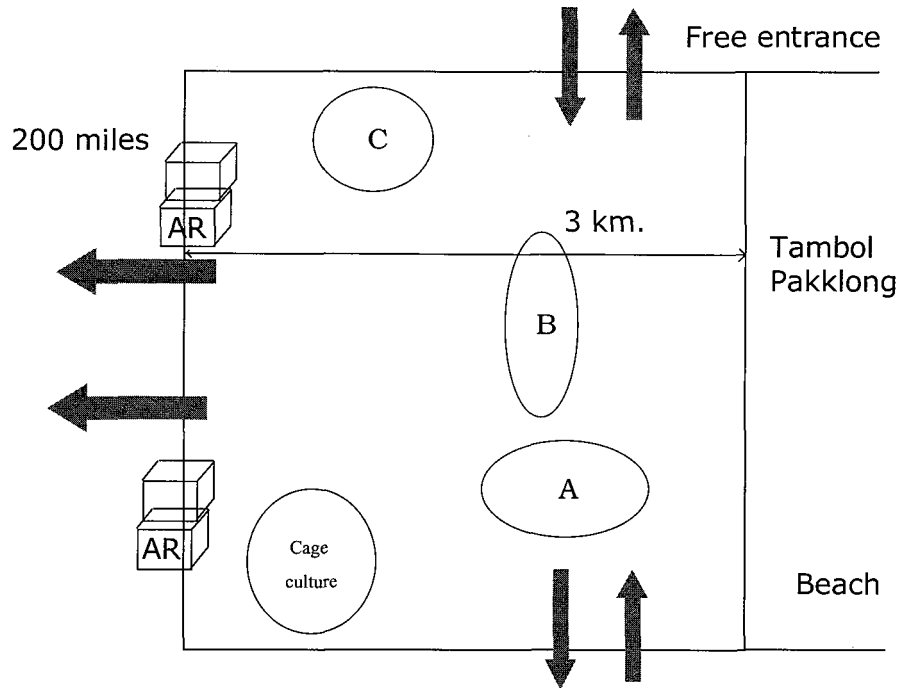
local agencies. Hence, they are devolved the particular authority to manage the demarcated zones in a proper manner by the central and provincial governments. In addition, the meaning of local fishers and stakeholders may extend over those people whose fisheries operations involve the demarcated zone. This is because a number of fishing boats enter into Pathew Bay from adjacent Tambols and Districts. Strictly speaking, under the present regime of fisheries management, these boat operators join in the decision-making process of management. In actuality, training and educational activities often target fishers in adjacent areas.

18. In the development process of LBCRM-PD, local fishers, stakeholders, and local governments will draw up a zoning plan inside the demarcated zone, shown in *Chart 5 LBCRM-PD: Zoning in Demarcated Areas*. As other reports describe, the Activity II of LBCRM-PD has encouraged them to discuss several urgent issues on zoning activities. They are also targeted for establishing a management body whose functions are to generate procedures of decision-making, building effective organizations, determining problems and finding solutions, making plans for management, consulting with related fisheries and government agencies, making and announcing rules, and enforcing them. Obviously, it takes much time to achieve these objectives. There should be a step-by-step plan.

2. One Proposal for a Management Body: Role of Ao.Bo.To

19. Although the process of decentralization is still uncertain, Ao.Bo.To will become a primary unit to which district offices devolve several administrative functions. The Ao.Bo.To and its administrative system should work together with local resources users. The Royal Project Committee and related government agencies selected a project site in Tambol Pakklong. As a result, project activities are confined within the area of the Pakklong Ao.Bo.To. The demarcated zones do not extend their neighboring Tambols and Moobaans, restricted to the sea in front of Tambol Pakklong. The Tambol is regarded as a basic, administrative and socio-economic uniformity, regardless of whether or not such selection methods for a project site might not fit in with the reality of people's living and producing conditions inside and outside the Tambol.

Chart 5 LBCRM-PD: Zoning in Demarcated Areas



20. Ideally, a *Tambol-based* coastal resource management system, Ao.Bo.Tos would have the following three functions.

1) Administrative unit of fisheries management

Provincial and District Offices of Fisheries plan to delegate some functions and issues to Ao.Bo.Tos, like registration, licensing, and planning for management. As the first step of decentralization, the Ao.Bo.Tos may assist the development of registration of fishing gear, fishing boats, aquaculture ponds, and so on. In collaboration with staff from the Pakklong Ao.Bo.To, the LBCRM-PD identifies selective functions that the Ao.Bo.To and coastal resource users can take over from the Provincial and District Office of Fisheries. The project will then explore a Tambol-based fisheries registration system and develop it. This attempt, however, will be done on a voluntary basis by the time of the completion of the amendments to the fisheries act and regulations.

2) Support resource users' activities on coastal resource management

To achieve consensus and agreement on the sustainable use of the demarcated coastal zones, the Ao.Bo.To supports fishers and resource user activities in various ways. Establishing and managing user's groups are core activities. The Ao.Bo.To encourages the people to join the groups, and involve themselves in resource management.

3) Legitimate resource user decisions and agreements

The Pakklong Ao.Bo.To may find difficulty in extending its function to the management of local resources and the environment because of a lack of personnel and budget. However, the Ao.Bo.To enables legitimate resource user decisions and their agreements. It is an autonomous administrative organ in political and budgetary terms, whose council members are elected from the public through democratic voting procedures. At the last stage of decision-making as regards the management of the demarcated zones, the Ao.Bo.To council allows rules and regulations with the consensus of the people.



21. There may arise some doubt and disagreement over whether an Ao.Bo.To is mature enough to take charge of coastal resource management. It has just started with development at gradual pace. In actual implementation, fishers and resource user organizations –of whatever type – should be the foundation of the self-regulatory management of demarcated coastal zones.

3. Community (Moobaan)-Based Management Unit and Its Roles

22. At present, fishers and any stakeholders join the discussion and decision-making process of community development and social welfare aspects at Moobaan level. The Moobaan works as a fundamental unit of local administration, and the uniformity of people. Community-based management units (CBMU) exist in the Moobaan, or Moobaan administration may work as CBMU. In fact, as Suanratthanachai *et al* report on the zoning of fish cage farms, people first discuss matters at Moobaan regular meetings and exchange opinions (Suanrattanachai, Petchkamnerd, and Auimrod, 2003).

23. It is ideal that the CBMU becomes a primary unit at Moobaan level that functions in at least six roles (**Table 1 Roles of CBMU**). CBMUs act in detecting problems and finding solutions on coastal resource management at both Moobaan and Tambol levels. They provide a wide variety of opportunities whereby the people obtain consensus on how to regulate fishing and aquaculture operations in the demarcated coastal zones. According to the agreements that the people reach, the CBMUs extend their own rules and enforce them. Adjusting and coordinating to reduce conflict in the demarcated zones are the responsibility of the CBMUs. They represent a formal and core organization of fisheries and resource users in Tambol Pakklong.

Table 1 Community-based Management Units

Functions:

- | | |
|-------------------|---|
| 1. Representative | Act as representative and unity of resource users in the primary unit |
| 2. Consensus | Organize a process of gaining consensus among resource users |
| 3. Suggestion | Suggest directions of coastal resource management and community development Ao.Bo.To. |
| 4. Implementation | Undertake conservation and management activities in line with consensus and agreement |
| 5. Enforcement | Enforce laws, monitoring and controlling irresponsible production |
| 6. Adjustment | Adjust interests between areas and reduce conflicts |

24. What is most important is not organizing a CBMU, but creating an effective institutional arrangement to encourage fishers and resources users forward realizing these objectives at Tambol level. The following issues on the organization and activities of CBMUs should be considered in depth:

1) A Moobaan-based Organization with open membership

Under the present local administrative arrangements, a Moobaan functions as a primary administrative unit standing between the people and the Ao.Bo.To, and covers a wide range of local concerns. Naturally, the Moobaan administrative unit must open its membership to all residents. Geographically, in Tambol Pakklong, some Moobaans become an actual unit of people's life and production. They provide political and economic cohesion. Therefore, a Moobaan-based

framework of resource management encourages greater participation by the fishers and resource users in a decision-making process.

2) Coverage area of CBMU

A CBMU does not need to restrict its membership and activities within one Moobaan, if several Moobaans have geographic, environmental and socio-cultural aspects in common. Organization and membership should be flexibly changed. For example, Moobaan Nos. 1 and 6 are in the same neighborhood. Fishers mostly anchor boats in the same beach and go to the same fishing grounds. They often share training and education programs, too.

3) Adding resource management functions, transforming the currently existing groups, or newly establishing ones?

If a Moobaan administration secures people's participation in coastal resource management, it is unnecessary to organize any new management units. Just adding several functions of resource management to the Moobaan administration will be very cost-effective, in cases where the majority of households are engaged in fisheries activities.

In other cases, fishers and resource users transform the fishers' groups currently existing into a management unit, which also seems more rational and cost-effective rather than to newly establish groups. But, the fishers' groups currently existing at the project site are likely to close their membership.⁷ Without open-access to membership for all fishers and resource users, these groups would not function as a management unit.

4) Combination with particular types of fisheries groups

A primary management unit (CBMU) has area-based membership, not an occupationally based (fishing gear) one. This no longer means that it would be unnecessary to organize any occupationally based units. Those engaged in fish cage and shellfish culture have already established groups. They are expected to hold responsibility for the management of culture grounds, whose membership extends over the whole area of the Tambol. Area-based and fisheries-type-based management bodies will coexist and work together to solve many different problems. They will reciprocally support each other, as each type has both advantages and disadvantages.

25. There may be much argument on organizational principles and activity guidelines that will eventually be adopted at the project site. The people themselves are seeking adequate management units and creating institutional arrangements.

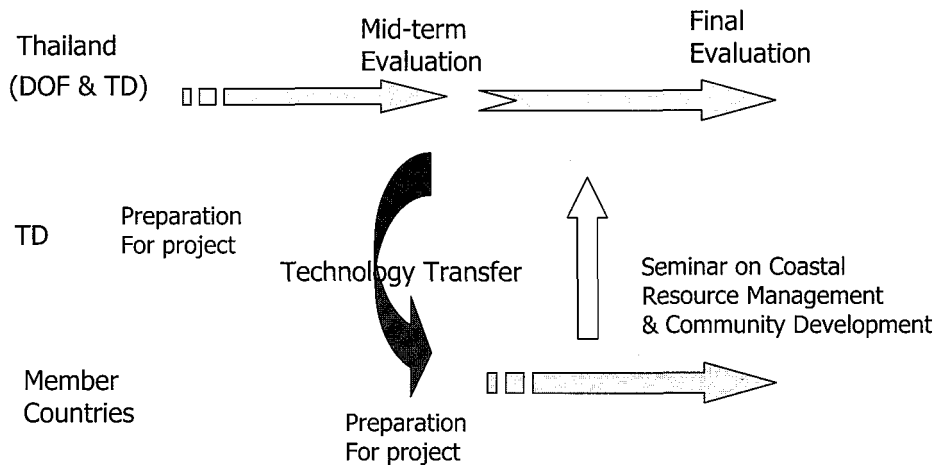
IV. LBCRM: As a Total System with a CBMUs Network

1. A Realistic Approach to LBCRM

26. In local administration, the Ao.Bo.To system has just begun to develop with the concessive support of government, so that it is still weak. It is unrealistic to hold the Ao.Bo.To fully responsible for coastal fisheries management from an early stage, although it is expected that the Ao.Bo.To will increase its function and role in local resource and environmental management. Even after the Ao.Bo.To has matured enough to manage local resource utilization, it must depend on the people's enthusiastic participation and involvement.

27. An LBCRM contains three substantial elements, that is, Ao.Bo.To, CBMUs and a network of CBMUs (*Chart 6 Framework of LBCRM*). In actual implementation of coastal fisheries management in Tambol Pakklong, the network that all CBMUs join will stand at the center.

Chart 6 Framework of LBCRM



28. Such a network is to arrange and conduct self-regulating activities at Tambol level. It resolves conflicts between Moobaans, and between different types of fisheries. Sharing responsibility between the Pakklong Ao.Bo.To and the network will change flexibly, according to the level of people’s participation and involvement. In any case, a LBCRM plans to work as a holistic management body covering the area of the project site. This should be a formal institutional arrangement, widely acknowledged by the people. Otherwise, confusion would arise and a struggle for legitimacy of consensus and agreement among the people.

29. It is tentatively proposed that an LBCRM should be constituted with the Pakklong Ao.Bo.To and CBMUs whose membership is limited to the Tambol Pakklong area. This does not mean that such an LBCRM framework is confined to its mandate and control over only one Tambol. There may be an enormous number of variations of the LBCRM framework, given different geographical, resource environments, and socio-economic surroundings. Even in Tambol Pakklong, different patterns of LBCRM could be proposed, when considering the fact that those outside residential fishers usually encroach upon the demarcated coastal zones to fish. Through experiments in this project, a more adequate model of LBCRM fitting with the reality of coastal resource utilization would be searched for.

30. It is not always rational that a local fisheries management body should be established in line with the local administrative system currently prevailing. Under *de-facto* open access to coastal resource, fishers and resource users more freely and flexibly explore aquatic resources far beyond their own residential areas. CBMUs and their networks flexibly extending their organization and activity over Tambols will be more effective and realistic than if local administrative and bureaucratic lines restrict them. In other words, the CBMUs and the networks should steer in any direction of LBCRM instead of local administration.

2. What Roles and Issues Be Devolved to the LBCRM-PD?

31. It is still uncertain what roles and issues would be devolved to LBCRM-PD by the government in the pilot project. At present, the LBCRM-PD activity is not clearly defined, organization, legitimacy and coverage area of authority. Everything may depend on the future formulation of a new fisheries act. As a pilot project, the LBCRM-PD has started with the management of the demarcated zone. This cannot be categorized into “territorial use right in fisheries (TURF)” with excludability and non-competitiveness. Probably, it will be defined that the LBCRM-PD as the management programme standing at the starting point of “loosely-controlled communal property resources”. (*Chart 7 Characteristics of Common Resources in Coastal Management*). It is not realistic that the LBCRM-PD should become a

Chart 7 Characteristics of Common Resources in Coastal Management

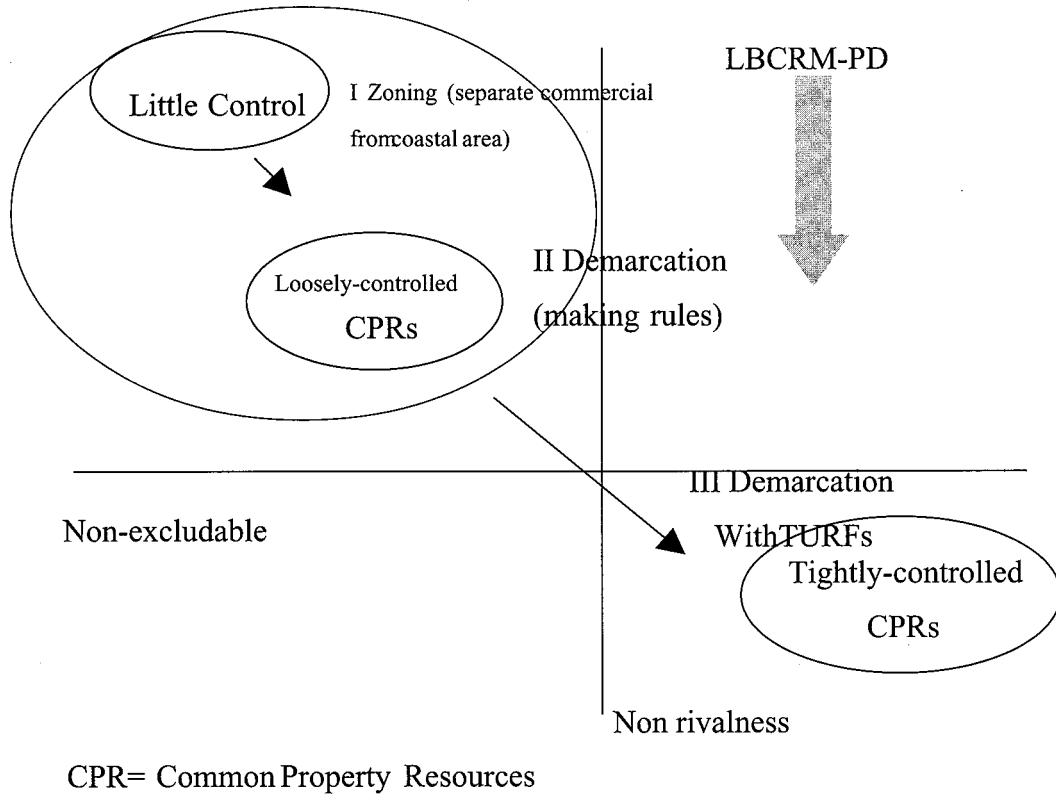
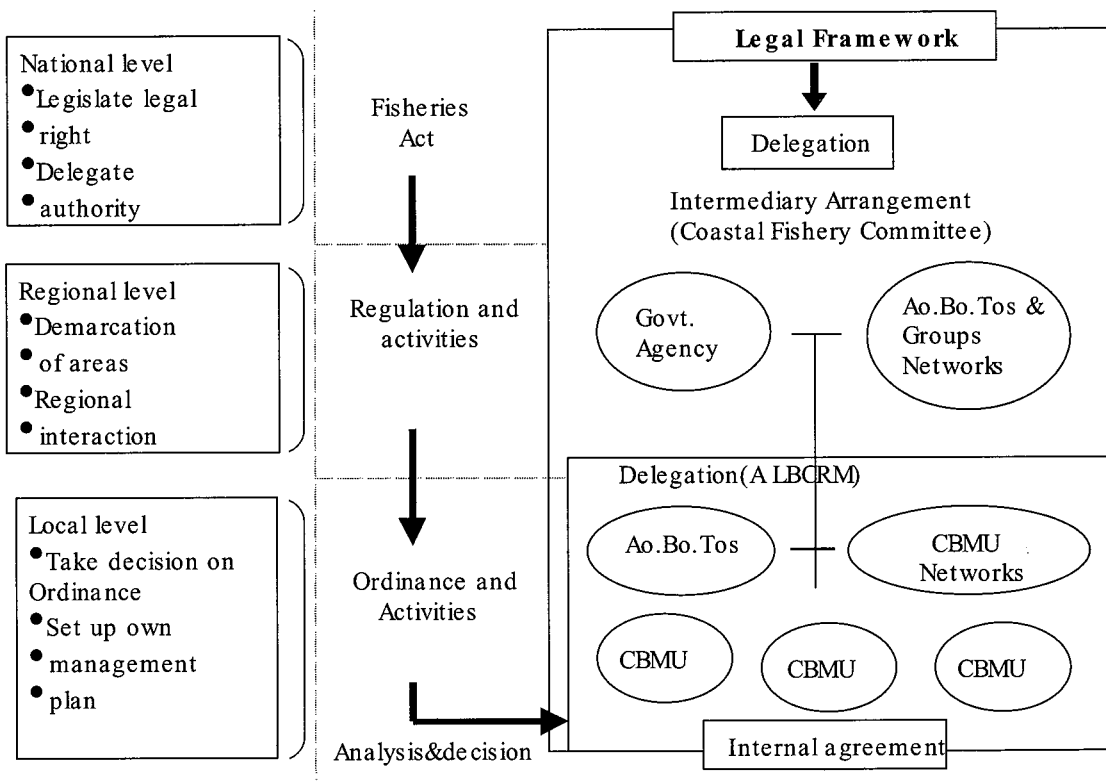


Chart 8 Mechanism of Decentralization





management body with TURFs. Local residents do not desire to build such a tightly-controlled system in the front of their Moobaans and Tambol. But they need to make local rules for the sustainable use of targeted resources, and impose their own rules on inside and outside residential fishers. The LBCRM-PD then exercises jurisdiction over the demarcated zone, fully supported by the Provincial and District Offices of Fisheries. This includes the elimination of illegal and destructive fishing operations from the demarcated zone.

32. At one and the same time, the consultative and informative processes and procedures that the Provincial and District Offices of Fisheries would require, the LBCRM-PD should be shortened and reduced as much as possible. While reducing the project staff and government officers' involvement, the LBCRM-PD (fishers, stakeholders, people's groups, Moobaan-based arrangements, and Ao.Bo.To) will expand the coverage area of exercising jurisdictions. They would like to explore a shorter and simpler decision making and consultation process of zone management.

33. As a pilot project, the Provincial and District Offices of Fisheries may plan to devolve some selected issues and roles on registration and licensing. They are mostly related to small-scale fisheries, and their means of production including fishing boats and major devices. A registration system will be experimented with on a voluntary basis within the framework of the present fisheries act. The LBCRM-PD will seek an effective and simple registration system for small-scale and coastal fisheries.

3. LBCRM Will Stand as the Foundation of a Decentralized System

34. It is predicted that the one possible mechanism of decentralized coastal fisheries management regime, is shown in Chart 8 (*Chart 8 Mechanism of Decentralization*).⁸ This chart illustrates just one process of how to devolve central authority to the local level stage by stage. According to the draft of the new fisheries act, the "local fishery committee" may stand between the central government and local levels. The committee holds great responsibility for adjustment and coordination among different areas, and among different types of fisheries. The coverage area of the fisheries committee is far beyond that of a LBCRM unit. The committee may function as a provincial and regional management body, consisting of a number of LBCRM units.

35. An LBCRM is a primary management unit in a decentralized coastal fisheries management regime, standing between the local fishery committee and local communities. Whatever the type, an intermediary and regional institution will be required to achieve effective and sustainable management of coastal resources. The committee may partly contain an assembly of LBCRM units within a defined locality, while government fisheries agencies, provincial and district offices instruct on the committee's activities.

Reference

Suanrattanachai P., Petchkamnerd J., and Auimrod S., 2003. Experience on Zoning of Fish Cage and Shellfish Cultures Areas, the Seminar Report.

Notes:

- ¹ At the time TD and the DOF made a project proposal in 2001, the government had not yet defined a direction of decentralization in agriculture, fisheries, and forestry.
- ² The main laws and regulations are as follows; 1) The Fisheries Act, B.E. 2490 (1947), 2) The Act Government the Right to Fish in Thai Fisheries Water, B.E. 2482 (1939), 3) The Thai Vessels Act, B.E. 2481 (1938).
- ³ If necessary, these authorities should proclaim provincial regulations, ministry regulations, and department regulations, respectively.
- ⁴ The discussion hereafter will be based upon “Fisheries Act, B.E. 25— (Draft)”, which is discussed in public.
- ⁵ A “Designated community” means the persons who have the right to harvest aquatic resources within a designated community fishery area or have been given the authority to manage and implement measures related to aquatic resources within a designated community fisheries area.
- ⁶ There is much disagreement over whether the Ao.Bo.To and/or local communities become owners of local resources. In the recent development of the reforestation program since the 1990s, the concept of social forestry has developed and has recently become widespread through the North and the Northeast. However, agreement has not yet been reached as regards common property rights of forestry resources. This is a very controversial issue.
- ⁷ These groups have dealt in the provision of micro finance to their members, with a DOF subsidy to lending funds.
- ⁸ This chart and the description here are not based upon any official statement, but based upon the author's (Yamao's) personal view. The author assumes full responsibility for illustrating this chart and the description.



Registration Systems

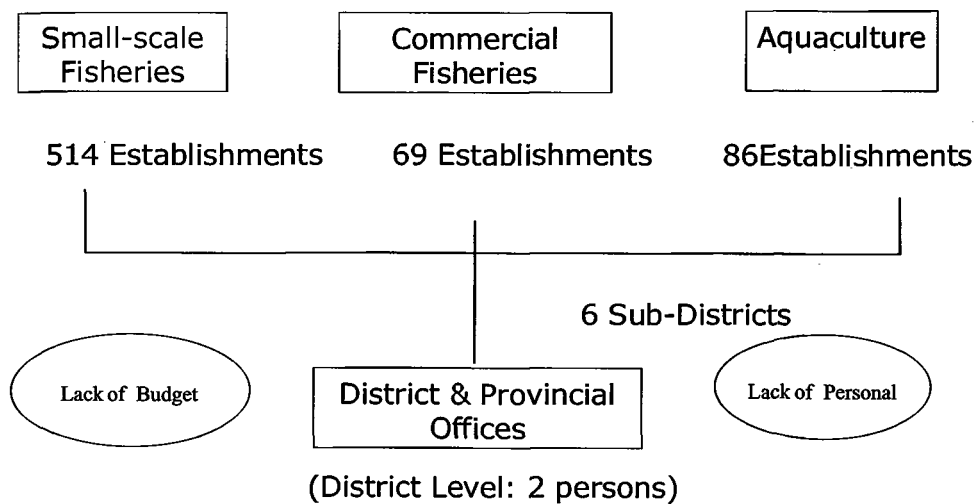
Fishing Boats and Operations (Gears)

Requirement for Output Control & Input Control

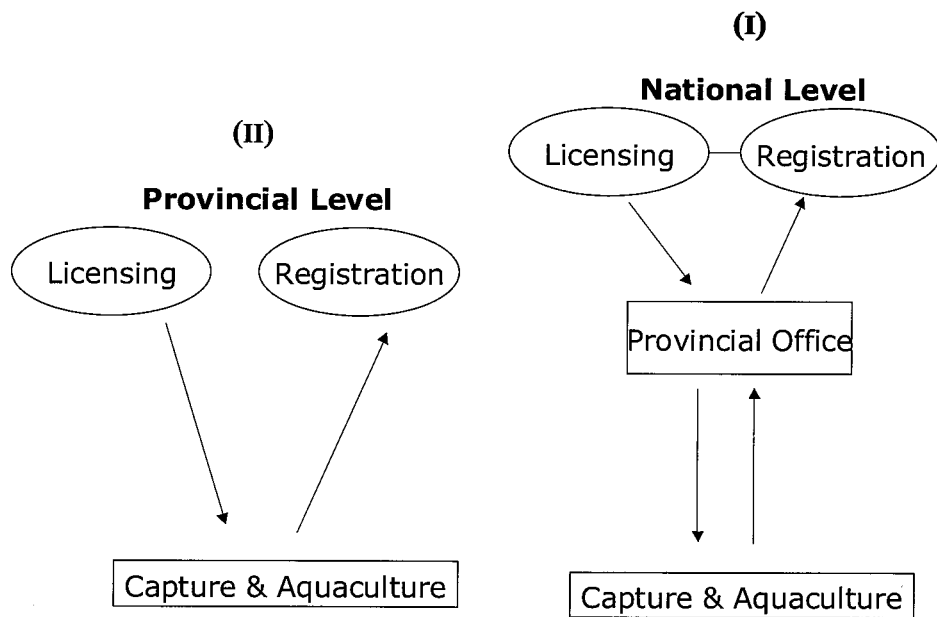


- 1) Establishment of registration fitting in with patterns of fisheries
- 2) Registration agencies: according to patterns of fisheries, types of management, etc.
- 3) Registration links to Licensing

District Office of Fisheries in Pathew



Registration Systems for Commercial Fisheries



Classification of Small-scale Fisheries

Kinds of Registration	Free Entrance	Registration Fisheries	Registered & Licenced Fisheries
Fishers	Non	Need	Need
Operations (Gears)	Free Operation with Any Gears Except Registration & License	Free Operation with Registration Selected Gears	With License Selected Gears
Fishing Boats	Need	Need	Need
Fishing Areas	Coastal	Coastal (Fixed)	Coastal (Fixed)

The Role of Government Network for Local-wide Resource Management in The Philippines¹

Mary Lou B. Larroza²

ABSTRACT

Development of various coastal resource management in Philippines initiates putting more emphasis on community-based coastal resource management. Variety of community-based project which is particular successful examples illustrating how communities can manage their resource usually facilitated by NGOs, academic and generating external financial support. Major influence affecting the evolution of coastal management in the Philippines is the devolution of authority from central to local government (provincial, city, and municipality). Before the passage of RA 7160, Local Government Units (LGU) gave emphasis on the delivery of services but the hampered by limited range of functions and responsibilities. Weak powers and authority also delimit their role in term of finance and local decision-making process. With the passage of RA 7160 in 1991, the Code provided stronger role of local government. The LGU of Anilao, Banate and Barotac Nuevo, in Iloilo signed the Banate Bay Resource Management Agreement of 1996. They manage the Bay and meet common area development plans through the Banate Bay Resource Management Council, Inc (BBMCI). The creation of BBMCI was mandated to prepare and implement one holistic coastal resource management plan commonly beneficial to the participating municipalities.

Keywords: Coastal resource management, decentralization of coastal management, local government unit, RA 7160, BBMCI,

¹ *A Paper Presented During the Seminar on the Toward Further Development of Coastal Resource Management: Lessons Learned Through Locally-Based Coastal Resource Management in Pathew District, Chumporn, Province, February 17-22, 2003, Chumporn Marine Fisheries Development Center, Chumporn Province, Thailand*

² *Executive Director of the Banate Bay Resource Management Council, Inc. Banate, Iloilo, Philippines. Tel. (033) 3620-068 E-mail Address: bbrmci@iloilo.net*



1. "This paper provides information on the current issues on coastal resource management implemented in the Philippines. This highlights on the best practices on coastal resource management where the partnership of local government units enabled them to become more stronger, powerful and responsible in local governance."

2. It is the intention of this paper to present the experiences of the BANATE BAY RESOURCE MANAGEMENT COUNCIL, INC. in implementing the Banate Bay Coastal Resource Management (CRM) Program of the four adjacent municipalities sharing a common depleted fishing ground.

I. Background

3. The Philippines is an archipelagic country composed of 7,100 islands with a total coastline of 18,000 kilometers. With an estimated 80 million in present population, 62% are living in the coastal zone. There are 1,542 municipalities, where 832 are coastal municipalities and 25 are coastal cities.

4. Over the last 20 years, coastal areas in the Philippines have come under increasingly severe threats due to human activities. More than 75 percent of the coral reefs in the Philippines has been degraded from human activity (Chou et al. 1994; Gomez, et al. 1994). Mangrove forests are declining at a rate of 2,000 ha/yr with only 120,000 ha of mangrove forests remaining today from the 160,000 ha 20 years ago and 450,000 at the turn of the century (DENR 1995; White and de Leon 1996). Municipal fisheries production has been relatively stagnant for the last 20 years with recent and noticeable declines annually since 1991 (BFAR 1995, 1997). Coastal ecosystems and their natural ability to produce are being overexploited to the point of causing permanent damage to them. This means that future generations will have fewer resources and the natural productivity of the ecosystems will be significantly reduced (DENR, 2001).

II. Coastal Resource Management (CRM) Initiatives in the Philippines: Building on Experience and Lessons Learned

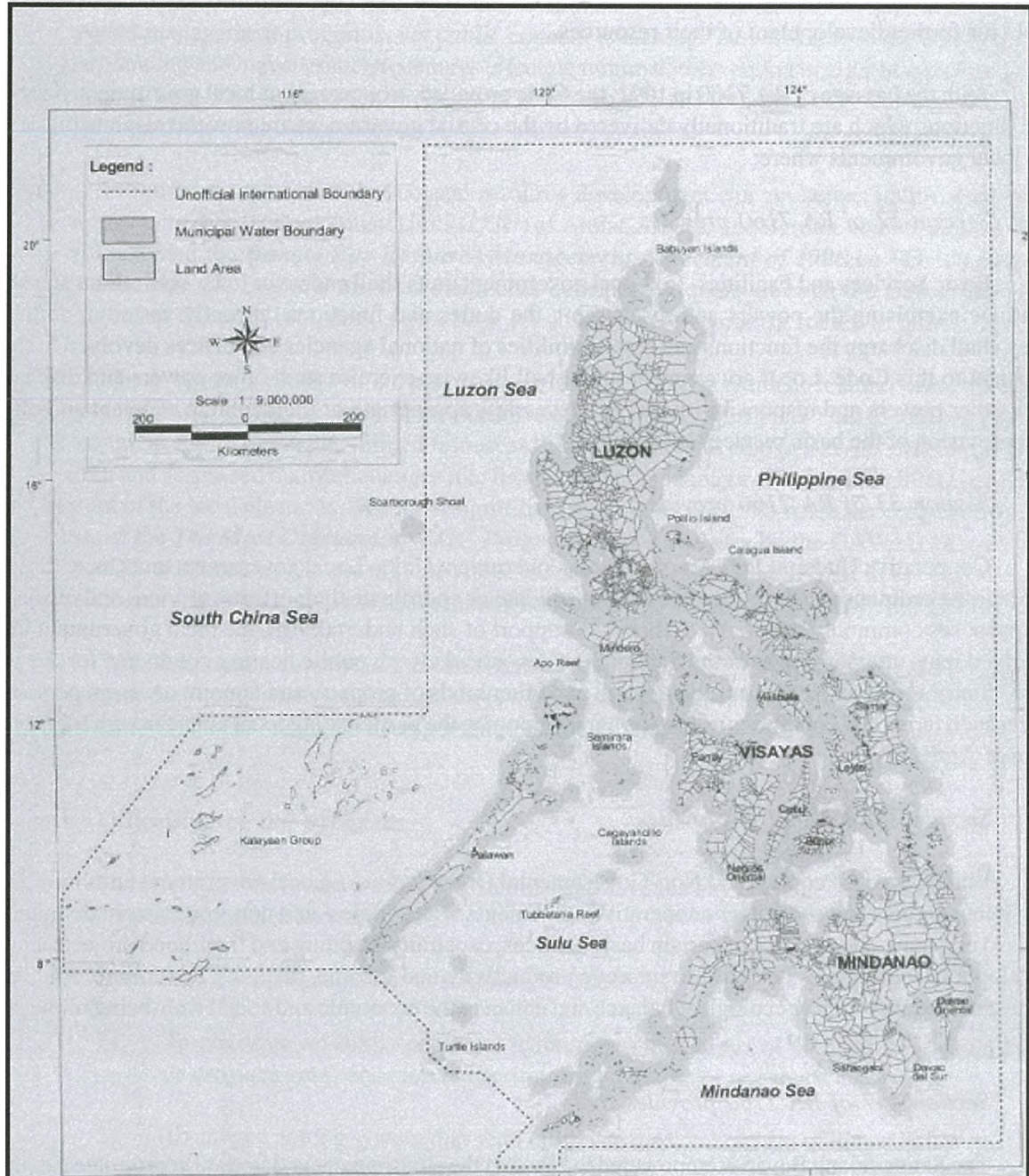
5. In the Philippines, changing coastal demographics, rapid population growth and unsustainable resource use patterns triggered the development of various CRM initiatives putting more emphasis on community-based coastal resource management.

6. The first is a variety of community-based projects that have resulted in successful examples showing how communities can manage their coastal resources usually facilitated by NGOs or academe and generating external financial support.

7. The second major influence has been a series of donor-assisted projects that have resulted in a number of pilot projects in coastal management and built on lessons from the small community-based models developed earlier. A thrust in all such programs has been the participation of local management from the bottom up. Although national government agencies has been involved in all aspects, national policies on CRM are still weak, and no one agency in the country has a significant and clear mandate for coordinating the management of coastal resources. The mandate for coastal management is shared, not well defined, and sometimes under dispute.

8. Another major influence affecting the evolution of coastal management in the Philippines is the devolution of authority from central to local governments (provincial, city and municipality). The challenge created by the decentralization of coastal management responsibility is that few coastal cities and municipalities have the capacity to manage their natural resources. They generally lack trained personnel, budget and capacity in planning and technical knowledge in coastal management. In spite of these limitations, the motivation among LGUs to manage their resources is increasing rapidly as they recognize the seriousness of the problem and what they stand to lose if no action is taken. And the real example of this is the Banate Bay Coastal Resource Management Program.

Administrative boundary map showing approximate municipal and city land boundaries and area covered by municipal waters in the Philippines





III. Coastal Resource Management as a Basic Service of Local Government

9. Before the passage of RA 7160, Local Government Units gave emphasis on the delivery of services but hampered by limited range of functions and responsibilities. Their role is also delimited by weak powers and authority in terms of finance and local decision-making process. Major taxes are imposed by the central government and the share from the proceeds could not cope up with financial needs of the LGU for further development of their resources.

10. With the passage of RA 7160 in 1991, the Code provided stronger role of local government. Services and functions which are traditionally delivered by the central government are now the responsibilities of the local governments where:

Section 17 of RA 7160 provides:

11. Basic Services and Facilities- (a) Local government units shall endeavor to be self-reliant and shall continue exercising the powers and discharging the duties and functions currently vested upon them. They shall discharge the functions and responsibilities of national agencies and offices devolved to them pursuant to this Code. Local government units shall likewise exercise such other powers and discharge such other powers and responsibilities as are necessary, appropriate or incidental to efficient and effective provision of the basic services and facilities.

Section 33 of RA 7160 provides:

12. Cooperative Undertakings Among Local Government Units- Local government units, may through appropriate ordinances, group themselves, consolidate or coordinate their efforts, services and resources for purposes commonly beneficial to them. In support of such undertakings, the local government units involved may, upon approval of the Sanggunian concerned after a public hearing conducted for the purpose, contribute funds, real estate, equipment and other kinds of property and appoint or assign personnel under such terms and conditions as may be agreed upon by the participating local units through Memorandum of Agreement.

Section 35 of RA 7160 provides:

13. Linkages with Peoples' and Non-Governmental Organizations - Local government units may enter into joint ventures and such other cooperative agreements with peoples' and non-governmental organizations to engage in the delivery of certain basic services, capability-building and livelihood projects, and to develop local enterprises designed to improve productivity and income, diversify agriculture, spur rural industrialization, promote ecological balance and enhance the economic and social well-being of the people.

Section 447 of RA 7160 provides that:

14. The Sangguniang Bayan is empowered to "Protect the environment and impose appropriate penalties for acts which endanger the environment, such as dynamite fishing and other forms of destructive fishing, illegal logging and smuggling of logs, smuggling of natural resources products and endangered species of flora and fauna, slash and burn farming and such other activities which results in pollution, acceleration of eutrophication of rivers and lakes or of ecological imbalance

IV. The Case of The Inter-LGU (Local Government Unit) Partnership for CRM of Banate Bay

15. *Banate Bay*, a common fishing ground of the municipalities of Anilao, Banate and Barotac Nuevo

all in the Province of Iloilo, Philippines, has traditionally been recognized as one of the richest fishing ground in Panay Island. The past decade showed that harvest from the Bay have significantly declined due to widespread over-exploitation and habitat degradation driving the marginal and sustenance fisherfolks to live a miserable life.

16. In the past, various agencies and institutions in the Philippines have experimented on a wide array of coastal management programs, yet public concern is lacking. This was due to the contemporary top-down planning and bureaucratic procedures effecting minimal intervention in the municipal level. With the passage of the Local Government Code of 1991 known as RA 7160, the Local Government Units were forced to address their own problems despite limited resources.

17. Premised on the belief that coastal resource development can cut across political and territorial boundaries, the Local Government Units (LGU) of Anilao, Banate and Barotac Nuevo, all in the Province of Iloilo signed the *Banate Bay Resource Management Agreement of 1996* on February 28, 1996 to jointly manage the Bay and meet common area development plans through the Banate Bay Resource Management Council, Inc., thus, a new hope for a blue – green paradise started to glitter.

18. The program's profile of success on coastal resource management features some elements that are quite impressive, one of which is the initiative of the Local Government Unit to join together on a co-management approach despite limited resources. The program was able to take-off even without external funding and surpassed many challenges like limited budget and major changes in political leadership as a turn-out of the local elections. The most significant success was in 1998 when the program was awarded as one of the *Ten Most Outstanding LGU Programs in the Country* by the GAWAD GALING POOK AWARDS, managed by the prestigious Asian Institute of Management (AIM) in cooperation with the Department of Interior and Local Government and Local Government Academy (DILG-LGA).

19. With the popular support of the community to the program, after the sixth year of program implementation, the municipality of Barotac Viejo an adjacent coastal municipality joined in the Inter-LGU Partnership for coastal resource management thus the program now expands to another Bay the Barotac Bay.

V. Objectives of the Program

20. To restore, preserve and create opportunities and save the bay from further deterioration by adopting management policies and strategies.

21. Specifically, the program aims to achieve the following:

- 1) To eradicate all forms of illegal fishing; ban operations of commercial fishing boats that destroy sea grass and stop indiscriminate gathering of sea shells and corals;
- 2) To adopt a zoning system that shall eliminate the construction of illegal fish pens, fishponds and other structures along and within the area;
- 3) To adopt a "regeneration" program like mangrove reforestation, and artificial coral reefs.
- 4) Organize the small fisherfolk into associations or cooperatives and develop their capacity to manage their own organizations.
- 5) To conduct continuous coastal zone research studies;
- 6) To maintain data banking system;



VI. Program components:

1. Institutional Development

One of the key success factors in any project is community involvement, that is why the BBRMCI invested on a long term public education program. Activities include community organizing, education and organizational development to enable them to become effective managers of their resources through adoption of approved practices.

2. Fishery Law Enforcement

Responsible for the review and codification of the laws of the four (4) municipalities. Stricter rules and regulation are adopted for the attainment of the goal and objectives of the program. A licensing procedure was recommended to effect legalization of fishing operations that served as the monitoring tool for municipal.

3. Resource Regeneration/Mangrove Reforestation

To restore the productivity of the Bay, projects like sea farming, mangrove reforestation; establishment of reserve areas and sanctuaries were adopted. An integrated zoning plan was developed and implemented as incorporated in the respective municipal fishery ordinances.

4. Coastal Zone Research and Data Banking

This involves inventories and profiling, conduct of verification studies as output of research activities and project monitoring and evaluation.

5. Livelihood Development

To provide sustainable livelihood options giving priority to small-scale fishermen affected by the enforcement of the management plan, livelihood projects were introduced on the program's second year of implementation. This includes swine fattening and livestock dispersal projects, culture of sea shells, bivalves, mollusks and seaweeds, gear production and marketing, value adding, and small-scale fishing.

6. Infrastructure Development

Provision of post harvest facilities to improve quality of products. Establishment of coastal resource center for trainings and convention, settlement area for indigent fishermen families and improve farm to market roads .

VII. what has been done?

- 1) The participating municipalities entered into an agreement to jointly manage the bay resources. Stipulated in the agreement is to create a body that will be responsible in carrying out their approved CRM plan. The body was supported in terms of its financial need for operation and manpower requirement.
- 2) The creation of Banate Bay Resource Management Council, Inc. (BRMCI) which was mandated to prepare and implement one holistic CRM plan commonly beneficial to the participating municipalities.

- 3) The forging of a Memorandum of Agreement among various agencies to collaborate and fast track their mandates. There are eleven agencies serving as an advisory body to the Council. The group is called the Multi-Sectoral Management Committee that meets regularly.
- 4) Preparation and implementation of an integrated zoning plan. Six zones were identified based on management purposes.

Zone I- Brackish Water Fishponds and Water Tributaries

Covers all river systems including its tributaries and all brackishwater fishponds, developed and undeveloped.

Zone II- Mangrove Areas

covers the area measuring a distance of not less than fifty (50) meters from the peripheral dikes of fishponds going seaward with or without aquatic vegetation.

Zone III- Tidal Flats

covers all foreshore areas exposed during the lowest low tide excluding mangrove cover designated for conservation and management of sea shells.

Zone IV- Shallow Water Fishing Area

refers to the area with a water depth of 0.5 to 10 meters during the lowest low tide. This area is reserved for shallow water fish coral, fish shelter, stationary lift net, crab pots, fish pots, cast net, push net (catching hipon during season), culture of mussel/oyster culture), gathering of bangus fry and for mariculture purposes.

Zone V- Deep Fishing Area

refers to the area with water depth of more than ten (10) meters during low tide. This area is open to all gears except for active gears. The deep sea fishing areas comprise all waters within the marine municipal waters beyond ten (10) meters depth.

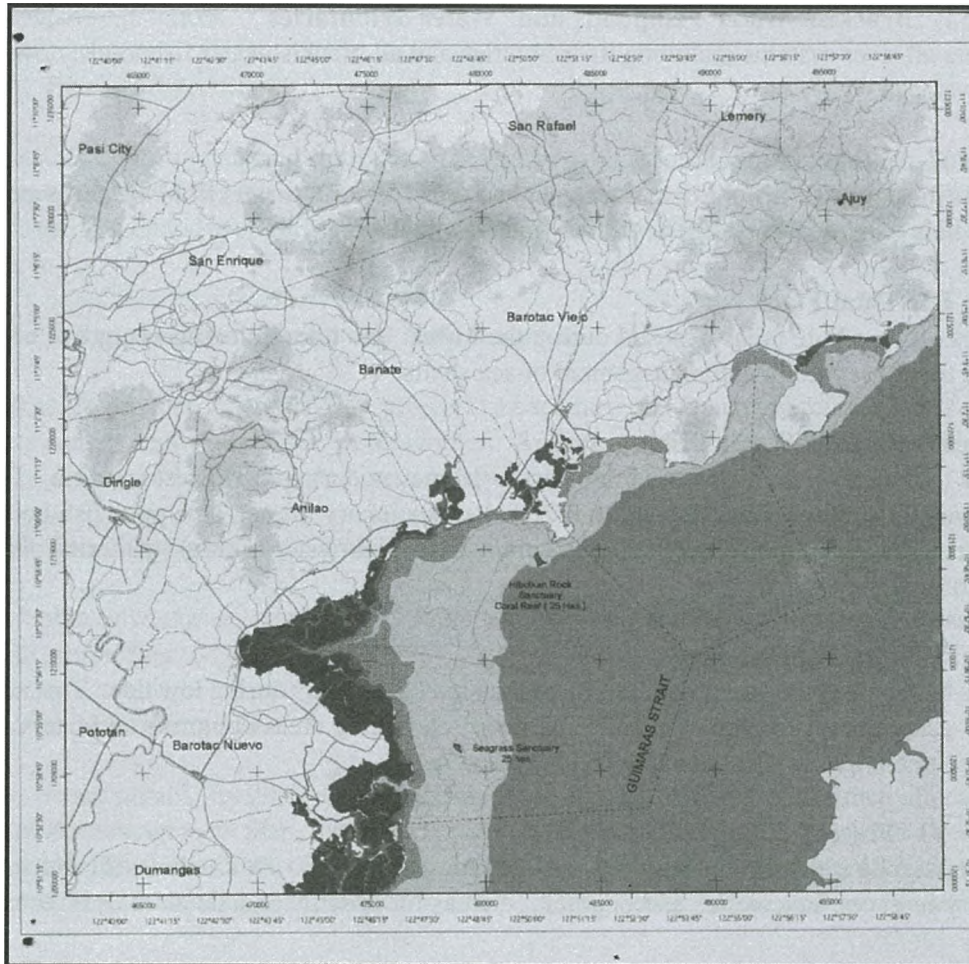
Zone VI- Fishery Refuges/Sanctuaries

Comprises the area included within the geographic coordinates. This includes all areas declared as fishery reserves, sanctuaries and/or reserved areas for specific aquatic animals or ecosystems.

- 5) Harmonized Municipal Fishery Ordinance. Rules and regulations are the same as reviewed and approved by their respective legislative body before the implementation;
- 6) Created the following attached committees:
 - a. Multi-Sectoral Management Committee composed of experts from the different national agencies that forged MOA with the Council;
 - b. Executive Committee – composed of the Local Chief Executives of the four municipalities and the Executive Director;
 - c. Local Task Force on Law Enforcement – composed but not limited to representatives from the Philippine National Police (PNP), Office of the Municipal Mayor, Office of the Municipal Agriculturist, Office of the Municipal Treasurer, Association of Barangay Captains (ABC), Barangay Fisheries and Aquatic Resource Management Council (BFARMC), Deputized Fish wardens, Chairman of the Committee on Agriculture and Fisheries of each municipality;
 - d. Barangay Fisheries and Aquatic Resources Management Council (BFARMCs)



Map of Benate Bay



- 7) Organized and strengthened fisher folk associations and cooperatives
- 8) Participated in the preparation of the Executive Agenda of the participating municipalities.
- 9) Established data bank and conducted research and assessment of the area
- 10) Conducted aerial videography and coastal mapping of the area
- 11) Provided sustainable livelihood projects to fisher folk beneficiaries.
- 12) Provided continuous CRM advocacy among the stakeholders.
- 13) Established resource regeneration projects like, artificial reefs, mangrove nurseries .

VIII. Problems Hurdled:

- 1) Limited funds for alternative livelihood projects. Many fishermen were affected with the management policies. Through a continuous education campaign they are willing to go into other types of income-generating projects that are in consonance with management policies. In order to help our fishermen, the Council identified and prioritized needs and coordinated with various institutions for assistance (e.g. Department of Agriculture (DA), Technical Education and Skills Development Authority (TESDA)), Provincial Government of Iloilo, the Bureau of Fisheries and Aquatic Resources (BFAR), Local Government Support Program (LGSP), Politicians and NGOs).
 - 2) Limited office facilities/equipments. The Council started to operate with one old typewriter. Important documents were done in the Office of former Board Member Pablito Araneta (Founding Chairman). A computer set was purchased in 2000 through a Cash Award from the Local Government Academy upon winning as one of the Gawad Galing Pook Awardees in 1998. Due to lack of tables, other detailed BBRMCI staff provided their own. At first, monitoring and surveillance of Banate Bay was difficult and expensive due to lack of patrol boat and the Council had to hire pump boats. Later, as a result of the continuous education campaign, fishermen became supportive and allow their boats to be used by the Council without cost.
 - 3) Change in political leadership. After two years of operation, there was a change in leadership due to the 1998 local election. The newly-elected officials (3 mayors and majority of the Municipal Councilors, Barangay Officials) had limited knowledge about the program and less supportive, the Development Task Force finds it hard to implement the plans and programs smoothly. To address the problem, the Council conducted a series of dialogues and program orientation. This resulted to their positive view over the program and necessary support was generated.
 - 4) People's attitude towards change. At the start of the program, the Council conducted a series of education campaign and pulong-pulong (dialogues) in the thirty (30) coastal barangays on the plans, programs and management policies. For a while, the fishermen reacted negatively because their income will be greatly affected. However, due to the continuous education and trainings, the fisherfolks became aware of the program and have come to realized their important roles in the sustainability of the bay's resources and that they are not merely users but resource managers.
22. This resulted to an active fishermen participation that activities like survey and data gathering, attendance to meetings, mangrove planting, project monitoring and planning had become a voluntary act of the fishermen.



IX. Lessons Learned:

- 1) Multi-sectoral cooperation was the greatest strength of the program. The Inter-LGU partnership was strategic but the functional roles of the POs and National Government Agencies, academe and research institutions were instrumental to the success of the program. Today, there are 11 agencies collaborating with Banate Bay Resource Management Council, Inc.
- 2) Strong political will of the Municipal Mayors was responsible for the initiative to save Banate Bay. They have shown their commitment in pursuing their development agenda by sharing their limited financial and human resources to get things started. They were not discouraged by the lack of support from the national government nor assistance from external institutions. LGU program and projects initiated by the LGUs themselves seem to attract more support from other sectors/institutions.
- 3) The presence of full-time professional staff in the BBRMCI may also be cited as one success factor. In many CRM programs, the CRM Council are simply Ad time. In the case of Banate Bay, each municipality assigned permanent fishery technicians detailed on a full-time basis to BBRMCI directly under the Executive Director. This ensured continuous implementation of the activities and project under the Banate Bay Resource Management Program despite any revamp in the LGUs.

X. Future Plans:

- 1) Strengthening of fishermen association and integration of association into cooperative. As of this writing, there are 17 existing fishermen's organization organized by BBRMCI duly registered with the Department of Labor and Employment (DOLE) while 25 others were strengthened and assisted.
- 2) Delineation of Municipal Waters and demarcation of reserve areas. The plan to delineate municipal waters and territorial boundaries of the Bay for protection and conservation .
- 3) Establishment of Breeding Center for Fin fishes and mollusks to sustain stock. The establishment of breeding centers for fin fishes like groupers, sea bass and tilapia will augment stocks of these species which were found to be depleting.
- 4) Establishment of infrastructure (post harvest facilities, fisher folk settlement area, farm to market road). There is a need to establish ice plant and cold storage facilities (at present only one ice plant is servicing the northern towns of Iloilo), fish landing facilities in strategic areas within the bay and a settlement area for marginal fishermen. Additional access roads will improve the delivery of goods from the coast to the market areas.
- 5) Certificate/standardization of products coming from the Bay area for global competitiveness. Famous bay products like blue crabs, shrimps, breams, sardines and mackerel, bangus and rare sea shells needs to be certified to met the foreign standards and compete in the international market.
- 6) Development of Eco-Tourism Area. There is a bright future for the declared 100 hectare Mangrove Reserve and Wildlife Sanctuary (in Palaciawan & Tiwi, Barotac Nuevo) to be developed as an eco-tourism area where at least 21 Avifauna species (shore and migratory birds) now permanently abound the dense mangrove stands. This area along with the proposed eco-tourism area off Talisay Point in Barotac Nuevo will bring development coupled with conservation in the area. Mangrove Reserve may also be a site for future laboratory/field training for students and practitioners having related interests.

- 7) Establishment of Coastal Resource Management Center for Panay Island. The ultimate dream of the BBRMCI is to cater to the needs of the visiting parties (local and international) in the wide-spread utilization of Community-Based CRM strategies and opportunities in improving the lives of the coastal communities through the establishment of a CRM Training Center.
- 8) Enhancement of Mangrove and Forest Nurseries in the Barangay Level. The enhancement of mangrove areas will be effectively implemented with the establishment of forest nurseries in the barangay level, raising the awareness of the residents on the multiple benefits derived from upland and mangrove reforestation projects. This in turn will be a livelihood opportunity for the communities who will answer the need of seedling requirements of the reforestation and enhancement projects.
- 9) Establish alliance with upland municipalities. The proposed alliances on the neighboring upland municipalities (Dingle and San Enrique) was already initiated by the past and present LGU leaders. A more concrete plan will have to be drawn.
- 10) Intensify linkages with funding institutions (internal and external). Continuing efforts are focused in strengthening linkages with previous partners like the CIDAs Local Government Support Program, the World Wildlife Fund for Nature – Philippines, the various national agencies and other NGOs. Further collaboration with other agencies possibly with research institutions and other funding agencies will be included.
- 11) Identify and develop sustainable livelihood projects like:
 - a. cage culture of fin fishes
 - b. gracillaria culture
 - c. mud crab culture in magroves
 - d. micro-enterprise development
 - e. value adding of locally available marine products such as blue crabs, bangus shrimps, sardines and herrings

References

- Perla E. Legaspi, 2001 *The Changing Role of the Local Governments Under a Decentralized State, Some Cases in Philippine Local Governance*, 2001, National College of Public Administration and Governance, University of the Philippines Diliman, Quezon City, Philippines.
- Philippine Coastal Management Guidebook Series, Number 3, 2001, Coastal Resource Management Project, Cebu City, 2001.

New Role of Sub-District Administrative Organization to Local Community Development in Thailand

Wattana Yaowapak *

ABSTRACT

Main objective of Sub-district administrative organization (Ao.Bo.To..) establishment is to decentralize authority and delegate responsibilities from central government to local government unit through local people's participation. Ao.Bo.To. is local organization that local people can participate in decision making process pertaining to analyze community problems and needs; define and finalize proper solution. Special characteristic of Ao.Bo.To. is official local government unit that it can freely self-manage its organization. Members of Ao.Bo.To. form the Ao.Bo.To. committee. The committee takes responsibilities to arrange and implement community development plan and action plan and also collect tax from community. Ao.Bo.To. is supposed as training center and/ or school that local people can learn, practice and gain experience means of democracy. They pay their vote in finalizing any community' agreement and decision making process. They participate in election, comprehension of laws and principle of governance and including principle of equity.

Keywords: Main objective of Ao.Bo.To. establishment, Ao.Bo.To. committee, local people's participation, means of democracy

* *Human Resource Administration and Local Community Development Office, Chumporn Province*



I. Introduction

1. The Sub-district Parliament and Sub-district Administrative Organization Act, 1994 facilitated an initial establishment of Sub-district administrative organization (Aongkanborihan Suan Tambol, Ao.Bo.To.) in 1995. Numbers of Ao.Bo.To. were initially established 617 organizations. Numbers of Ao.Bo.To. increased to 2,143 organizations in 1996 and 3,637 organizations in 1997. Thus, total numbers of Ao.Bo.To. were 6,397 organizations.
2. Ao.Bo.To. flexibly and freely administrates local governance function because Thai government has policy to devolve and delegate authority to Ao.Bo.To., therefore, new Thai constitution facilitates Ao.Bo.To. to involve in decentralization of authority policy. This resulted to Ao.Bo.To. is as a proper local governance organization that suitably administrate and develop logistic and current situation of community.
3. Main objective of Ao.Bo.To. establishment is to delegate and decentralize authority from central government to local community. This is to convince local people participated in decision-making process for community development and contribute people's capability to execute self-management in community. Thus, the special structure of Ao.Bo.To. composes of members who are representative of village or community. This structure distinguishes from other organization. Then, members of Ao.Bo.To. are key person to put right solution to right problems and local people's needs.

II. Importance of Sub-District Administrative Organization to Community and Nation Development

4. Central government formulates policy of authority decentralization to sub-district level through local governance community units. This policy is to institute and strengthen democratic system at grass root level, which places an emphasis on local people's participation. Local people's participation is key tool to cost-effectively and flexibly handle sub-district administrative work. Policy of authority decentralization also means that Ao.Bo.To. can manage its own resource base and manpower to develop community. Characteristics of Ao.Bo.To. are as follows:

1) Freely administrating and official organization

Government decentralizes and defines scope of authority to Ao.Bo.To. The Ao.Bo.To. takes responsibilities to make a community development plan, budget allocation plan and also regulate and control self-regulations that do not conflict with national laws. Therefore, Ao.Bo.To. can take responsibilities to collect tax from community.

2) Arrange Ao.Bo.To. member election and establish administrative committee

Ao.Bo.To. Members are two-third members come from election and one-third members are invited like village head, sub-district head to join Ao.Bo.To. Administrative committee members are elected from members of Ao.Bo.To. to manipulate sub-district administrative work.

3) Ao.Bo.To. as local government unit

Ao.Bo.To. is a primary local organization that local people requests to participate in Ao.Bo.To. administrative work. So, Ao.Bo.To. is enthusiastic local organization that members can learn how to work systematically, therefore, they can solve problems of community that proper to local people needs.

1. Importance of Sub-district Administrative Organization to Community

5. There are reasons why Sub-district Administrative Organization is very important to community as follows:

- 1.1 Sub-district Administrative Organization is local government unit that members of the organization are elected from candidate local people. Then these members form administrative committee and Ao.Bo.To. members' parliament. These members know well what problems that they and other local people are facing and what are needed.
- 1.2 Sub-district Administrative Organization also takes responsibilities to manage its own local resource base to provide advantage of resource base to local people. There are factors that encourage Sub-district Administrative Organization can solve problems in the right way and reach needs of local people.
 - 1) Manpower: Sub-district Administrative Organization has its staff and team that they are under instruction and assignment of the administrative committee. Therefore, these staff and working team are high capability that they are very helpful to implement community development project and policy.
 - 2) Income management: Sub-district Administrative Organization can do self-management on its own incomes. Source of incomes comes from community tax collection and government's budget allocation. The Ao.Bo.To. can manage and allocate accessible income to invest in community development and resource base management project. This leads to a rapid expansion of Ao.Bo.To. establishment that number of Ao.Bo.To. increased up to 6,397 Ao.Bo.Tos. within three years (however, 567 of Tambol parliaments do not change their status to be Ao.Bo.To. establishment)
- 1.3 Local community can conduct self-development. This follows principle and concept of democratic system. Ao.Bo.To. establishment and administration are systematic pattern of local governance that local people learn and keep practicing on how to participate in community development and management. The gained experience at local level would contribute and strengthen a national social and economic development.

2. Importance of Sub-district Administrative Organization to Nation

- 2.1 As supporting agency of central government: central government delegates local governance authority and responsibility to Ao.Bo.To. The Ao.Bo.To. takes in charge to analyze problem and provide solution by itself that bases on means of local people's participation.
- 2.2 Enhance and increase human resources to local community: Ao.Bo.To. is local organization that takes responsibility to systematically develop and train local people to be high capacity building and leadership skill. These types of local people are key person to contribute self-developing and managing local community.
- 2.3 Means of democracy: Ao.Bo.To.' s managing and administrative system is way that local people learn how to participate in democratic system.

Ao.Bo.To. undertakes means of democracy are as follow:

- 1) Finalize decision-making process by voting
- 2) Ao.Bo.To.' s member election under Thai new constitution, 1997
- 3) Relying on national laws
- 4) Equity to all local people under national laws



III. Responsibilities of Ao.Bo.To. to local community and nation

6. This topic is categorized into two parts

1. Responsibilities of Ao.Bo.To. to nation

1.1 Ao.Bo.To. is as core local organization that lead and head to develop local community and remote areas. Therefore, Ao.Bo.To. have to contribute any grant and subsidy from external agency, and incorporate with other Ao.Bo.To. and government agencies in adjacent sub-district to facilitate development of local community network.

1.2 Ao.Bo.To. is expected to be local government unit that can alleviate local people's suffer from deficiency of fundamental infrastructure provision. Then, central government would reduce its role on allocating budget for provision of infrastructure construction to local community. But, the central government would take a role as coordinator of inter-local governmental agencies.

1.3 Ao.Bo.To. is local government take main responsibility to train local people to understand means of democracy and practice through election. This process is way to develop local people to participate in democratic system at national level.

2. Responsibilities of Ao.Bo.To. to local community

2.1 Ao.Bo.To. takes full responsibilities to provide and manage fundamental infrastructure and community welfare for local people in community. The Ao.Bo.To. performs its role that it can provide and manage well infrastructure and community welfare to reach need of local people.

Eligible characteristics of Ao.Bo.To. to local community development

1) Ao.Bo.To. clearly comprehends problems in community and local people's needs. This is because members of Ao.Bo.To. are elected from local residence. They provide a proper solution and put in place at the right time.

2) Ao.Bo.To. has its own natural resource base and human resource and manpower. Therefore, it also has its own budget that freely and flexibly uses to develop community.

3) Ao.Bo.To.'s administration and management bases upon local people's participation in decision-making process. This is under decentralization of authority from central government that encourages local people involving in local community development.

2.2 Ao.Bo.To. is core local organization that enhance means of democracy to local people and community. Ao.Bo.To. handles administration and management on framework and process of democracy basis. Members of Ao.Bo.To. come from election. Local people's agreement finalizes by voting. Local people participate in making community development plan which arranges through process of democracy.

Four main fundamental disciplines of Ao.Bo.To.'s administration

1) Right implementation: follows national laws and regulations and considers local people's needs

2) Know how to think: can make community development plan, far vision and coordinate with other government agency

- 3) Liberty: freely thinking and have self-management its own right
- 4) People's participation: people involves in decision-making process, learning, following and monitoring action plan and implementation of Ao.Bo.To.'s administration.

IV. Conclusion:

7. Ao.Bo.To. is core local organization to enhance means of democracy to local people and community. Process of democracy basis contributes Ao.Bo.To. to manipulate self-development in community. Therefore, Ao.Bo.To. takes a role as leader of other local people's groups to participate in community development. Ao.Bo.To. leads other group to assign direction of community development which considers based on local people's opinion, ideas, and recommendations. Ao.Bo.To. heads to analyze and prioritize problems in community. Thus, Ao.Bo.To. performs as local government unit, and as human resource development center that local people are trained on thinking, implementing, responding participations and taking advantage.

Part II

Regional Seminar

Report of the Seminar

**REPORT OF THE REGIONAL SEMINAR ON
TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT: LESSONS GAINED THROUGH
LOCALLY BASED COASTAL RESOURCE MANAGEMENT IN
PATHEW DISTRICT (LBCRM-PD), CHUMPORN PROVINCE
22-24 FEBRUARY 2003
PHUKET, THAILAND**

EXECUTIVE SUMMARY

The regional seminar was to share and exchange information and experiences of coastal resource management gained from ASEAN countries. This seminar highlighted on three topics were 1) the networks of local government and Community-based resource management (CBRMs) for effective management; 2) Registration and licensing system at local level and their classification; 3) Development of community business to provide alternative livelihood for local people. All information and field experiences came from participants' presentation could provide future appropriate direction for coastal resource management in the ASEAN region. The seminar also attached the special session on a proposal for the Department of Fisheries, Malaysia and SEAFDEC/TD project on Community Development and Coastal Fisheries Management in Langkawi Island, Kedah State, Malaysia. This joint project could promote exchange of experience and information for promotion of coastal resource management in Thailand, Malaysia and other countries in the region.

The conclusion and recommendations categorized into part of consideration for future planning of LBCRM-PD project, which highlighted on data collection and survey should focus on requirement for proper community-based social and economic development. Regular survey of data and information should facilitate impact of the project to the site and assist local people in making of community development and management plans. Therefore, a close cooperation and coordination among three parties concern namely Moobaan-based unit, Ao.Bo.To. and local government agencies should be further promoted. The other part of conclusion and recommendations is consideration for future promotion of coastal resource management in the ASEAN region. This part listed bullet points of recommendations emphasized on greater people and community participation in coastal resource management, sharing responsibilities between people and government, capacity building for human and institutional development and development of alternative livelihoods to generally promote sustainable coastal resource management at the regional level.

I. INTRODUCTION

1. The Regional Seminar on Toward Further Development of Coastal Resource Management: Lessons Gained through Locally Based Coastal Resource Management in Pathew District (LBCRM-PD), Chumporn Province was organized by the Training Department of the Southeast Asian Fisheries Development Center (SEAFDEC) from 22 to 24 February 2003 in Phuket, Thailand. The Seminar was held with the objectives to discuss and exchange views and experience from countries in the ASEAN region particularly experience drawn from the LBCRM-PD and Phang-nga Bay projects on the Seminar topic. It was expected that the outcome of the Seminar could provide future directions and reference for coastal resource management in the region.

2. Participants attended the Seminar from Brunei, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Vietnam as well as officials from SEAFDEC/Secretariat and TD. Observers also attended the Seminar from the Department of Fisheries, Thailand and Malaysia as well as SEAFDEC/TD. The list of participants appears as *Annex 1*.



II. OPENING OF THE SEMINAR

3. The Policy and Planning of the Department of Fisheries, Malaysia in the capacity of SEAFDEC National Coordinator for Malaysia, Mr. Abd. Hamid bin Abd. Shukor welcomed the participants. He stressed the importance of coastal resource management in the ASEAN region. He stated the successful organization of the local seminar conducted from 19-21 February 2003 of which the experience and lessons learned could be used for this Regional Seminar. He stressed on the joint learning and sharing of view and experience in coastal resource management at the regional level, which could help facilitating further development of the issue at national level of the ASEAN Member Countries. He then declared the Regional Seminar open.

III. ADOPTION OF AGENDA AND ARRANGEMENT OF THE SEMINAR

4. Dr. Masahiro Yamao, the ex-JICA expert in fisheries socio-economics to SEAFDEC/TD, in the capacity of the Moderator of the Seminar introduced the agenda and arrangement for the Seminar. After consideration, the Seminar adopted the agenda, which appears as *Annex 2*.

IV. OVERVIEW OF THE REGIONAL SEMINAR

5. Dr. Yamao briefly presented the overview of the Regional Seminar (*LBCRM-PD/REF 14*). He stressed on the main purposes of the Seminar to draw lessons gained through LBCRM-PD and other projects in the ASEAN region on coastal resource management.

6. Dr. Yamao briefly presented major discussion topics. He introduced Topic 1 on the Networks of Local Governments and CBRMs for Effective Management by illustrating various patterns, characteristics and some selected experience of CBRMs. He further explained the Topic 2 on Registration and Licensing System at Local Level highlighting various systems and their classification. Topic 3 addressed on Development of Community Business to provide alternative livelihoods for local people. He stressed that some member countries of SEAFDEC have already reached to a turning point passing through the implementation of pilot projects at which their government and people should build a new plan for, coastal resource management.

V. ROLES OF COMMUNITIES IN COASTAL RESOURCES CONSERVATION AND MANAGEMENT

7. The former project director of the Phang-nga Bay Coastal Resource Management Project, Mr. Jate Pimoljinda, presented the topic. His presentation appears as *LBCRM-PD/REF 15 (CD-ROM)*.

8. Mr. Jate addressed the rationale behind the need for coastal resource management. He cited the roles of community according to the Thai Constitution in the management and conservation of community natural resources. He clarified the implication of community participation in fisheries management. He pointed out major causes of coastal resources and environment degradation, which are considered as driving forces for the basic need for proper management. He further introduced the Phang-nga Bay geographical features, its importance, as well as current fishing activities, situation and problems of the Bay.

9. Mr. Jate further explained the process and methodology of the project implementation as well as the participation and roles of communities in the resources management. The major roles are management of mangrove and sea grass bed; marking of conservation boundaries; establishment of community markets; training and groupings, etc. He stressed on the issues to be considered to ensure successful implementation of the project particularly active participation from the community and villagers.

10. In discussion, with regard to the criteria for site selection of the project, Mr. Jate clarified that based on the preliminary survey of the Bay, the sites selected were those, which have readiness and resource potentials. As for the marking of boundaries of conservation areas, Mr. Jate clarified that the conservation areas focused on the sea grass bed concluded through the community consensus and marking was made using floating buoys.

11. With regard to the similarities and differences between artificial reefs (ARs) and fish aggregating devices (FADs), Mr. Jate clarified that ARs are meant to enhance coastal resources and to protect trawl fisheries to enter into the coastal areas. ARs are suitable for coastal water where the depth of water is about 5-10 m. In contrary, FADs are meant for deeper water and fishing purposes. ARs are then more appropriate for coastal resource management. As for the commercial fisheries, discussion with the fishers was on-going to identify proper conservation and management.

12. Regarding the use of mangrove areas, Mr. Jate pointed out difficulties in responsibility between the Department of Fisheries and the Department of Royal Forestry over the management of mangrove areas. This made it difficult to tackle the problem of encroachment of shrimp farms in the mangrove areas.

VI. COMPREHENSIVE COASTAL COMMUNITY DEVELOPMENT PROGRAMS: THE PHILIPPINE EXPERIENCE

13. The representative presented the topic from the Philippines, Ms. Jessica C. Munoz. Her presentation appears as *LBCRM-PD/REF 16*.

14. Ms. Jessica gave introduction, status of fisheries and coastal resources, and issues of fisheries and coastal resources management in the Philippines. She presented main fisheries and coastal management policies, strategies and institutional arrangements. She further presented the brief information on components, implementation arrangements of the Fisheries Resource Management Project in the Philippines promoted by the Philippine Bureau of Fisheries and Aquatic Resources.

15. In discussion, it was pointed out that there is an increasing trend to establish local coastal resource management councils as the network to strengthen effectiveness of the implementation of the coastal resource management. With regard to the extent of authority of the municipal council, Ms. Jessica clarified that the municipal councils have authority to issue community laws and ordinances based on the proposal made by communities or villages as the latter have no authority to enact any laws or regulations.

16. With regard to the boundary delineation of municipal waters, Ms. Jessica clarified that it is important to differentiate between municipal water and commercial waters as well as between adjacent municipality waters. But the focus is given to the first while the latter could be achieved by consensus between concerned communities. The delineation of boundaries has to be coupled with strict enforcement.

17. In response to the inquiry regarding the policy to reduce fishing activities, Ms. Jessica clarified that this should be supported by data and information on number of fishing boats and issued licenses as well as MSY. The village leader usually knows the data and information of fishing activities such as fishing boats but currently have no proper records. As for the alternative livelihoods to support the implementation of this policy, there are cases that some fishers do not want to stop fishing. The attempt to change their occupation is considered as violating human rights. However, land-based occupations are investigated and developed in addition to the coastal aquaculture and post-harvest and processing activities.

18. With regard to the Bantay Dagat monitoring, control and surveillance (MSC) system, Ms. Jessica clarified that the system is voluntary and not sustainable. However, there was an attempt to professionalize enforcement personnel and give more permanent supports including patrol boats and personnel welfare.



It was further added that to ensure strict law enforcement and punishment process is in place, coordination with judges and prosecutors should be established. Dr. Theo Ebbers added more additional recommendation on how sustains status of Bantay Dagat. He cited that whether there was political will and support of such efforts among local governments. Local governments should form alliances and share the cost in maintaining Bantay Dagat operations.

19. With regard to the monitoring of the project, the project conducted training on monitoring of various activities, of which the results could provide basis for overall project monitoring. The project also focused on the awareness building on the project particularly on school children. It was added that the Fisheries and Aquatic Resources Management Councils (FARMC) play an important role in the implementation and support for the local coastal resource management. One of the main functions of this council is to approve local laws and ordinances. At the moment, the mandatory FARMCs are established at both national and municipal levels.

20. Dr. Theo Ebbers gave more information-concerned function of FARMC. He cited that the FARMCs did not have the role to approve local laws and ordinances. The FARMCs are consultative bodies, advising local government on coastal resources management issues. Each coastal municipality has to have one FARMC. 65% of the FARMC members have to be small-scale fishers, the local planning and the local agricultural officers represent the local government. It is also mandatory to have women and a youth representative as well as a NGO representative. At least one commercial fishers are supposed to be member of FARMC. No local ordinance can be passed without prior consultative with the FARMC, but it can be passed without the approval of the FARMC.

VII. FISHING GROUND MANAGEMENT BY “ECONOMIC GROUPS” IN MALAYSIA

21. The topic was presented by the representative from Malaysia, Mr. Abd. Hamid bin Abd. Shukor. His presentation appears as *LBCRM-PD/REF 17*.

22. Mr. Hamid presented the background of fishing ground management in Malaysia particularly the establishment of Fishermen Economic Groups (FEGs) as an approach to promote co-management for fisheries resources. He explained the FEGs’ background, process of establishment and activities highlighting the experience drawn from the Kuala Teriang, Pulau Langkawi Island.

23. Mr. Hamid raised issues for consideration at the Seminar in developing coastal resource management that community-based resource management (CBRM) involves various factors both from fishing and land-based activities. The term CBRM should imply community participation in coastal resource management (CRM). He also raised the importance of strong government support and political will as they would be the platform to ensure successful implementation of CRM.

24. In discussion, Mr. Hamid clarified that the term of service of the FEGs’ leader is usually one to two years subject to renewal through consensus by the group. And there is only one FEG per one village.

VIII. RECENT DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT PROJECTS IN INDONESIA

25. The topic was presented by the representative from Indonesia, Ms. Listya Inderasari. Her presentation appears as *LBCRM-PD/REF 18*.

26. Ms. Listya presented the background, objectives and components of the 6-year Coastal Community Development and Fisheries Resources Management project jointly promoted by the Government of Indonesia and the Asian Development Bank. She further presented the concept, guiding principles and elements of framework of the Participatory Coastal Fisheries Resources Management (PCFRM) as an approach to create partnership in coastal resource management.

IX. ZONING AND LEGISLATION TOWARDS SUSTAINABILITY OF MARINE FISHERIES RESOURCES IN NEGARA BRUNEI DARUSSALAM

27. The topic was presented by the representative from Brunei Darussalam, Mr. Abdul Hamid Haji Zainin. His presentation appears as *LBCRM-PD/REF 19*.

28. Ms. Hamid outlined the water zoning system, current legislation related to fisheries, and recent development and future program towards sustainability of marine fisheries resources in Brunei Darussalam.

29. In discussion, in response to the inquiry, Mr. Hamid clarified that the approach for fisheries management in Brunei Darussalam is top-down. With regard to the community involvement, much is promoted for aquaculture and fish processing activities not for the fishing activities including zoning. It should be emphasized however that the government focuses on the small-scale fisheries.

X. PEOPLE'S PARTICIPATION IN COASTAL FISHERIES MANAGEMENT PROJECTS: EXPERIENCES IN THE PHILIPPINES

30. The topic was presented by Ms. Jessica C. Munoz. Her presentation appears as *LBCRM-PD/REF 20 (CD-ROM)*.

31. Ms. Jessica explained the need for community participation in coastal fisheries management as well as management approach for community-based resource management (CBRM). She stressed that the CBRM is the implementation of resource management whose functions are of the local governments and the local coastal communities. She briefly clarified important roles of community, partnership between NGOs and people's organizations, and activities of the CBRM project.

XI. ZONING, REGISTRATION AND LICENSING: DEVELOPMENT OF FISHERIES MANAGEMENT IN MALAYSIA

32. The topic was presented by the representative from Malaysia, Mr. Abd. Hamid bin Abd. Shukor. His presentation appears as *LBCRM-PD/REF 21*.

33. After a brief background of fisheries focusing on resource management policy and strategies as well as fishing zones in Malaysia, Ms. Hamid presented the principle, objectives and systems of Malaysian registration and licensing program for fishing vessels. He further requested SEAFDEC to consider supporting participation from countries in the ASEAN region to attend the planned workshop on monitoring, control and surveillance (MCS) in Malaysia this year to share experience and develop regional directions for development in this subject.

34. In discussion, with regard to the comment that many small fishing boats in Malaysia have no sign – below 5 GT fishing boats or sampan have registration number but no limited area but some are still unlicensed. He further informed that under the rules by International Maritime Organization (IMO), the government of Malaysia was in the process to change the measurement system from tonnage to length of fishing boats.

Outside fishers can fish in the local area with two conditions one is to land their catch in the area and to buy supplies and fuel from the area.

XII. HUMAN CAPACITY BUILDING FOR LOCAL FISHERIES OFFICERS AND LEADERS OF LOCAL GOVERNMENTS: NEED FOR NEW TRAINING ARRANGEMENT

35. The topic was presented by the representative from Vietnam, Mr. Nguyen Van Chiem. His presentation appears as *LBCRM-PD/REF 22*.



36. Mr. Chiem presented the need for training programs for local fisheries officers and local government leader. He stressed on process of training development, namely training content design; selection of training methodology, staff, and sites; funds; etc. It was requested that SEAFDEC could look into the possibility to assist Vietnam for the need for training.

37. In discussion, Mr. Chiem responded to the inquiry that for government official training, need is identified through responsible academic institute while that for the community is identified by the community themselves. In addition, evaluation and follow-up of the outcome of the training was also conducted at community and/or provincial levels.

38. With regard to the request to SEAFDEC to assist Vietnam for the training activities, the representative from SEAFDEC Secretariat clarified that the policy on reduction of technical disparity among ASEAN Members particularly for Vietnam has been adopted. This is promoted in line with the ASEAN integration policy. However, at the moment, focus could only be given to improvement of fishery statistics. In addition, SEAFDEC Secretariat is now in the process of developing regional policy on coastal fisheries management addressing various level and approaches for the promotion of coastal fisheries management, which would be submitted for consideration at the forthcoming meeting of the ASEAN – SEAFDEC Fisheries Consultative Group (FCG).

XIII. SPECIAL SESSION: A PROPOSAL FOR THE DEPARTMENT OF FISHERIES, MALAYSIA AND SEAFDEC/TD PROJECT ON COMMUNITY DEVELOPMENT AND COASTAL FISHERIES MANAGEMENT IN LANGKAWI ISLAND, KEDAH STATE, MALAYSIA

39. The topic was presented as a proposal by the Head of Socio-economics Section, Research Division, SEAFDEC/TD, Dr. Phattareeya Suanrattanachai. Her presentation appears as *Special No.1 & 2*.

40. Dr. Phattareeya presented background as well as core and collaborative activities of the proposal namely survey, training, and advisory activities, which is subject to the confirmation by Malaysia and approval at the ASEAN-SEAFDEC FCG mechanism.

41. In discussion, there was a suggestion that in developing training course for officers should also involve target community leaders to ensure their future participation in the project right at the beginning. Mr. Hamid from Malaysia clarified that with or without this collaborative project, the activity would be on-going as it was expected that this joint project could promote exchange of experience and information for promotion of coastal resource management in Thailand, Malaysia and other countries in the region. Dr. Yamao pointed that this kind of collaboration would be important for SEAFDEC/TD to develop its own expertise and experience to further facilitate the promotion of the issue at the regional level.

42. Dr. Yamao also pointed out the joint learning between the DOF, Malaysia and SEAFDEC/TD on the development and monitoring of the fish aggregating devices (FADs). In response to the interest expressed by the representative from Brunei Darussalam in the studies on FADs in support the promotion of purse seine in his country, it was suggested that a representative from Brunei Darussalam could be involved in the next visit to Langkawi, the project site in Malaysia, for observation and discussion. Dr. Phattareeya took note of the request and further conveys the request to the responsible officer of the concerned program and informs the outcome to Brunei Darussalam.

XIV. CONCLUSION: ADOPTION OF PARTICIPATORY APPROACH TO LOCAL COASTAL RESOURCE MANAGEMENT

Based on the experience, views and deliberation made during the Local and Regional Seminars, the following conclusion and recommendations toward adoption of participatory approach to local coastal

resource management were agreed:

1. Consideration for Future Planning of LBCRM-PD Project

1.1 Overall aspects of the implementation of the project

- The project was viewed relevant to the priority of the Member Countries. Support to future implementation of the project should be given high priority. The Seminar requested SEAFDEC/TD to expand the project or extend experience and lessons learned from the project to other ASEAN Member Countries.
- Coordination between the project and other ASEAN-SEAFDEC regional programs such as resource enhancement, responsible fishing technologies and practices, etc. should be promoted to ensure holistic approach to coastal fisheries management.
- Strengthening and coordination among Moobaan-based group both within a village and inter-villages should be focused and promoted.
- Local coordinator(s) are needed to promote closer communication between local people and local government to progressively run the project.

1.2 Activity 1: Base line survey

- Regular survey of data and information should be conducted to facilitate impact of the project to the site and assist in making of community development and management plans.
- Data collection and survey should focus on requirement for proper community-based social and economic development.
- The outcome of survey should on a regular basis be made available to local people for their comprehension on current level of coastal resources abundance.
- Data requirement should also include changing demand-supply of fish production to help avoiding excessive use of resources.

1.3 Activity 2: Encourage locally based coastal resource management

- Focus should be given to awareness and capacity for local people to effectively promote locally based coastal resource management.
- Linkages and/or network of local people's groups should be further promoted.
- Close cooperation and coordination among three main parties namely Moobaan-based unit, Ao.Bo.To and local government agencies should be further promoted.

1.4 Activity 3: Encourage local business

- Further technology development for marketable fish processing products should be promoted.
- Improvement of quality and safety standard aspects of fish products should be studied and promoted.
- Sustainable and environmentally friendly technology development for coastal aquaculture should be developed and promoted.

1.5 Activity 4: Enhance human resource capability and participation

- Training on community and Ao.Bo.To leadership should be conducted.
- Training for local government officers should accommodate applicable approaches required for coastal resource management.

1.6 Activity 5: Develop extension methodologies and strengthen the extension system

- Extension methodologies and programs to support coastal resource management should highlight on current status of resources and socio-economic conditions in relation to the project activities.
- Emphasis should be placed on school children in the communities to enhance their awareness and involvement.



- Mass media to support the implementation of the project should be systematically developed in response to the development of project activities to enhance awareness and greater participation of community and fishers.

1.7 Activity 6: Rehabilitate and enhance coastal resource

- Rehabilitation and enhancement of coastal resources should be conducted in close collaboration between the project responsible agencies and local fishers to develop mutual understanding and cooperation.
- Proper promotion of artificial reefs (ARs) and fish aggregating devices (FADs) in the project site should be considered and developed with clear objectives. The installation of ARs and FADs should be conducted based on participatory resource assessment (PRA) and through local consensus.

2. Consideration for Future Promotion of Coastal Resource Management in the ASEAN Region

2.1 Overall promotion of sustainable coastal resource management at the regional level

- Based on substantial experiences and accumulated knowledge in the operation of pilot projects, a local wide and nation-wide network of CBRMs should be considered.
- Need for developing information-sharing networking for coastal resource management projects.
- Develop common indicators for monitoring and evaluation of coastal resource management projects.
- Sustainability issue beyond project duration should be considered.
- Commonalties among coastal resource management projects in the region such as licensing, MCS, etc. could be compiled and used for further promotion.
- Data and information required including its collecting methodologies for the support of CBRMs should be clarified.

2.2 Greater people and community participation in coastal resource management

- Awareness building and positive attitudes toward sustainable coastal resource management for community and people are prerequisite to ensure their greater participation.
- Participation of people and community should be promoted through the project cycle.
- Activities should be developed taking into consideration of identified needs and priorities of community.
- People and community should own the implementation process supported/facilitated by the project staff not the other way around.

2.3 Sharing responsibilities between people and government

- Understanding and political will to support CBRMs should be ensured right at the beginning of project planning.

2.4 Capacity building for human and institutional development

- Compilation of training packages on coastal resource management available in the region should be conducted and used as a regional reference to further develop national or local training package in each country.

2.5 Institutional Arrangement including development of licensing, registration and monitoring, control and surveillance (MCS) systems

- Legal support to the systems should be clarified and developed.

2.6 Development of alternative livelihoods

- Development of alternative livelihoods based on potentials of the local resources should be made in parallel with the reduction of fishing capacity. Alternative livelihood activities should be identified and developed through local consensus.

XV. CLOSING OF THE SEMINAR

Dr. Masahiro Yamao was representative of SEAFDEC/TD given closing remarks to all participants. He thanks them for their active participation and contribution to the meeting. Mr. Suriyan Vejitlekkarn expressed appreciation to the meeting secretariat staff for their endeavor in trying and making the meeting an achievement. Then, Dr. M. Yamao declared the meeting closed.

Annex

Annex 1

List of Participants

Member Country

Brunei Darussalam

Abd. Hamid Haji Zainin (Mr.)
Senior Fisheries assistant
Fisheries Station Numra, Fishereis Department
Brunei, Bt 1728, Brunei Darussalam
Tel.: 673-2-383067 / 673-2-772787

Indonesia

Listya Inderasari (Ms.)
Chief of Sub Directorate Fisheries of Resources
Monitoring & Evaluation, Indonesia
Directorate General of Capture Fisheries
Jl. Harsono RM No.3, Gd B Lt VI
Ragunan, Ps Minggu Jakarta Selatan
Tel.: 62-021-7811672
e-mail: dfrm.dgf@indosas.net.id

Erni Widjajanti (Ms.)
Chief of Sub Section, Programme Cooperation
Directorate General of Capture Fishereis
Jl. Harsono RM No.3
Gd B. Lt IV Ragunan, Jakarta
Tel.: 62-21-7883-1853

Japan

Masahiro Yamao (Dr.)
Professor, Hiroshima University
Faculty of Biological Science, Hiroshima University
1-4-4 Kayamiyama, Higashi-Hiroshima
139-8528 Japan
Tel.: 81-824-24-7962
e-mail: yamao@hiroshima-u.ac.jp

Malaysia

Abdul Hamid bin Abd. Shukor (Mr.)
Director of Planning and Development
Department of Fisheries, Malaysia
Tel.: 03-26175552

Badeli bin Hassan (Mr.)
Head of Fisheries District Langkawi
Department of Fisheries
07000 Langkawi, Kedah, Malaysia
Tel.: 04-9665935
Fax: 04-9665937
e-mail: bathely@yahoo.com

Abdul Razak bin Latun (Mr.)
Research Officer
Malaysia, Fisheries Research Institute
11960 Batu Maung, Penang, Malaysia
Tel.: 604-6263925
e-mail: razlat@rocketmail.com

Adnan bin Hussain (Mr.)
Fisheries officer
Tinglat 859 Wisma Tani, Jalan Sultan
Salahuddin, 50678, Kuala Lumpur, Malaysia
Tel.: 603-26175576
e-mail: adnan321@hotmail.com

Anuar bin Omar (Mr.)
State Extension Officer
Department of Fisheries Kedah / Perlis
5th Floor, Wisma Persekutuan Jalan Kampung Baru
05000 Alor Setar, Kedah
Tel.: 04-7342135/7342137
e-mail: perikan@tm.net.my



Myanmar

Than Oo Wai (Mr.)
Asst. Director, Department of Fisheries
Ministry of Livestock and Fisheries, Sinmin Road
Ahlone township, Yangon, Union of Myanmar
Tel.: 095-01-225562
e-mail: dof @ mptmail.net.mm

Philippines

Mary Lou B. Larroza (Ms.)
Executive Director
Philippines Banate Bay Resource Management Council
BBRMCI, Banate, Iloilo, Philippines
Tel.: 033-3670-068
e-mail: bbrmci@iloilo.net

Jessica C. Munoz (Ms.)
Supervising Aquaculturist
Bureau of Fisheries and Aquatic Resources, Philippines
860 Arcadia Bldg., Quezon Avenue, Quezon City
Philippines
Tel.: 632-410-99-90 or 632-372-50-08
e-mail: jmunoz@frmp.org

Thailand

Jate Pimoljinda (Mr.)
Head of Samutprakan Fisheries Provincial
4/15 Sakdidej Road, Muang, Phuket 83000
Tel.: 01-8925706
e-mail: jpafdec@phuket.ksc.co.th

Vietnam

Nguyen Van Chiem (Mr.)
Deputy Management of FRCD
10-12 Nguyen Long Hoan, Badinh
Hanoi Vietnam
Tel.: 04-7716213
e-mail: nvchiem @ yahoo.co.uk

Department of Fisheries

Mali Boonyaratpalin (Dr.)
Expert on Fisheries Management
Department of Fisheries, Chatujak
Bangkok 10900
Tel.: 02-9406207

Amporn Laowapong (Ms.)
Economist
Development and Transfer Fisheries
Technology Institute, Chatujak, Bangkok 10900
Tel.: 09-5005373
e-mail: ampornl@fisheries.go.th

Middle Gulf Research and Marine Fisheries Development Center, Chumporn

408 Moo 8, Paknam, Muang, Chumporn 86120

Jinda Petkamnerd (Ms.)
Fisheries Biologist
Tel.: 077-522185

Pamonpan Chatpumi (Ms.)
Fisheries Biologist
Tel.: 077-522185

Wareerat Musikasang (Ms.)
Fisheries Biologist
Tel.: 077-522185

Patchalee Pantuleng (Ms.)
Fisheries Biologist
Tel.: 077-522185

Baramee Khunnirong (Ms.)
Fisheries Biologist
Tel.: 077-522185

Jirapa Kamhongsa (Ms.)
Fisheries biologist
Tel.: 077-522185

Chumchoke Singharachai (Mr.)
Fisheries Researcher
Tel.: 077-522185

Jalann Meeraksa (Mr.)
Fisheries Biologist
Tel.: 077-522185

Andaman Sea Research and Marine Fisheries Development Center, Phuket

Suchat Sangjan (Mr.)
Fisheries Biologist
Tel.: 076-412788

Wiroj Kong-asa (Mr.)
Fisheries Biologist
Tel.: 076-412788

Secretariat/Southeast Asian Fisheries Development Center

Suraswadi Bldg., Kasetsart Univ. Campus, Bangkhaen Bangkok 10900

Suriyan Vichitlekarn (Mr.)
Program Manager
Tel.: 66-2-940-6326 to 29
e-mail: suriyan@seafdec.org

Training Department/Southeast Asian Fisheries Development Center

Suksawasdi Road, Laemphapah, Phrasamutchedi, Samut Prakan 10290

Theo Ebbers (Dr.)
Expert on Coastal Fisheries Management
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: thebbers@seafdec.org

Phattareeya Suanrattanachai (Dr.)
Socio-economic Section Head
Tel.: 66-2-4256138
Fax.: 02-4256111
e-mail: phattareeya@seafdec.org

Penchan Laongmanee (Ms.)
Fishing Ground Section Head
Tel.: 66-2-4256142
Fax.: 02-4256111
e-mail: penchan@seafdec.org

Panitnard Taladon (Ms.)
Extension and Information Section Head
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: panitnard@seafdec.org

Sumitra Ruangsivakul (Ms.)
Researcher
Tel.: 66-2-4256138
Fax.: 02-4256111
e-mail: sumitra@seafdec.org

Phattarajit Kaewnuratchadasorn (Ms.)
Researcher
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: phattarajit@seafdec.org

Kongpathai Saraphaivanich (Mr.)
Researcher
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: kongpathai@seafdec.org

Sukchai Anupapboon (Mr.)
Researcher
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: sukchai@seafdec.org

Siriporn Pangsorn (Ms.)
Special Trainee
Tel.: 66-2-4256100
Fax.: 02-4256111
e-mail: psiriporn@seafdec.org



CHARM Project

CHARM Project Management Unit, Department of Fisheries
4th Floor, Phodphasob Building, Kaset-Klang, Chatujak, Bangkok 10900

Yves Henocque (Dr.)
CHARM EU Co-Director
Tel.: 02-5620560
e-mail: Yves.henocque @ ifremer.fr

Kamonpun Awaiwanon (Dr.)
Fisheries Biologist
e-mail: kamonpun10@hotmail.com

Montana Piromnim (Ms.)
e-mail: montanap@fisheries.go.th

Chongkolnee Chamchang (Dr.)
Fisheries Biologist
Tel.: 02-5728900

Peera Aiumsomwang (Mr.)
Fisheries Biologist
Tel.: 06-5679521
e-mail: uasomwang@hotmail.com

Pitan Lipisamut (Mr.)
Fisheries Biologist
Tel.: 09-9672077

Sumonman Suwanpumi (Ms.)
Fisheries Biologist
Tel.: 09-4045314
e-mail: ya_naja@hotmail.com

Siwaporn Maneekul (Ms.)
Fisheries Biologist
Tel.: 02-5798200
e-mail: siwaporn_ma@hotmail.com

Research and Marine Resource and Coastal Development Institute

Sumana Kachonwattanakul (Ms.)
Fisheries Biologist
408 Moo 8, Paknam, Muang
Chumporn 86120
Tel.: 077-522185

Annex 2

**Prospectus
of
TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT: LESSONS GAINED THROUGH
LOCALLY BASED COASTAL RESOURCE MANAGEMENT IN PATHEW DISTRICT, CHUMPORN PROVINCE**

Part II: 22-24 February 2003 (Regional Seminar)

The content of the Part II is;

- 1) Making process of comprehensive coastal resource management projects;
- 2) Enhancement of awareness about sustainable coastal resources and human resource development;
- 3) Roles and tasks of local government officers in participatory coastal resource management projects;

Through active participation in the Part I and exchange opinions with Thai participants, foreign participants will continue to discuss the above-mentioned three topics. These topics are designed to make a viable project proposal in their own countries. Therefore, the Part II is characterized as project-oriented nature. Observations on the LBCRM-PD and pioneer pilot projects in the Phangnga-Bay will provide practical knowledge and technology.

22 February 2003

Morning: From Chumporn Province to Phangnga Province

Afternoon: Coastal Resource Management and Community Development
Observation on “Phangnga-Bay Pilot Projects” in Phangnga Province

Resource persons: Leaders of community-based groups and DOF

23 February 2003

Place: Thavorn Grand Hotel, Phuket Province

0900-0910	Opening by Dr. Mali Boonyaratpalin
0910-0940	Overview of Part II (Dr. Masahiro Yamao)
0940-1040	Successful Factors to Develop People’s Participation in the Phangnga-Bay Projects (Mr. Jate Pimoljinda, Thailand)
1040-1100	Coffee Break
1100-1145	Comprehensive Coastal Community Development Programs: the Philippines (Ms. Jessica C. Munoz, the Philippines)
1145-1215	Fishing Ground Management by “Economic Groups” in Malaysia (Mr. Abd. Hamid bin Abd. Shukor, Malaysia)



- 1215-1330 Lunch
- 1330-1400 Recent Development of Coastal Resource Management Projects in Indonesia (Ms. Listya Inderasari, Indonesia)
- 1400-1430 Zoning and Legislation Towards Sustainability of Marine Fisheries Resources in Negara Brunei Darussalam (Mr. Abdul Hamid Haji Zainin, Brunei)
- 1430-1500 Roles of Municipal Governments Networks for Local-wide Coastal Resource Management (Ms. Jessica C. Munoz, the Philippines)
- 1500-1530 Zoning, Registration and Licensing: Development of Fisheries Management in Malaysia (Mr. Abd. Hamid bin Abd. Shukor, Malaysia)
- 1530-1545 Coffee Break
- 1545-1615 Human Capacity Building for Local Fisheries Officers and Leaders of Local Governments: Need for New Training Arrangement (Mr. Nguyen Van Chiem, Vietnam)

Special Session

- 1615-1715 Challenge toward Community-based Fishing Ground Management in Langkawi Island

24 February 2003

- 0900-1100 Conclusions: Adoption of Participatory Approach to Local Coastal Resource Management

Annex 3**List of Documents****Part II**

- | | |
|------------------------|---|
| LBCRM-PD/REF 14 | Overview of Part II |
| LBCRM-PD/REF 15 | Successful Factors to Develop People's participation in the Phangnga Bay Projects (CD-ROM) |
| LBCRM-PD/REF 16 | Comprehensive Coastal Community Development Program: the Philippines |
| LBCRM-PD/REF 17 | Fishing Ground Management by "Economic Groups" in Malaysia |
| LBCRM-PD/REF 18 | Recent Development of Coastal Resource Management Projects in Indonesia |
| LBCRM-PD/REF 19 | Zoning and Legislation Towards Sustainability of Marine Fisheries Resources in Negara Brunei Darussalam |
| LBCRM-PD/REF 20 | People's Participation in Coastal Fisheries Management Projects: Experiences in the Philippines (CD-ROM) |
| LBCRM-PD/REF 21 | Registration and Licensing Program for Fishing Vessels in Malaysia |
| LBCRM-PD/REF 22 | Human Capacity Building for Local Fisheries Officers and Leaders of Local Governments: Need for New Training Arrangement |
| Special Session | Challenge toward Community-based Fishing Ground Management in Langkawi Island |
| Special No. 1 | A Proposal for DOF in Malaysia-TD Collaborative Project |
| Special No. 2 | Report of the Proposed Collaborative Project Proposal Presented to Malaysian Fisheries Department at Fisheries Research Institute, Penang, Malaysia on 13-17 January 2003 |



*Toward Further Development of Coastal Resource Management:
Lessons Gained Through Locally Based Coastal Resource Management
in Pathew District, Chumporn Province, Thailand*

Country Papers

**Overview of Part II:
TOWARD FURTHER DEVELOPMENT OF COASTAL RESOURCE MANAGEMENT:
LESSONS GAINED THROUGH LOCALLY BASED COASTAL RESOURCE MANAGEMENT IN
PATHEW DISTRICT, CHUMPORN PROVINCE**

Masahiro Yamao, Ph.D *

I. Background to Part II

1. The contents of the Part II will be based upon the lessons and technologies gained through “Locally Based Coastal Resource Management in Pathew, Chumporn Province” (LBCRM-PD). Department of Fisheries (DOF) in Thailand and the Bay Of Bengal Program (BOBP) successfully implemented pilot projects at Phangnga-Bay. Referring to both these projects and others in the member countries of the SEAFDEC, we will be able to get into specialization in terms of the community-based resource management (CBRM) approach. Foreign participants will discuss some selected issues as well as exchange their own experiences in the implementation of coastal resource management projects.

2. Discussion in Part II will pay great attention to the following points. Development patterns and processes of CBRM projects in Southeast Asia will be the first focal point in the discussion. During one or two decades, many member countries have experimented with a huge number of CBRM projects and applied these experiments to the formulation of policy for coastal resource management. An ever-increasing number of CBRM projects appear in different fields with particular objectives. Therefore, both policy makers and people would possibly gain a wide variety of opportunities whereby they adopt different lessons and experiences through a comparison of the CBRM projects in any other areas and fields. Obviously, it becomes very hard to compare the existing projects by using common and simplified indicators. With such explored indicators, the tendency and movement of CBRM projects would have been analyzed more deeply to evaluate the ones that are currently implemented.

3. Secondly, the roles of local government with enhancing the carrying capacity of local government officers will be the second topic for discussion. Through the implementation of LBCRM-PD, we have perceived an increasing role of local government officers in the process of encouraging people’s greater participation in coastal resource management. While the intervention of central government will be reduced, adjustment, coordination and consultation between people and local government will be increased.

4. Thirdly, a viable framework of local registration and licensing targeting coastal and small-scale fisheries is an urgent need. In many parts of the ASEAN region, fishing effort has never stopped increasing. Even fisheries census surveys cannot grasp the exact numbers of fishing population, engagements, gear employed, and any other related figures that are conducive to coastal resource management. Strict control over registration and licensing at local level is ideal, but it is very hard to introduce a perfect system in over-populated coastal communities with people suffering poverty. Adequate methods and approaches must be explored to introduce local legislative frameworks. It takes much time to build a local registration and licensing system. There should also be several development stages through which we must pass.

5. Lastly, discussion will include a topic concerning the creation of alternative livelihoods inside and outside fishing communities. Over-dependence on fishing business is still a major problem causing the decrease and depletion of coastal resources, and makes it become less productive. Increasing alternative income sources is an effective way to reduce excessive catch effort, which may lead to alleviation of

* *Professor, Graduate School of Biosphere Science, Hiroshima University
1-4-4 Kagamiyama, Higashi Hiroshima, 739-8528 JAPAN
E-mail: yamao@hiroshima-u.ac.jp*



poverty in coastal communities.

6. The discussion in Part II consists mainly of exchanging experiences and lessons between participants, partly focusing on the above-mentioned topics. The description hereafter guides deeper outlines of these topics with the exception of the second one.

II. Development Process and Pattern of CBRM projects

1. Toward Establishing Viable Frameworks for Coastal Resource Management

1.1 Three Development Stages of Policy for CBRM Projects in Southeast Asia

7. As well as a development of a sole pilot project, a series of policies for coastal resource management project has so far passed through several development stages in Southeast Asia. Roughly speaking, the countries are divided into three different stages.

1) First Stage: Accumulation of Experiences through the Operation of Pilot Project

A primitive stage is the one that a government and people involve in the operation of pilot projects. Government-based and centrally-controlled management regimes should change its top-down attitude to coastal fisheries management, while it encourages greater people's participation in the decision making process of coastal resource management. In the Philippines, earlier trials brought useful experience and lessons for the implementation of community-based coastal resource management. Both policy makers and people gradually accumulated experience, knowledge and technology through the implementation of the projects that would be diffused to other parts of coastal lines.

It is widely acknowledged that a smaller group of resource users is more manageable than a big one (Pomeroy 1997). Community-based management is usually confined within a well-defined narrow locality. Such a community approach is very effective in enhancing the awareness and achieving consensus on the sustainable use of coastal resources among target groups. The establishment of community-based management becomes an applicable strategy to rebuild the centrally controlled regimes that are faced with some problems like the lack of law enforcement and ineffective management of local fisheries. Successful operation of pilot projects brings much inventive activities not only to resource users but also policy makers to expand a decentralized and participatory resource management over a wider area. They speed up planning and implementing participatory management projects. NGOs often have a decisive role of extending the participatory approach on coastal resource management.

Deeper case studies on traditional fisheries and resource management systems, like *Sasi* and *Panglima Laut* in Indonesia, have given a perspective of transforming them into modern and formal ones. Local resource users have so far developed their own customary laws and systems, fitting in with the local reality of socio-economic aspects and diversity of ecological aspects. Their indigenous knowledge may be more practical in local fisheries management rather than imperfect scientific knowledge. As Akimichi describes, these traditional managements have customary laws concerning the use and distribution of fisheries resources, obtaining consensus on common use of fishing grounds, and establishing institutional and organizational arrangements (Akimichi 1995). Many of the traditional managements disappear consonant with the expansion of formal management regimes, as they are fragile in nature. The workable management frameworks of community fisheries are still highly appreciated especially by NGOs. Moreover, in Indonesia, the local fisheries agencies actively establish a collaborative link with traditional management networks like *Panglima Laut* (Yamao, 2000; Nurasa and others, 1993). Thus, movements toward

local participation and institutional rearrangement of fisheries management lead to the discovery of advantageous points of traditional systems all over the Southeast Asian region.

A great number of pilot projects have appeared with diversified objectives. Local people, government, NGOs, and even international aid organizations made great effort to design and implement many types of pilot projects. These projects usually face some difficulties, regardless of whether they succeed or fail.

Firstly, those fishers who are engaged in the operation of small-scale fisheries tend to mechanize their fishing boats and devices, and they often go fishing in the grounds far from their own community. They commonly enter into the pilot project areas. Fishers that operate in the sea in front of target communities come from both inside and outside. It would be very hard to enforce the rules and regulations that the local people formulate. Secondly, the lack of legal support to pilot projects often becomes the greatest obstacle to continue pilot project activities and transfer their experiences to other areas. Without any legitimate framework admitting the participatory approach and devolving some selected management aspects to local level, even the pilot projects are unlikely achieve their initial objectives.

2) Second Stage: Establishing Networks of CBRMs

Passing through the first stage, CBRMs projects and local governments expand their networks to cover a wider area. This is not a remarkable phenomenon, which can be seen even in traditional fisheries management. To give an example: in Banda Ache, Indonesia, *Panglima Laut* systems, which are mostly established in an individual community, unite together to coordinate and adjust conflicts between communities, and between their fishing fleets. The allies of the *Panglima Lautos* may be fitted with the fishing operations currently prevailing, and would be an adequate scale of local management (Yamao 2000). Along with the modernization of fishing operation, the social and economic units of management may alter its size and components. Normally, it widens its coverage area and target larger groups of resource users. In other words, inter-community based management is a type of CBRM development.

As seen in the Philippines, at present, many government-based pilot projects intend to manage fisheries resources in bay areas which usually consist of plural municipalities. Barangay(village)- and municipality-based management have evolved into a new development stage. For instance, in Banate Bay, Panay Island, three municipalities organized a resource management council at the outset, and then another municipality joined this council (Larroza 2003). Resource users and local people in the four municipalities have successfully achieved consensus on a zoning plan and prohibition of destructive fishing gear, and made agreements and municipal ordinances in accordance with the Fisheries Act. Thus, the community-based approach in the Philippines has attained its initial objective and diversified its target areas and groups. More mechanized and institutionalized systems appear to manage coastal resources in wider bay areas.

In cases of NGO-based projects, they easily establish local and nation-wide networks to share common interests and conduct similar activities. In Pattani Province, Thailand, one village group whose members build traditional fish aggregating devices (FADs) in the sea in front of the community. They are about 3 km out from the beach, within which push nets and trawlers are prohibited to operate. Traditional FADs, made of bamboo and coconuts leaves, are to prevent these boats from encroaching upon the protected zones, while fishers employ hook and lines around the FADs. The community encourages people to participate in the making of FADs, and asks them to donate small amounts of money for purchasing materials. Fishers organize a supervisory group for illegal fishing operations in the front of their beach; this is supported by local governments and fisheries agencies.



The idea and practice of setting up FADs are wide spread over the whole area of the Lower South, facing the Gulf of Thailand. A number of community-based groups including adjacent areas sympathize with this movement and put it into practice. Many communities have so far built traditional FADs for fishing, so that people easily accept the idea of this movement. These communities establish an association whose membership and activities cover a far wider area than their immediate locality. Provincial and district offices increasingly support the association and its member-groups with budget allocations, as the cohesion among small-scale fishers is becoming strong.

Though being different levels of development, we find common trends toward establishing a network and/or association of CBRM projects in some parts of the Southeast Asia. This means that the community-based approach has reached a turning point at which resource users and stakeholders should enlarge and diversify their CBRM activities in accordance with marine eco-systems, and changing social and economic unity.

3) The Third Stage: CBRM as a Core of National Strategy for Sustainable Coastal Resource Management

In the Philippines, government gives a clear-cut picture of coastal resource management by the proclamation of the Fisheries Act 1998. Together with the enactment of a Local Government Code, municipality-based management systems have steadily developed, as municipal governments are devolved substantial roles in legislation, management, and surveillance by the central authority of fisheries management. Within the overall legal frameworks of marine resource and environment, local people and municipalities choose alternative utilization and management plans, arrange their own institutions and generate regulations. The participatory approach is already built into both local and national levels of coastal resource management.

As well as the Philippines, some countries like Indonesia and Thailand are also searching for a new direction of decentralized fisheries management ensuring local-level greater participation. Thai government prepares the enactment of a new fisheries act that contains the concept of a “designated coastal community” functioning as a management body. Agriculture, fisheries and forestry administrations are now in the process of devolution. Sub-district administrative organizations act as a primary unit of local administration. Though unlike the Philippines, the primary unit is anticipated to take over some selected issues and roles in legislation and management of coastal fisheries, sharing responsibility with local resource users and stakeholders. In the process of decentralization, the Indonesian government provides a unique framework of fisheries management within which regional governments have decisive roles also.

1.2 Not in a Straight Line of Development Stages

8. The straight line of development pattern does not always apply to all countries in the ASEAN region. Each country has its own unique and distinctive policy of coastal resource management. In a certain country, central government stimulates resource users and stakeholders to increase their participation in the decision making process of fisheries management in their immediate vicinity, with strengthening of the roles of local governments and/or fisheries agencies. Networking may not be derived from grass-root levels, but from a top-down co-management approach. This might be more rational for some countries than the direction the Philippines has taken.

9. In other words, we should consider these development stages as three distinctive patterns and types of coastal resource management. The decentralization of fisheries management is an important topic in the ASEAN region; but its member countries have adopted different attitudes and approaches in their own political, economic and cultural dimensions.

2. Diversification of CBRM methods and approaches

2.1 Three Criteria of Grouping

10. As far as objectives and methods of CBRMs are concerned, there appears to be a huge number of different types of project. Initial objectives, target groups and activities are diversified in accordance with development levels of resource management. Various social and economic factors at local level influence the existing forms of resource management, too. No simple criteria are applicable to grouping and grading of the CBRM projects, but many criteria can be applicable. It does not mean that there is less necessity for steering directions of community-based management activities and transferring lessons and knowledge from the earlier trials to the new ones.

2.2 Combination of Awareness Building and Simple Input Control

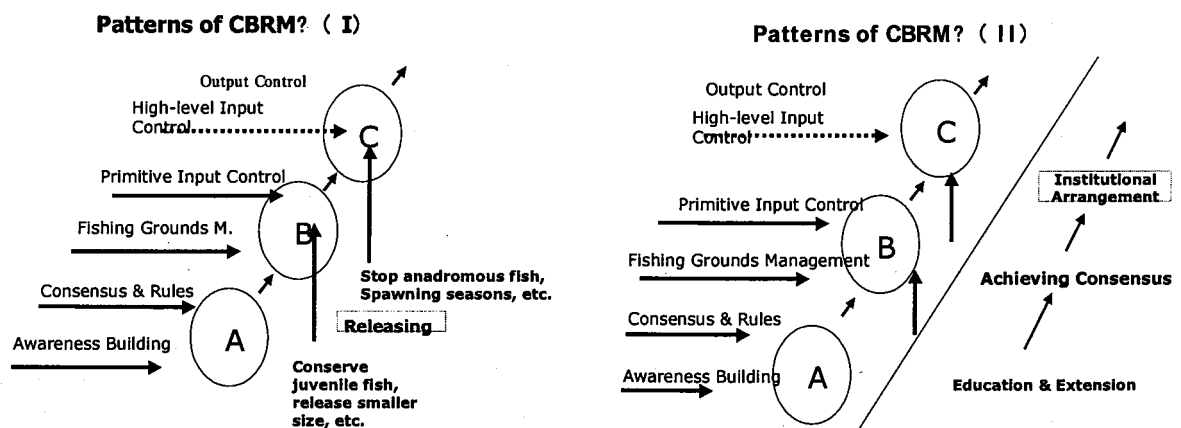
11. Awareness building used to be a core activity of pilot projects at earlier stages of CBRM development in Thailand. Some projects had concentrated their activity mainly on educational and training matters to enhance people's awareness. Although this topic is still the most significant at this moment, many of projects are to achieve consensus and make agreement on certain kinds of input control and fishing ground management. The geographic information service increases its role in training activities, and brings accurate figures of resource and environmental conditions to the target people.

2.3 Resource Enhancement Supported by Government

12. Resource enhancement activities like conserving juvenile fish, releasing small sized fish and artificial fingerings are often accompanied with input control activities. Chart 1 illustrates as if there should be sole line of development in resource enhancement (see *Chart I*). At the earlier stages when the CBRM approach had been just introduced, such a simple development process might be found. As far as government-led pilot projects are concerned, resource enhancement activity is likely to be given a higher priority. Target groups of people in pilot projects anticipate a concessive government support to release artificial fingerings at anytime, even prior to achieving consensus on conserving fish. One project may consist of at least three activities, like awareness building, obtaining consensus and making rules on simple input control, and releasing fingerings.

13. Projects in Thailand are likely to deploy artificial reefs (ARs) in the same way as does the LBCRM-PD plan. This has two purposes. ARs are to increase fish stock, and to prevent illegal commercial fishing boats like trawling and push netting from encroaching upon the area within 3 km out from the beach. In cases of government-led projects, government has full-scale responsibility for allocating budget for ARs, and put together deployment plan through consultation with the people.

Chart 1





2.4 For Institutional Development

14. CBRM projects usually contain some training activities concerning the establishment of an institutional framework that will work for effective management at local level. Based upon awareness about the sustainable use of coastal resources, a pilot project will make great effort to achieve consensus among the resource users and stakeholders, and then move on to institutional arrangements. Government plans a policy for institutional development, and organizes a pilot project to experiment toward a workable institution. Practices and experiments may be converted into a policy implication. The LBCRM-PD is regarded as a pilot project for a decentralized management system at which local resource user groups and Sub-district administrative organizations (Ao.Bo.To) constitute to share responsibility within a certain institutional framework.

2.5 Monitoring and Evaluating of CBRM Projects for Policy Planning

15. CBRM projects are designed and implemented in many different fields with diversified objectives and methods, along with the widely spreading CBRM approach. However, many criteria would not be applied effectively to the monitoring and evaluating of CBRM projects. Important and indicative criteria should be exploited to draw upon directions of CBRM projects in the near future, while policy should admit variations of objectives, methods and activities that the people target and adopt.

III. Perspective of Local Registration and Licensing

1. Urgent Need for Local Registration and Licensing

16. In many countries of the Southeast Asian region, registration and licensing systems still remain un-imposed. It takes much time to build an effective system controlling both highly-capital intensive and small-scale fisheries. In particular, a government is unlikely to grasp the exact numbers of coastal and small-scale fishing operations throughout the country. They can be clarified by a marine fisheries census once every five or ten years. The registration of fishers, fishing boats and devices may be the first step toward the establishment of effective coastal resource management. Although a country adopts its own registration system, neither all fishers nor boats are yet registered in a proper way. There is a great gap between the statistical figure and actual one.

17. Generally speaking, a nation-wide registration and licensing system is composed of plural administrative arrangements in accordance with types of fisheries, i.e., deep sea fisheries, off-shore fisheries, commercial coastal fisheries and commercial small-scale fisheries. It is unlikely that one sole system could manage and control these different types of fisheries. Some types, like deep sea and off-shore fisheries, may be strictly controlled under the registration and licensing system imposed by central government. Naturally, there should be plural administrative organizations that arrange registrations and give permission for fishing according to types of fisheries and kinds of resource management.

18. It is obvious that registration is a first step to build a well-defined licensing system. However, the uniformity of registration and licensing systems may be in question in coastal fisheries. Coastal fishers and resource users would suffer a shortage of alternative livelihoods outside fishing and face less intake of animal protein from fish, if the strictness and inflexibility of a licensing system would be introduced. They definitely lack options in both production and life.

19. At present, it is very costly to build and extend a well-mechanized registration and licensing system in coastal fisheries throughout the country. Because of a lack of personal and budget allocation both at national and local levels, enormous numbers of small-scale fishers and stakeholders are excluded from

the system currently prevailing. It is very hard to conduct management activity on local coastal resources both in time and properly. Therefore, those who are involved in coastal resource management projects tend to consider a locally based registration and licensing system for smooth operation of pilot projects.

2. Registration System for Coastal Fisheries

20. As has been already described in the papers of the Part I, the LBCRM-PD intends to explore a simple and effective registration system through consultation with local people, community and Ao.Bo.To leaders. This system takes over some functions that the district office of fisheries holds, like registering and the levying of taxes. It will possibly include boat, fishing devices and fishers' registrations. At this moment, local fisheries agencies have only a small portion of all fishing boats and devices. A new system must expand its coverage over a much larger portion to get the real picture of coastal fisheries in the project area. By gaining experiences through the operation of pilot projects, government will be able to devise a more effective system that will be applicable throughout the country.

21. It is not easy to design a simple registration system in the LBCRM-PD. There are a wide variety of fishers and resource users who are regarded as interested parties in the utilization of coastal resources. Flexibility and tolerance are substantial elements to draw up a registration system, which can be accepted by the local people and communities. A part of coastal resources should continuously be under an open-access regime, so that people can depend on the resources in their immediate sea areas for their livelihood and diet. It may not be a realistic approach to exclude self-sufficient and part-time fishers, and a huge number of non-fisher residents who occasionally catch aquatic organisms. The coastal and small-scale fisheries in the LBCRM-PD area might be grouped into three categories at least. The first is 'free entrance fisheries', which is defined as those fisheries in which any local people are allowed to entry without any registration and license. The second category is 'registered fisheries', which is allowed to put into free operation in certain zones with registration of selected fishing devices. Any fisher and resource users can involve in the fisheries through registration. The last category is 'registered and licensed fisheries', in which a license will be given only to those fishers who register and the number of licenses is tallied to that of registration. Limited entry is the adopted principle of managing this category. The description thus far is an instance for a locally based registration and licensing system.

3. Practices of Sharing Responsibility between Local Government and Resource Users

22. Keeping pace with decentralization process of fisheries management, some member countries of SEAFDEC like Thailand will conduct a feasible study on local registration and plan for introducing it. Policy-oriented projects should be planned and practiced, as regards how to share the roles of registration and licensing between local government and resource users.

IV. Creation of Alternative Job Opportunities Outside and Inside Fishing Community

1. Development of Community Business

23. In Thailand and in other parts of Southeast Asia, small-scale fishers and their communities are still kept in the tight grip of poverty. This naturally accompanies heavy exploitation of coastal resources, which further deteriorates conditions of coastal resources. There should not be just one way to solve such a complicated vicious circle. Development of community business is an effective tool to reduce people's over-dependence on coastal resources.

24. Generally speaking, there are two major objectives in pilot projects on coastal resource management. The first is to establish the sustainable use of the coastal resources. As has been already described, there should be revised fisheries laws and regulations that define the procedures and framework of fisheries management. With a clear jurisdictional mandate and strengthened institutions,



sustainable management can be carried out. People's enthusiastic participation in fisheries management bodies is a decisive factor to build a framework. The second objective is the creation of alternative livelihoods in coastal communities. Both inside and outside fisheries, people suffer from scarcity of alternative job opportunities. They have to increase catch effort for their survival. This often leads to over-fishing and the depletion of marine resources. Because of poverty and absolute poverty, destructive fishing methods cannot be eliminated.

25. Thus, the alleviation poverty and the sustainable use of coastal resource management are indispensable elements in the improvement of people's life in overpopulated coastal communities. Fishers and family members have to increase alternative income sources inside and outside fishing communities. They organize local businesses for various economic activities. Through job creation, local fishers and communities can reduce fishing pressure and adopt sustainable fishing methods.

2. Two Directions of Community Business

26. There are two ways to assist the people to increase income by encouraging local business. The first way is not by expanding the amount of catch effort investment, but by improving technologies of handling, marketing and processing of fisheries products. In Tambol Pakklong and the BOBP project sites, fishers and their family still have the potential to improve their processing and marketing technologies and gain more fisheries income without expanding fishing effort. This way has positive effects on both development of local economy and maximum optimal utilization of fisheries resources. It is much easier for local people to improve marketing technologies and start processing activities on a commercial scale than when they start with a new local business outside fisheries. Conventional and traditional types of local business should be targeted to be encouraged for the time being.

27. There may be disagreement over the encouragement of marketing technologies and fish processing in some projects areas, in that this may lead to a further increase of catch effort. Another way should be prepared for the creation for alternative job opportunities outside capture fisheries. Promotion of fish and shell culture may be included into this category. Many kinds of small businesses are planned and implemented outside fisheries, too. Women often have a vital role in job creation programs. Provision of micro-credit services gives them a large incentive to join these programs. There have been many successful pilot projects of alternative livelihood, so that project planners on coastal resource management are confident that such a holistic approach is very effective.

3. Marine Eco-tourism as a Alternative Livelihood

28. Marine eco-tourism business steadily infiltrates into coastal communities adjacent to marine resources in Southeast Asia. Fishers and local people in the communities tend to identify this new business as lucrative. Besides the operation of passenger boats for sightseeing, diving and sport fishing, they think out various plans for tourist attractions. Tourists experience community life, fishing, and aquaculture, and enjoy local maritime culture. People's ordinary and traditional life becomes a valuable source of community tourism. Joining conservation activities like mangrove reforestation is very attractive to tourists also.

29. In Phangnga Bay, many fishing communities are enthusiastically involved in tourism activities that target both domestic and foreign tourists coming into Phuket Island. A strategic approach to eco-tourism development is adopted in Community-Based Resource Management Programs in the Cebu Region (the Philippines), too. The people and communities in Olango Island create and develop eco-tourism attractions by using available local resources and environment. Fishers join the eco-tourism activity; as a result, they reduce the time spent on capture fisheries while increasing incomes (Parras *et al.*, 1998). Meanwhile, marine eco-tourism does not always have a positive effect on coastal resource management. Resource and area utilization for marine tourism often cause severe conflict between fisheries and tourism,

and exclude fishers and conventional stakeholders from fishing grounds. Coordination and adjustment between both parties is needed.

4. Collaboration with Other Projects for Alternative Livelihood

30. Micro-credit with the promotion of small-scale community business has become prosperous in many parts of the Southeast Asian region. Both government and NGOs provide a wide variety of schemes for the encouragement of community business. Project planners on coastal resource management would be better to cooperate with other community development projects, rather than prepare an activity for alternative livelihood by themselves. The development projects may contain sophisticated methods to train people and enhance their capacity building of community business.

31. The LBCRM-PD is able to support the “One-Tambol (Village), One-Product” scheme that has been promoted by the Thai Government. Women’s groups in Tambol Pakklong grow to be mature enough to apply such government-sponsored subsidy schemes on their own account. The LBCRM-PD gives group members an incentive to expand fish processing. As far as Thailand is concerned, collaboration with other projects on community development is more realistic and effective to achieve the initial objectives of coastal resource management projects.

V. Conclusion

32. The description thus far gives guidelines of the discussion in Part II. Knowledge and technology gained through the designing and implementing the community-based approach in coastal resource management are diversified, so that the abovementioned four topics will no longer cover all ranges of lessons and experiences obtained between SEAFDEC’s member countries.

33. CBRM approach is in a watershed. It is increasingly acknowledged that establishing local and nation-wide networks of CBRM like bay-based management bodies and LBCRM-PD should be given a higher priority, while placing a great emphasis on people’s participation in the decision-making process of resource management. More practical and more sophisticated approaches should be developed to fit in with the domestic concern and local reality, rather than one sole approach would be stressed. This is the latest assignment of coastal resource management projects in the ASEAN region.

References

- Akimichi, T. 1995. *Iruka To Namako To Kaijintachi (Dolphin, Sea Cucumber and Fishers)*, NHK Books, Tokyo
- Pomeroy, R.S. 1996
- Burasa, T. Naamin, N. & Basuki, R. 1993 The Role of Panglima Laut “Sea Commander” System in Coastal Fisheries Management in Aceh, Indonesia, in *Socio-economic Issues in Coastal Fisheries Management: Proceedings of the IPFC Symposium*, Bangkok.
- Larroza, M.L.B. 2003. *The Role of Government Networks for Locally-Wide Resource Management in the Philippines*, Chumporn.
- Pomeroy, R.S. 1996 A Review and Evaluation of Community-Based Coastal Resource Management: Programs and Projects in the Philippines, 1984-1994, in “*Proceeding of the Regional Workshop on Coastal Fisheries Management Based upon Southeast Asian Experiences*”.
- Parras, Portigo, and White Coastal Resource Management in Olango Island: Challenges and Opportunities, *Tambuli* No.4, pp.8-9,CRMP.
- Yamao, M. 2000. *Chiiki Shigen Kanri to Jyumin Sanka (Local Resource Management and People’s Participation)*, ed. By Mikuni Asia no Shokuryou Nousanbutsu Shijyo to Nihon, Otsuki Inc., Tokyo.

Comprehensive Coastal Community Development Program: the Philippines

Jessica C. Munoz *

ABSTRACT

The Philippines depends largely on its fish production for the country's protein requirement. In 2001, the fish production of 3.2 million metric tons was contributed by aquaculture (38%), commercial fisheries and municipal fisheries (31%, respectively). The per capita consumption of fish is at 26.8 kg/capita/yr. Most fishing activities are done within the 15 kilometers of the coastal areas where 70% of the total population of 80 million lives.

Similar to some ASEAN countries, the Philippines is characterized by an open access of its marine waters that has resulted to depletion of resources and overexploitation of the fisheries. There is conflict among fishers and other stakeholders arising from the utilization of coastal waters. Further, there is a widespread environmental damage due to pollution and deforestation. There is a need, therefore, to address the various issues that confront the coastal resources in general, and the fisheries sector in particular. The Local Government Code and the Fisheries Code provide the framework to institute and implement resource management in coastal and offshore waters. The Local Government Code introduced new norms in local governance through decentralization of management to local government units (LGUs). On the other hand, the Fisheries Code underscored the roles and functions of LGUs in fisheries management. Some of the management strategies include the resource enhancement activities; information, education and communication campaign; fisheries licensing; limited access; income diversification; capability building; and income diversification.

At present, a number of resource management initiatives are being undertaken to protect and conserve the coastal resources. The Government is implementing the Fisheries Resource Management Project (FRMP) to address the critical issues of fisheries depletion and poverty among fishers. The Project is being undertaken collectively by the national government through the Bureau of Fisheries and Aquatic Resources (BFAR), local government units, people's organization and councils; and nongovernmental organizations. The private sector, the academe and research institutions are also involved as partners. The important feature of the Project is the integration of activities into the existing organizational and functional framework of BFAR. It also supports the active participation of local governments and local communities in coastal resource management. After all, the local governments and the people are the true vanguards of coastal resource management.

Keywords: fisheries management, decentralization, local government, open access, overexploitation, management initiatives

* *Bureau of Fisheries and Aquatic Resources, Department of Agriculture, Philippines*



I. Background

1. The Philippines is an archipelagic country composed of about 7,100 islands. The country's marine territorial area is about 220,000 km². The coastline is about 17,460 kilometers long. The coastal areas offer a vast and diversified marine life.
2. The Philippines is one of the top fish producing countries in the world. The country's total fish production of 3.2 million metric tons is contributed by the aquaculture sector (38%), municipal fisheries sector (31%), and the commercial fisheries sector (31%).
3. Fish is an important part of the Filipino diet. Seventy percent of the total population of 80 million live along the coast with a per capita consumption of fish is 26.8 kg/year. There are about 8,000 individuals employed by the fisheries sector

II. Issues of Fisheries and Coastal Resources Management

4. The Philippine fisheries is open access in nature. There is a little control on how fishers exploit waters especially at the coastal areas. This has resulted to issues that have confronted the sector.
5. Most of the traditional fishing grounds are overfished. There is a depletion of fisheries and other coastal resources that has resulted to low income of fishers. The open access has virtually given the various resource users to exploit the resources of other coastal areas other than their own. Further, coral reefs, mangrove and seagrass beds have been depleted due to overexploitation. The depletion of these coastal habitats resulted to low production.
6. The environmental damage is widespread throughout the country. There is an unabated pollution coming from domestic, industrial and agricultural sources. For the past years, massive fish kills have occurred due to pollution that has resulted to oxygen depletion.
7. Despite the laws that prohibit the use of illegal and destructive fishing methods, there is still the prevalence of these methods in most coastal areas. The most common of these methods are the use of explosives or dynamite, use of cyanide and the use of fine-meshed nets.
8. Most coastal areas are not limited to fishing activities only. There are a number of stakeholders in the coastal areas, hence, the resource-use conflicts. The conflicts often arise between and among fishers. However, tourism could be one of the major activities in urbanized coastal areas.
9. There has been a clamor for the need of reliable data and information of the status of coastal resources. These data can be used when planning for the management of the coastal area.
10. To address the poverty of fishers, there is the need to augment the earnings of the fishers. This could be done by providing viable livelihood activities. This will not only increase their income but will also diversify their livelihood and will reduce fishing activities.
11. There is the need for a strong and organized fishers' group to be able to implement strategies necessary in fisheries and coastal management.

III. Some Fisheries and Coastal Management Policies

1. Local Government Code

12. The Local Government Code introduced the new norms of local governance. The Code provided provisions for the decentralization of functions and responsibilities to the local government units (LGUs). It also put the municipal waters (0 to 15 km offshore) under the jurisdiction of the LGUs. Legislative powers are exercised through the local legislative councils. Ordinances that concern the local fisheries and environment are enacted by the local government councils.

2. Fisheries Code

13. The Fisheries Code provides for the development, management and conservation of fisheries and aquatic resources. It established coastal resource management as an approach to managing fisheries at the municipal level. The Code allows the issuance of permits to municipal fishers by the LGUs. The enforcement of fishery laws, rules and regulations is one of the most important function given to LGUs by the Code.

IV. Management Strategies

14. The Philippine coastal and fisheries resources management adheres to the framework of an integrated management. There are a number of management strategies adopted by various implementors.

15. The establishment of **Marine Protected Areas (MPAs)** is one of the more popular strategies. In the country, MPAs may be a fish sanctuary, fishery refuge, marine park, marine reserve or mangrove reserve. These MPAs, however, are established to enhance and restore the population of the coastal habitats.

16. The open access nature of most coastal areas make is almost impossible to implement a **Fisheries Licensing System** at the municipal level. The system will enable the LGUs to implement limited access in their area of jurisdiction.

17. The **Information, Education and Communication (IEC)** strategy has been an effective tool in influencing individuals to take appropriate actions. This strategy cuts across all other strategies. However, the IEC should be sustained and must include all sectors.

18. One of the aggravating factors of the depletion of coastal and fisheries resources is the absence of other livelihood options. The provision of viable and feasible **Livelihood Options** will add income to fishers and their families. It may also lessen fishing activities and give the coastal waters respite from overfishing.

19. **Capability Building** aims to enable the stakeholders participate actively in the implementation of management activities. This strategy will ensure that individuals are provided the right and appropriate skills and knowledge on coastal and fisheries management. Oftentimes, capacity building is in the form of trainings, study tours, seminars and workshops.

V. The Fisheries Resource Management Project (FRMP)

20. In the Philippines, fisheries resource depletion is the fundamental cause of the declining income from fishing. The increasing fishing pressure on the fisheries had consequently led to overfishing and the vicious cycle of poverty and environmental degradation.

21. The FRMP is being implemented by the Bureau of Fisheries and Aquatic Resources of the Department of Agriculture with financial assistance from the Asian Development Bank (ADB) and the Japan Bank for International Cooperation (JBIC). The Project represents the Government's effort to



shift the sector focus from excessive capture fisheries exploitation to fisheries resource protection, conservation and sustainable management. The Project is spread in 18 major bays and gulfs all over the country.

22. The FRMP aims to address the two critical issues of fisheries resource depletion and poverty among municipal fishers. It will focus on reversing the trend of fisheries resource depletion by controlling illegal fishing and overfishing. The Project will adopt a gradual approach that will (1) reduce the level of the user competition by restricting new entrants to municipal fisheries through fishing licensing; (2) reduce fisherfolk's reliance on fishing by promoting income diversification; and (3) facilitate the gradual exit from fishery of some fisherfolk through the promotion of mariculture and development of other enterprises.

23. The three Project components are **Fisheries Resource Management, Income Diversification and Capability Building**.

1. **The Fisheries Resource Management Component** includes the establishment of fisheries database. At present, the Fisheries Information Management Center (FIMC) has been established to provide accurate data and information to coastal managers. The database contains systems that would enable users to access and use fisheries and related data and information gathered by the Project. The LGUs have been provided with computers and manpower to maintain the systems.

The Component also includes habitat and resource enhancement projects. A number of fish sanctuaries have been established by the coastal communities and are monitored regularly. Data from these fish sanctuaries have shown an increase in the fish catch in the adjoining areas. Mangrove reforestation activities are also being conducted in deforested areas. Riverbank rehabilitation is also done in some areas.

The fisheries licensing system aims to regulate the exploitation of fisheries and coastal resources at the municipal waters. The licensing of system is a mandate of the local government units. One of the pre-requisites of the municipal licensing system is the inventory of fishing boats to be able to know the actual fishing effort. The outcome of the inventory can be used when implementing limited access as a strategy.

One of the bottlenecks in fisheries and coastal management is the enforcement of fishery laws. The enforcement is a devolved functions and the responsibility lies within the jurisdiction of the LGUs. Oftentimes, there is a perception that enforcement is weak. To remedy this situation, the *Bantay Dagat* or Coast Watch has been established in most municipalities. Responsible individuals are trained and deputized as fish wardens. These individuals, in partnership with representatives from the local police, nongovernmental; organizations, fisheries and aquatic resources management councils and national government are part of the composite team that is tasked to enforce the fishery laws in the coastal areas.

2. **The Income Diversification Component** provides micro-enterprise and mariculture projects for the fishers. However, fishers who belong to organizations are preferred. This will give a better assurance that the project will succeed and can be sustained. At present, recipients of livelihood assistance are engaged in marine-based and land-based activities. Some of the livelihood projects are seaweeds farming, milkfish and tilapia culture and post-harvest activities. Trainings and the preparation of business plan development are done before any livelihood project is started.

3. **Capacity Building Component** includes on-site coaching of the implementors at the community level. Trainings, workshops, seminars and study tours have been conducted to equip the implementors with appropriate knowledge and skills on fisheries and coastal management.

VI. Implementation Arrangement

24. The Department of Agriculture is the Executing Agency. The Bureau of Fisheries and Aquatic Resources (BFAR) and Regional Offices are responsible for project implementation at the national and regional level. A Project Management Office is responsible for day-to-day Project implementation, coordination and liaison. A Project Implementing Unit established under each BFAR Regional Office is responsible for field level activities. At the municipal level, the Fisheries Municipal Unit takes charge of the technical support and extension services at the local level. The levels of implementation is national, regional and municipal. Most activities, however, are done at the local government level and at the coastal communities. All LGUs that agreed to implement the Project had provided counterpart funds. The national and regional agencies provide facilitation and coordination between and among implementors.

25. In the long-term, the Project hopes to ensure that the activities towards fisheries and coastal management are sustained at various levels of implementation. And this can be accomplished by institutionalizing fisheries and coastal management within the existing organizational structure and mandates of organizations tasked to implement resource management.

Fishing Ground Management: The Malaysian Experience

Abdul Hamid bin Abdul Shukor *

ABSTRACT

Malaysian Department of Fisheries (DOF) has lesson on ineffectiveness of the western type of fisheries management. The DOF pays attention on the success of the community-based fisheries management in Japan. The concept of co-management is placed emphasis where the government and the various stakeholders share the responsibility of managing the fisheries resources in particular locality. The Fisheries Act 1985 empowers the DOF, Malaysia as the only authority that is responsible in managing the fisheries resources, fishermen, fishing vessels and all fishing activities in the Malaysian Fisheries waters. However, the concept of co-management is practiced that the DOF consults fishermen and various stakeholders such as the politicians through dialogues, meetings and workshops, before new policy or regulations or laws are introduced. Recently, the concept of co-management is adopted into the 3rd National Agriculture Policy, (NAP3) as one of the strategies for the sustainable management of fisheries resources in the inshore areas. Fishermen are found to be more receptive to decisions when they are a party in the decision-making. The DOF established the Fishermen Economic Groups (FEGs) in localities that met with right criteria.

Keywords: community- based fisheries management, co-management, Fisheries Act 1985, NAP3, FEGs

** Director of Planning and Development Division, Department of Fisheries, Malaysia, Kuala Lumpur*



I. Introduction

1. Malaysia has always emphasized on good resource management as a strategy to ensure fishery resource remains sustainable even though it is exploited daily by the nation's about 80,000 fishermen. It is almost important to maintain the supply and availability of fish because a large number of the population consume fish for their daily protein need.
2. Since the coming of the British in the 18th Century, the western type of fisheries resource management had totally replaced the traditional way where each village head and the community was responsible for fishing activities. In those days for example, the fishermen from Pulau Perhentian in Trengganu, would guard the fishing grounds around the islands. It became an unwritten rule that they owned the area and fishermen from the surrounding areas recognized it. They would chase away outside fishermen who encroached into these areas.
3. However they lost their rights when the government then became the sole authority on all aspects of the fishing industries. It meant licenses were required both for boats and fishing gears. The number of boats and fishermen were controlled according to scientific information such as the status of fish stocks, the fishing effort and the mortality rate etc. Over the years the local fishermen slowly began to accept all the new rules and regulations imposed on them. Those who refused to comply were reprimanded.
4. Lately the failure of the western type of fisheries management especially in Canada, Europe and USA with the collapse of the cod, herring, lobster and salmon stocks affecting the livelihood of thousands of fishermen had triggered the search for alternative and new ways in fisheries management. The success of the community based fisheries management in Japan and other traditional ways of fisheries management in the Asian countries attracted many scientists to study and record them.
5. Since then a number of social scientists preached the concept of co-management where the government and the various stakeholders share the responsibility of managing the fisheries resources in a particular locality. Fishermen are found to be more receptive to decisions when they are a party in the decision-making.

II. Co-management at national level

6. Some degree of co-management has been practiced in Malaysia although the laws do not provide for it. Even though the Fisheries Act 1985 empowers the Department of Fisheries Malaysia as the only authority that is responsible in managing the fisheries resources, fishermen, fishing vessels and all fishing activities in the Malaysian Fisheries waters, however it has always been the practice, that the Department of Fisheries to consult the fishermen and the various stakeholders such as the politicians through dialogues, meetings and workshops, before any new policy or regulations or laws are introduced. Since the formulation is done at the national level and the policies/rules/regulations/laws are commonly applied throughout the country, sometimes they fail to serve their usefulness in certain areas and need to be modified with local inputs.
7. Recently the concept of co-management has been given further boost by the government when it was included in the 3rd National Agriculture Policy, (NAP 3) as one of the strategies for the sustainable management of fisheries resource in the inshore areas. The Department of Fisheries have been sending officers for observation visits, attending workshops/seminars/conference and various training courses in fisheries co-management. It is a paramount importance for the staff to understand the concept and believe it can work before they can disseminate and try to implement it to the various stakeholders in their localities.
8. Initially, one of the approaches used by the Department was to establish the Fishermen Economic

Groups (FEGs) in localities that met with the right criteria. Some of the general criteria that were considered include whether the fishermen were interested to form the group; the minimum number of fishermen should be about 30 and living in the same village or around the vicinity of the landing point; willing to co-operate and contribute money, time and energy to shore up all the activities of the group; and operating common type of fishing gear in the same fishing ground.

9. The proposal comes from the District Extension Officer. The State Extension Officer evaluated it before it will be sent to the Director of Extension and Training Division in Kuala Lumpur for approval. Then, the necessary financial support among others, to buy ice making machines, special tools to repair engines, materials for constructing Fish Aggregating Devices from the development allocation will be channeled to the FEGs, through the State Fisheries Office.

10. The members run the group on their own with the advice of the District Extension Officer. They have to appoint the leader, the secretary, the treasurer and a number of committee members. They establish their own group constitutions and should hold their meeting regularly. Everything is transparent, there is no politicking and the power is shared amongst them. They also determine the arrangement to catch the fish around the FADs and how much is the charge for using the FADs.

11. The Department provides many training programmes to the FEGs. The leaders are sent to the leadership and business courses while the members attend various technical skill enhancement courses such as boat repair, engine maintenance, fiberglass construction, FADs constructions etc. They are paid some allowance when they attend the courses to cover the loss of income, for food and lodging. Visits to successful FEGs are also conducted for the newer FEGs to let them see and learn for themselves how other fishermen run their groups including overseas visits.

12. Some of the projects conducted by the FEGs included the placement of newly designed FADs at their chosen fishing grounds, hiring their services to sport fishermen, running engine repair workshops; manufacturing fiberglass products; direct selling of their catch to the consumers, selling of ice, petrol, fishing nets and other products required by their members. These economic activities help in bringing fresh fund to the groups. The members benefit from the FEGs by getting cheaper supplies and can sell their catch at a better price. They too might get a share of the profits at the end of the year.

III. FEGs in Kuala Teriang, Pulau Langkawi

13. The Island of Langkawi is located in the northern State of Kedah bordering Thailand. Kuala Teriang is a small fishing village and the majority of population consists of fishermen who operate traditional fishing gears like gill nets; trammel nets, seine nets, hooks and lines and pots. There is no fishing port but fishermen land their catch at a private jetty. They sell their catch to the fish dealers or at times on their own. The average income is between RM 500-800 a month and this is above the national poverty line.

14. The FEG was established in 2001. It started with the placement of the 25 units of new FADs at their traditional site not far from the village. The fishermen not only catch fish for themselves but they also bring sport fishermen there. The species of fish that are found at the site include groupers, snappers, Spanish mackerels, mackerels and etc.

15. At the moment they continue to look after the FADs by adding newer materials to continue attracting fish. There is very little encroachment by other fishermen and if such thing happens, they can report to Department of Fisheries especially if they know the culprits. The Department will then call these people and action will be taken against them.



IV. Conclusion

16. Co-management is still a new concept and practice amongst the Malaysian Fishermen. It will take time for it to be fully implemented. However from the experience learned, it is proven to be acceptable and can complement the present fisheries management regime.

Recent Development of Coastal Resource Management Projects in Indonesia

Listya Inderasari and Erni Widjajanti *

ABSTRACT

Coastal Community Development and Fisheries Resources Management is six-year innovative joint project, between Government of Indonesia and the Asian Development Bank. Objectives of the project are 1) to promote sustainable management of coastal fisheries resources; 2) to reduce poverty in the coastal areas by providing opportunities for increasing the living standards of coastal communities. The success of fisheries management depends on the degree to which people participate and accept their role as partners in the decision making process. The institution framework is elements of co-management partnerships linking communities, fishermen, government and other fishing sectors together in the fisheries management process.

Keywords: sustainable management of coastal fisheries resources, institution framework, elements of co-management partnerships

** Staff of Directorate General of Capture Fisheries, Ministry of Marine Affairs and Fisheries, Indonesia*



I. Introduction

1. Coastal Community Development and Fisheries Resource Management is a six-year innovative joint project, between Government of Indonesia and the Asian Development Bank, incorporating coastal community development concerns with participatory resources management efforts. The project is designed to implement in five selected coastal Districts in four Provinces : Bengkalis in Riau Province (an inland with significant mangrove forests), Muncar and Prigi in East Java Province (a deep ocean area), Tegal in Central Java Province (densely populated overfished and shallow coastal area) and East Lombok in West Nusa Tenggara (a coral reef inland).

II. Objective

2. The primary objectives of the Project are (1) to promote sustainable management of coastal fisheries resources; and (2) to reduce poverty in the coastal areas by providing opportunities for increasing income and improving the living standards of coastal communities.

III. Project Component

3. The Project will comprise four components :

1. Coastal Fisheries Resource Management

4. Aim to rationalize and regulate the use of coastal fisheries resources, and conserve fish habitats at selected Project areas through (i). Resource and ecological assessment and socioeconomic assessment ; (ii). Coastal fisheries resource management planning; (iii). Implementation of coastal resource management plans; (iv). Monitoring, control and surveillance; and (v). An information and education campaign.

2. Community Development and Poverty Reduction;

5. The Project will promote non fishing income-generating activities and improve the existing social infrastructure in the Project sites. It will aim to wean coastal fisheries away from fishing activities and subsequently, reduce dependence and pressure on the coastal fish resources. The component will consist of (1). Community organizing and social preparation; (2). Development and implementation of micro-enterprise, agribusiness, and income diversification projects; and (3). Improvement of infrastructure facilities for social services.

3. Environmental Improvement of Small-scale Fish-landing Centers

6. The project will upgrade and rehabilitate facilities at fishing port and selected fish landing centers in the Project provinces to (i). Improve sanitary and environmental conditions, (ii). Enhance the quality and value of fish production, and (iii). Reduce physical and quality losses.

4. Institutional strengthening

7. The Project will (1). Strengthen the public institutions responsible for fisheries resource management, including center, provincial and district fisheries office, other local government agencies, the Local Community Organizations (LCOs), cooperatives and associations and coastal communities; (2). Equip the project Executing Agencies and participating agencies, as well as the LCOs, with the skills required for effective Project implementation; and (3). Support improvement of the fisheries information system, institutional assessment and human resource development and establishment of a project management system through the provision consulting services and training.

IV. Participatory Coastal Fisheries Resource Management (PCFRM)

8. The success of fisheries management depends on the degree to which people participate and accept their role as partners in the decision making process. Regional fisheries agencies therefore need an institutional framework to support and facilitate this participation. The institutional framework is one of co-management partnerships linking communities, fishermen, government and other fishing sectors together in the fisheries management process. These partnerships are needed to support government intervention in the small-scale fishing sector to achieve specific agree objectives.

V. Guiding Principles of PCFRM

- a. District Fisheries Service and Province Fisheries Service are responsible, under Regional Government, for the management of coastal fisheries resources.
- b. Stakeholders of participatory coastal fisheries resource management are the coastal communities, private sectors and government agencies.
- c. Stakeholders are partners in fisheries management.
- d. Stakeholders have obligations for the stewardship and management of coastal fisheries resources.
- e. Participation is a two-way decision-making process for reaching agreement and conflict resolution.
- f. Community awareness is key to the sustainable use of fisheries resources.
- g. Coastal fishing communities have fishing rights.
- h. Fisheries management is a continuous process based on better knowledge.
- i. Transparent decision-making processes.
- j. Coastal fishery plans are the basis of fisheries management.
- k. Cross-jurisdictional challenges require a network of fisheries management institutions.
- l. Legislation and law enforcement are the basis of fisheries management.

VI. Elements of the PCFRM Framework

9. District Fisheries Management Advisory Committee is a stakeholder committee organized by District Fisheries Service consisting of democratically elected members representing stakeholder groups, and other nominated or invited members. This is a consultative body set up to advise District Fisheries Service and other stakeholders in matters related to PCFRM.

10. Local Area Fisheries Committee is an independent stakeholder committee consisting of democratically elected members representing stakeholder groups and other nominated or invited members. This is a consultative body set up to advise District Fisheries Service and other stakeholders in matter related to PCFRM.

11. Fishing Gear Associations is an independent group of fishermen using the same type of fishing



gears set up to further the common interests and aspirations of fishermen, and to be a negotiating partner with other stakeholders in fisheries management.

12. Coastal Fishery Plans are a legal framework for the implementation of coastal fisheries resource management and a public statement of the intent of agreed actions.

13. Provincial Management Institution is aim to facilitate resolving fisheries resource management challenges that affect many district.

14. National Management is aim to facilitate resolving managing fisheries resource management challenges that face many provinces.

VII. Implementation of the Project

15. To implementation this project modification is needed depend on the need of resources availability, local community and district government (bottom up).

References

Anonymous, 1998, Project Administration Memorandum (PAM)

Taylor M. Noel, 2001, Framework for Participatory Coastal Fisheries Resource Management.

Report of CFRM Specialist in Coastal Community Development and Fisheries Resource Management Project, September 2001.

Zoning and Legislation Towards Sustainability of Marine Fisheries Resources in Negara Brunei Darussalam

Abd. Hamid Haji Zainin *

Zoning

Zone 1 (0 – 3 N.M)	-	Small Scale Fisheries
Zone 2 (3- 20 N.M)	-	Commercial Fisheries Trawlers, purse seines and other inboard engine vessel i.e. fish traps, long line and handline <ul style="list-style-type: none">• < 60 GT, < 350 hp
Zone 3 (20- 45 N.M)	-	Commercial Fisheries Trawlers, purse seines and other inboard engine vessel i.e. fish traps, long line and handline <ul style="list-style-type: none">• 60 – 150 GT, < 600 hp
Zone 4 (45 – 200 N.M.)	-	Tuna Purse Seine And Longline <ul style="list-style-type: none">• 150 GT, > 600 hp

Legislation

- Brunei Fisheries Act, Chapter 61.
- Brunei Fisheries Limits Act.

Violations of the Legislation

Violation of zoning falls under the Brunei Fisheries Act, chapter 61 that includes;

- Compound.
- Banned from operations.
- Revoked of license.

Encroachment of Foreign Fishing Vessel

Encroachment of foreign fishing vessels falls under the Brunei Fisheries Limits Act that includes;

- Compound to the maximum of B\$ 100,000,00.
- Vessels will be confiscated.
- Imprisonment.

Recent Development And Future Program Towards Sustainability of Marine Fisheries Resources In Negara Brunei Darussalam

Commercial Fisheries

- Implementation and Enforcement of 51 mm (square mesh) cod-ends for trawlers starting from April 2002.
- Moratorium for trawlers.

Small Scale Fisheries

- Banning of destructive fishing methods.
- Adoption of zoning and moratorium papers for small-scale fisheries.

Resource Enhancement Program

- Artificial Reef Programs The New Approach

* Senior Fisheries Assistant, Fisheries Station Numra, Fisheries Department Brunei, Bt 1728, Brunei Darussalam

Registration and Licensing Program for Fishing Vessels in Malaysia

Abdul Hamid bin Abdul Shukor *

ABSTRACT

The fisheries management in Malaysia is based on the Fisheries Licensing policy, which stipulates clear guidelines for the management of fishing effort with a limited licensing system. The Fisheries Licensing Policy adopted in 1981 was further reinforced whereby the inshore fisheries program calls for a restructuring of the fisheries through reduction in the number of fishermen. Under the Fisheries Acts, 1985, all fishing vessel and fishing gears must be registered and licensed before they can operate in Malaysian Fisheries water. For control purposes, the licensing programs are formulated to increase the level of income of the coastal fisher folk and at the same time to maintain the optimum level of exploitation of the fisheries resources. There are several programs and strategies employed under the Fisheries Licensing policy that are establishment of fishing zones, determination of total allowable catch and restructuring of the fishery industry.

Keywords: Fisheries Licensing Policy, Fisheries Act, 1985, the optimum level of exploitation of the fisheries resources, fishing zones, total allowable catch

** Director of Planning and Development Division, Department of Fisheries, Malaysia, Kuala Lumpur*



I. Introduction

1. Malaysia covers a land area of about 332,556 square km comprising two regions, Peninsular Malaysia and East Malaysia. With the declaration of the Exclusive Economic Zone (EEZ), the territorial waters of Malaysia covers 160,000 square km and the Exclusive Economic Zone covers over 450,000 square km.

2. As a coastal nation Malaysia has a coastline of 4,800 km comprising mangroves areas mud flats and sandy beaches. There are 13 states in Malaysia – Kedah, Perlis, Penang, Perak, Selangor, Malacca, Negeri Sembilan, Johore, Kelantan, Terengganu, Pahang, Sabah and Sarawak. Each state has a significant number of fishermen in its population. The country's population of 22 million (year 2000) and workforce of 8.2 million includes some 83,952 fishermen operating 32,846 fishing vessels. Most of the fishermen operate traditional gears.

3. Fishing activities are governed by the Fisheries Act of 1985, which stipulates the management of fisheries (both capture fisheries and aquaculture). The fisheries sector in Malaysia plays an important role in providing fish as a source of food and protein. In the year 1999, it contributed about 1.66 % to the national Gross Domestic Product (GDP)¹ and provided direct employment to 83,952 fishermen and 21,104 fish culturist. Fish constitute 60 – 70% of the national protein intake and per capita consumption stands at about 49 kgs/annum in the year 2000.

4. Over the years, the industry has succeeded in achieving a steady production from its marine inshore fisheries amounting to an average of 1.1 million tonnes annually. The Department of Fisheries Malaysia, has successfully sustained this production level through continuous efforts in the management of the resources. In 1999, the total production for the fisheries sector amounted to 1,418,829 tonnes valued at RM5 billion (approximately US\$1.3 billion). Statistically, the fisheries sector again recorded an overall increase in both production (4.85%) and value (10.38%), compare to the year 1998.

5. The indication that the fisheries industry is poised to remain an important industry can be reflected by its greater contribution to the GDP. By sector, production from marine capture fisheries contributed 1,248,402 tonnes or 88.0% of the nation's fish production with a value of RM 4.14 billion (approximately US\$1.08 billion). Within this sector, the coastal fisheries remained the major contribution with a production of 1,109,733 tones valued at RM3.74 billion (approximately US\$ 0.98 billion). A total of 32,846 fishing vessels were licensed in 2000, with the majority operating traditional gear (78.3%), such as drift net and trap.

6. With 83,952 fishermen working on licensed fishing vessels in the year of 1999, the population of the marine fisheries workforce increased by 2.95% as compare to 1998. However there was no significant change in the ratio of fishermen working on licensed commercial fishing vessels (42.1%) as against the number of fishermen working on traditional fishing vessels (57.9%).

7. The total marine landings increased by 2.73% from 1,215,206 tonnes in 1998 to 1,248,402 tonnes in 1999. In terms of value, there was an improvement of 8.66% from RM3.81 billion in 1998 to RM4.14 billion in 1999.

8. The bulk of the marine production is accounted for by the inshore fisheries (table 1), which, in 1999, recorded an increase of 2.76% from 1,079,953 tonnes in 1998 to 1,109,733 tonnes contributing 88.9% of the total marine production. Over the last two decades, this sector of the marine fisheries remained the major source of fish landings accounting for over 89% annually. The traditional gears involving 26,972 units of fishing vessels produced only 311,005 tones in 1999.

¹ National GDP of RM 339.42 million (Statistics Handbook, Statistic Department Malaysia, 2001)

II. Fishing Vessels in Malaysia

9. The number of licensed fishing vessels in Malaysia stood at 34,051 units in 1999 as compared 32,846 units in 1998, increasing by only 3.6%. Nevertheless, some of 80% of the registered fishing vessels operate traditional gear including gill nets, drift nets, hook and line, push nets and traps. The current fishing boat structure of licensed vessels in Malaysia can be classified as below :-

Fishing Vessel Type	Number of Vessel
Non Powered Vessels	2,856
Outboard Powered Vessels	12,718
Inboard Powered vessels <10 GRT	8,257
Inboard Powered vessels 10-69.9 GRT	7,827
Inboard Powered vessels > 70 GRT	1,188
Total Vessels	32,846

Note: $GRT = \text{Length of the vessel} \times \text{Breadth of the vessel} \times \text{Depth of the vessel} \times 0.28$

10. The majority of the fishing vessels operate in the coastal areas, which have been exploited at an optimum level. In line with the management policy, new licenses for fishing vessels are only issued for the deep-sea fishing sector, where the potential is more focused in East Malaysia (Sabah and Sarawak).

11. Malaysia fishermen employ a large variety of fishing gear, ranging from traditional fishing stakes, push nets and barrier nets to the modern gear like trawl nets and purse seines. Marine fisheries can be classified into three categories, namely inshore, offshore and distance water fisheries, based on the mode of fishing operations. Fishermen in Malaysia are classified as traditional fishermen and commercial fishermen.

12. Traditional fishermen are using method of fishing gear such as drift netting, hooks and lines, and traps and etc. They can operate in any fishing zone (A, B, C, and C2). Due to their small size of vessel (usually less than 10 GRT), many of traditional fishermen operate mainly in Zone A.

13. Commercial fishermen, use mainly gear such as trawl net and purse seiner. Their fishing vessels are much bigger and the area of operation are as below :

Fishing Gears	Size of Vessel	Area Operation
Purse Seine & Trawl Net	Less than 40 GRT	Zone B
	40 - 70 GRT	Zone C
	Above 70 GRT	Zone C2

III. Registration and Licensing Program for Fishing Vessels in Malaysia

14. Several Ordinances and Acts were introduced to regulate the fishing industry in Malaysia. The first one was the Fisheries Ordinance of 1909. This ordinance was subsequently amended in 1912, 1924, 1926 and was finally repealed in 1951. The Fisheries Rules of 1951 was enforced on 10 August 1951. During this time, there were also seven Fisheries Ordinance/Enactments enforced by the various states.



15. The fishing industry at that time consisted mainly of traditional fishing and regulation was minimal. The introduction of trawling in the coastal waters in the 1960's created much conflict between traditional fishers and trawl operators. This led to the formulation of the Fisheries Act of 1963 that provided a more comprehensive legal framework to manage fisheries in Malaysia waters. This Act was subsequently repealed and replaced by the Fisheries Act of 1985.

16. The fisheries management in Malaysia is based on the Fisheries Licensing Policy which stipulates clear guidelines for the management of fishing effort via an limited licensing system. Under the Fisheries Act 1985, all fishing vessel and fishing gears must be registered and licensed before they can operate in Malaysian Fisheries Water.

17. For control purposes, licensing programs are formulated to increase the level of income of the coastal fisherfolk and at the same time to maintain the optimum level of exploitation of the fisheries resources. The Fisheries Licensing Policy adopted in 1981 was further reinforced whereby the inshore fisheries program calls for a restructuring of the fisheries through reduction in the number of fishermen.

18. Objectives of the Fisheries Licensing Policy include :

- 1) Maintain fishery resources to achieve optimum yield
- 2) Ensure the maximization of catches and to increase the level of income of the inshore fishermen.
- 3) Eliminate competition and inter-sectoral conflict through allocation of resources
- 4) A more equitable distribution of catches between traditional and commercial fishermen
- 5) Restructuring the ownership pattern of fishing units among various ethnic groups in accordance with the New Economic Policy.

19. Under this policy, several programs and strategies were employed to achieve desired objectives including :

- 1) Establishment of Fishing Zones

The establishment of four fishing zones through a limited licensing scheme whereby zones were designated for specific fishing method, class of vessel and ownership pattern. The establishment of the four fishing zones was the main strategy employed in the allocation of fishing areas. These four zones were :

Zones	Area	Classification
A	From shore up to 5 nm	Reserved solely for small-scale fishers using traditional fishing gear and owner-operated vessels.
B	5 - 12 nm	Reserved for owner-operated commercial fishing vessels of less than 40 GRT using trawl nets and purse seine nets. There is no restriction for zone B operate in Zone C and C2.
C	12 - 30 nm	Commercial fishing vessels of more than 40 GRT using trawl nets and purse seine nets are allowed to operate. Zone C operators can operate in C2, but not otherwise.
C2	30 - EEZ limit or 200 nm	Beyond 30 nm where deep sea fishing vessels of 70 GRT and above are allowed to operate.

2) Determination of Total Allowable Catch

Within each zone, it is further intended to limit the number of vessels permitted to operate so that fishing pressures do not exceed the maximum sustainable yield. In order to conserve inshore fisheries resources of the West Coast of Peninsular Malaysia, there is currently no issuance of new licenses.

3) Restructuring of The Fishery Industry

The licensing of fishermen will permit effective monitoring to limit entry into the industry. Restructuring through reduction of the number of fishermen will also be carried out on a voluntary basis and by non-renewal of licenses for deceased and/or marginal fishermen. Alternative employment opportunities in aquaculture, food processing, agriculture land scheme, small business enterprises and industrial skills training will be provided.

20. To implement all these programs, the Department of Fisheries, Malaysia has 13 state offices and district office all over the country to oversee and implement all aspects of fisheries management such as, registration and licensing of fishing vessels and fishing gears, collection of fisheries data and statistics and enforcement aspects.

21. In terms of safety measures, the fisheries regulation under the Fisheries Act 1985 states that every fishing vessel should show proof that it has adequate safety equipment such as life jackets before a license is renewed. This requirement is stated under the Fisheries (Licensing of Local Fishing Vessels) Regulation 1985.

22. In Malaysia, fishing vessels are also not allowed to carry passengers or cargo. This is in line with the Fisheries (Maritime) (Licensing of Local Fishing Vessels), Regulation 1985. An individual fisherman is also required to take personal accident insurance. However, vessel insurance is not compulsory for the purpose of annual license renewal.

23. Under the registration and licensing program, all fishing vessels in various state are differentiate into certain code and colors. The registration number must be carved on both sides of the fore part of the hull of the vessel. In the case of the deep sea vessel (more than 70 GRT) the number must also be carved on the top of the wheelhouse. Wheelhouse of the fishing vessel must be painted with color and code specified for the state are as shown below :

State	Code	Wheel House Color
Perlis	PSF	Dark Blue
Kedah	KHF	Dark Red
Pulau Pinang	PPF	Light Blue
Perak	PKF	Dark Yellow
Selangor	SLF	Light Red
Negeri Sembilan	NSF	Dark Green
Melaka	MKF	Purple
Johor	JHF	Blue
Pahang	PAF	Light Yellow
Terengganu	TRF	Light Green
Kelantan	KNF	Dark
Sarawak	SS	
Sabah	SBF	
Labuan	LNF	



IV. Conclusion

24. Under the Fisheries Act of 1985, all fishing vessel and fishing gears must be registered and licensed before they can operate in Malaysian Fisheries Water.

25. The main purpose of The Fisheries Licensing Policy was adopted in 1981 to control number of fishing vessels and to maintain fishery resources in Malaysia.

Table 1. Landings and Values of Marine Inshore Fisheries, 1999

	Landings (Tones)	Value (RM)
West Coast of Peninsular Malaysia	462,171	1,605,512,300
East Coast of Peninsular Malaysia	333,532	1,009,370,824
Peninsular Malaysia	795,703	2,614,883,124
Sabah	200,933	676,858,489
Sarawak	101,130	398,273,946
Federal Territory of Labuan	11,967	47,720,675
Total	1,109,733	3,737,736,234

We Need the Some Special Training Program for Local Fisheries Officers and Local Leader Government

Nguyen Van Chiem*

In convention process from concentration of “Top Down” to Decentralization “Bottom Up” the role of Local Institution powerful actors in the live and economy of their site. They set up regulations, collecting taxes, fee, enforcement, etc., but developing training program for them isn’t easy, very encounter the following difficulties:

- Design content of training program
 - Select a training methodology
 - Select a training staff
 - Select the site and time for organization of training activities
 - To find financial source
1. Design content of training program
 - ♥ Basic knowledge of coastal resources
 - ♥ New concept:
 - ◇ Integrate coastal zone management
 - ◇ Sustainable development
 - ◇ Relation between protection and developing
 - ♥ Law system
 - ♥ Skill to work with community, presentation use equipment, etc.
 2. Select the training methodology
 - Main methodology
 - ♥ Training course (5-6 days)
 - ♥ Study tour
 - ♥ Discussion, workshop, seminar, etc.
 3. Select training staff
 - ♥ Professor, teachers from university (International also)
 - ♥ Senior experts from sectors
 4. Select training site and time for organization of training activities
 - ♥ Site:
 - ◇ Far from their office
 - ◇ Near site demonstration Exercise etc....
 - ♥ Time: Beginning of the year ,after different traditional festival.
 5. Find fund
 - ♥ From government
 - ♥ Coordinate different project

Conclusion

1997-2002, we have organized 20 training courses (6 days/course) with 802 participants and also we have organized 8 workshops (National level) and many provinces’ workshop.

* *Deputy Management of FRCD, 10-12 Nguyen Conghoan Ba Dink, Hanoi, Vietnam*



*Toward Further Development of Coastal Resource Management:
Lessons Gained Through Locally Based Coastal Resource Management
in Pathew District, Chumphorn Province, Thailand*

Special Session

A Proposal for Department of Fisheries in Malaysia - TD Collaborative Project *

FCG: Coastal Resource Management Program
Lead Department: Training Department (TD)
Lead Country: Thailand and Malaysia

I. A New Component added to the Project Activities

1. From 2003, this project will have two components as follows;
 1. ***“Locally Based Coastal Resource Management in Pathew District, Chumporn Province” (LBCRM-PD)***
 2. ***“Community Development for Coastal Fisheries Management in Kedah State” (CDCFM)***
(This name is tentatively proposed)

Both projects are carried out under the same program already approved as LBCRM-PD.

2. The duration of the LBCRM-PD is five years, and its activities will be continued until 2007. SEAFDEC/TD is involved in the project activities according to the agreement between the Department of Fisheries (DOF) in Thailand and the TD, dated 8 October 2001. Under the Fisheries Consultative Group’s (FCG) scheme, the project plans to transfer technologies, information and lessons learned through the implementation of LBCRM-PD to other member countries of ASEAN-SEAFDEC.

3. There are several possible sites for the planning and implementation of a collaborative pilot project in the region. Taking into account of personnel, budget and other essential factors, the project has selected a new site in Kedah State, Malaysia. The Department of Fisheries (DOF) in Malaysia have four pilot projects there, in which fishers establish their own groups mainly for the management of fishing grounds, with Fish Aggregating Devices (FADs) being installed. Fishers groups are called “Economic Groups”. These groups have already commenced several activities concerning both management and community development.

4. To collaborate with the DOF in Malaysia, the project staff will mainly conduct research and training activities together with other TD staff involved in “Resource Enhancement” under the Special-Five Year Plan.

II. Background of the Project for the “Economic Groups”

5. In Malaysia, the present framework of the fisheries act and regulations holds that the federal government has full responsibility for local fisheries management. No issues, or roles, can be delegated to local level; however, not altering the present framework, the government has started a kind of extension and training program that encourages local fishers to manage FADs. The DOF provides materials to the fishers (concrete, plastic-made leaves and so on) for making FADs. They organize groups that will act as a unit of management, and implement some economic activities. In Kedah State, there are four pilot groups involved in this project.

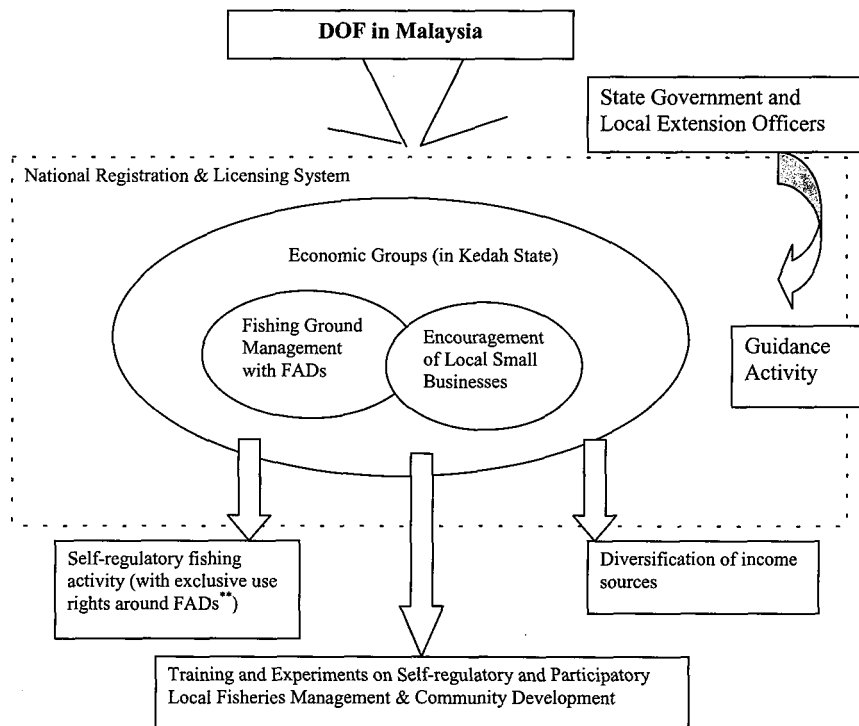
6. **Chart 1** shows the outline of the project for the establishment of economic groups, which also aim to encourage small local businesses. In Kedah State, there are two types of economic group. The first

* The proposal was prepared and developed by Dr. Masahiro Yamao, JICA Expert in Fisheries Socio-economics, SEAFDEC/TD



type concentrates only on fishing ground management in a defined area where FADs are installed. The second type is to develop other economic activities aside from fishing ground management. Members of the economic groups intend to increase job opportunities and income sources both inside and outside fisheries. The approach that the groups adopt is regarded as community-based fisheries management (CBFM).

Chart 1. Training and Experiments on the CBFM Approach for Economic Groups



** Some *Kampung* (communities) have customary rules of fishing activities in their immediate vicinity, including the manner in which traditional FADs are used.

7. In Langkawi Island, three economic groups exist to carry out activities for the construction, installation, and management of FADs. The DOF provides the necessary materials. There is a group whose membership covers three fishing villages (*Kampungs*) that have installed 25 sets of FADs in the fishing grounds. In these villages, fishers have used traditional types of FAD, made of coconut leaves, stones, bamboo and ropes. Normally four fishers organize a unit, and make FAD sets collectively for their exclusive use. No other fishers are allowed to catch fish around the privately owned FADs. People recognize the ownership of FADs and respect village laws and custom. The distance between two FADs should be at least 500 m.

8. Members of the economic group may adopt these traditional laws in the operation of modern FADs, and develop more sophisticated ways in which to manage the fishing grounds. 25 FAD units are placed in one large circle. Fishers pointed out that after starting the FAD installation project the number of species found around this circle increased, and they achieved increasing amounts of catch and income,

9. There is another type of group in Kuala Kedah District that attempts to diversify its activities, including freshwater aquaculture, dried fish and processing shrimp paste. The DOF gives financial support to these activities. Fish processing gradually attracts women and brings an income of 10-15 ringgit per day (600 ringgit per month). They process products on an individual basis, and bring their products to this group and the products are sold to local markets. Members also deposit 10 ringgit per day. The membership of this group extends over the entire area of the District.

III. Framework of the Project

1. Overall Objectives of the Collaborative Project

10. The activities of the CDCFM in Kedah State intends to achieve the following objectives:
- 1) Sustainable fisheries resource management with fishers' self-awareness and self-regulatory activities will develop.
 - 2) Living and production conditions of fishing households will improve.
 - 3) Local communities (Kampungs and Districts) will enhance their ability in community development.

2. Purpose of the Collaborative Project

11. Aside from the overall goals of the "Economic Group" projects defined by the DOF in Malaysia defines, this collaborative project is inaugurated for the following purpose:

Fishers and resource users are enabled to establish sustainable fisheries resource management in their immediate fishing grounds, by joining the organization and activities of economic groups.

3. Outputs of the Collaborative Project

12. Four outputs from the implementation of the CDCFM are expected.

1) *Self-regulatory fisheries management work at the project sites*

Within the present legal framework of the fisheries act and regulations fishers and resource users establish self-regulatory management in their immediate fishing grounds after installing FADs. The DOF encourages the people at the project sites to join as members of the economic groups and organize management activities. This management framework, as a result of which management costs charged to the central government will decrease, will realize coordination and adjustment.

2) *Local government officers enhance their ability in monitoring and evaluating fisheries resource management, and effectively extend the concept of CBFM approach to the fishers.*

Local government officers are expected to develop the concept and procedures of the CBFM approach consonant with local fisheries. They take charge of leading fishers and resource users into self-aware and self-regulating management activities.

3) *CDCFM steers the development direction of local fisheries management*

Fishers and resource users will create viable models of a self-awareness and self-regulatory type that may belong to the concept of the CBFM approach. Monitoring and evaluation of the results of the economic group's activities, from socio-economic and biological viewpoints, will provide an insight into the development direction of local fisheries management.

4) *Local customary laws are built into a formal management body.*

Traditional Kampungs have informal agreements and consensus among fishers as regards fishing operations in their immediate fishing grounds. The organization and activities of the economic groups will encompass the agreements and consensus.



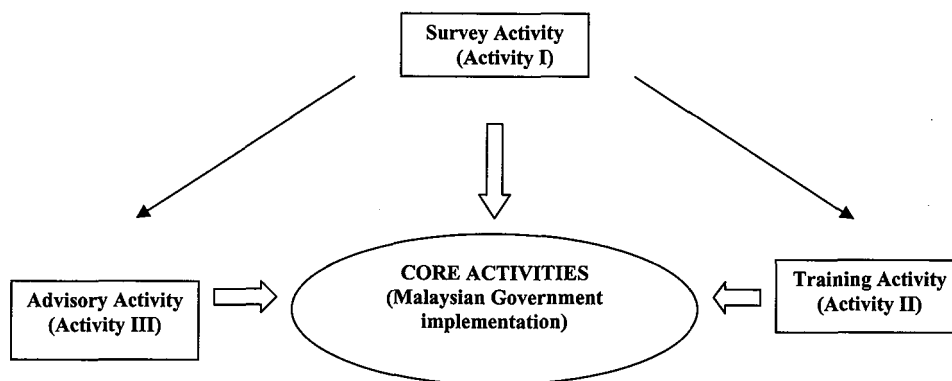
IV. Approaches and Activities

1. Three Main Activities

13. The project consists of three main activities, i.e., 1) surveys, 2) training, 3) advisory activities. These activities are designed to assist the core activities adopted and implemented by the DOF in Malaysia. As shown by *Chart 1*, the DOF has full responsibility for encouraging fishers to join the organization and activities of the economic groups and lead them to the sustainable use of coastal resources in their waters (Zone A). The Fisheries Offices of the State and District Fisheries are in charge of guiding fishers on their involvement in fisheries management.

14. *Chart 2* indicates an interlocking relationship between the core and the three collaborative activities. Among the three, *Activity I* and *Activity II* are the foundations both for the core and the collaborative activities.

Chart 2. Relationship between the Core and Collaborative Activities



2. Activity I: Survey Activity

2.1 Purposes of Activity I

15. A series of the collaborative surveys covering three main objectives:

- 1) To collect necessary data and information to support the effective implementation of the core activities.
- 2) To analyze the data and figures collected and restore these to the people and communities for the sustainable use of coastal fisheries resources.
- 3) To monitor and evaluate the proceeding process of the core project activities, using comparison criteria, i.e., efficiency, effectiveness, impact, relevance, and sustainability.

2.2 Survey Plan

16. The collection of data will include three fields; socio-economics, fishing grounds and biological fields. In collaboration with Malaysian researchers, the TD will conduct three types of surveys as shown by *Chart 3*.

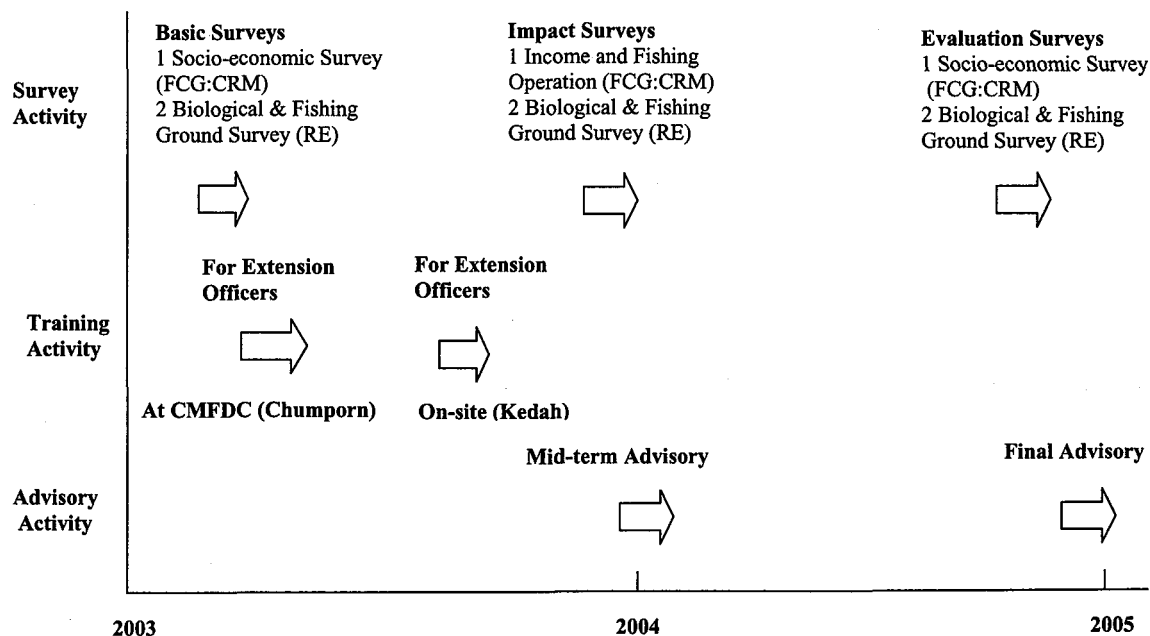
17. At the outset of the collaborative project, the socio-economic survey group focuses on the economic and cultural surroundings of small-scale and coastal fisheries at the project sites to get a picture of the status and trends of fishers and fishing communities. The organization and activity of economic groups are important topics of the socio-economic survey, also. This is because the establishment and effective operation of the economic groups is at the core of the DOF's project. The biological and fishing ground survey groups determine scientific figures and data on the change of resource conditions, fishing operations, and so on. The regular data collection by using simple indicators will be proposed, if necessary to assist fishers' self-awareness observation on fisheries resources in their immediate fishing grounds.

18. At the next stage, the impact survey will be planned to clarify the positive and/or negative impacts resulting from the installation of FADs. The two survey groups assess not only the effectiveness of FADs, but also the increase of fishers' awareness of sustainable fisheries management. The results of the survey will include the mid-term advisory activities (see *Chart 3*).

19. Prior to finalizing this collaborative project, a survey will be conducted to monitor and evaluate the ongoing process of the core project activities, using comparison criteria, i.e., efficiency, effectiveness, impact, relevance, and sustainability. The results of the evaluation will be included the recommendation part of the final advisory report.

20. Setting aside these scheduled survey activities, any topic survey and observation will be arranged occasionally whenever necessary.

Chart 3. Collaborative Project Activities Undertaken by DOF in Malaysia and SEAFDEC/TD



3. Activity II: Training and Educational Matters

3.1 Objectives of Activity II and Its target Group

21. Activity II has two objectives:

- 1) To provide appropriate information and technology for encouraging local fishers to adopt a self-management approach.



- 2) To experiment extension methods through on-site training courses and develop more effective methods applicable to the local reality of small-scale and coastal fisheries in Kedah State.

3.2 Training Plan

22. The target group for the training and educational activity consists mainly of local government officers who are in charge of extension work, not including local fishers and resource users.

23. The training program tentatively designed contains two courses. The first is an introductory and practical part of the CBFM approach. This course will be held at the Chumporn Marine Fisheries Development Center (CMFDC), which is located in Chumporn Province in the southern part of Thailand. The staff members of the TD and resource persons involved in LBCRM-PD and other CBFM pilot projects in Thailand would prepare whatever subjects and topics the Malaysian local officers need most. The observations and analytical results of the Basic Survey at the project site should be part of the training course to fulfill the Malaysian-government's needs.

24. In collaboration with the Department of Fisheries (DOF) in Thailand, the TD arranges practices in Tambol Pakklong, Chumporn Province, where the TD and the DOF in Thailand have implemented a collaborative project on coastal resource management. This training course includes planning for an on-site training program targeting community leaders and fishers at the project sites in Kedah State.

25. The second course will be implemented at the project sites by the Malaysian local officers and any other resource persons to enhance fishers' awareness of the need for self-regulatory fishing activities and management plans. This course also intends to reinforce the observance of the present fisheries act and regulations. The TD staff members may assist this on-site training in various ways, including the preparation of participatory resource assessment and any visual extension methods.

3.3 Toward New Strategies of the Training Program at the TD

26. The project-oriented training program on coastal resource management, targeting the national local government officers, is a first trial for the TD. The TD has over the years accumulated enormous amounts of experience and skill in terms of bilaterally based training programs. However, these are mostly one-way and on general theoretical subjects. Some member countries of SEAFDEC require more specialized topics and two-way methods to correspond properly to their domestic concerns. Joining the pilot projects in Malaysia will present an opportunity to develop such new types of training program, while transferring technologies and experiences accumulated at the LBCRM-PD.

4. Activity III: Advisory Activity

27. In terms of the planning and implementation of pilot projects on fishing ground management and community development, the TD staff undertake advisory activities. As has been already described, the mid-term and final advisory reports will be compiled and submitted based upon the analytical results of the survey and the observations of the implementation of the pilot projects.

28. In the process of preparing advisory reports, the TD will plan a seminar together with the DOF in Malaysia, to clarify successful and failure lessons, and assess efficiency, effectiveness, impact, relevance and sustainability of the project.

V. Sharing Responsibility of the Activities with Budget Allocation

1. Sharing Responsibility

29. As **Chart 2** illustrates, the DOF in Malaysia undertakes the core activities. The TD implements the three activities together with the DOF staff members. The TD staff members belong to two projects: FCG: LBCRM-PD, and the Special Five Year Plan: "Resource Enhancement (RE)".

2. Cost Sharing

30. With reference to budget allocation the TD will share the following costs.

- 1) TD staff traveling costs and allowances for surveys and training programs in Malaysia.
- 2) Traveling costs and allowances of Malaysian government officers who join the training course at the CMFDC.
- 3) Any costs for preparing the training courses at the CMFDC.
(The DOF in Thailand will prepare facilities, equipment and resource persons).
- 4) Any costs for preparing advisory reports, with the exception of organizing a seminar.

The estimated budget for the first year is \$12,000.

31. The DOF, Malaysia will share the following costs.

- 1) Costs for implementation of the core activities.
- 2) Costs for the arrangement of the on-site training course, with exception of TD staff traveling costs and allowances.
- 3) Costs for organizing a seminar, with the exception of travel costs and allowances for TD staff.

VI. Project Duration

32. This collaborative project will start in January 2003 and end in December 2004. Its duration is two years.

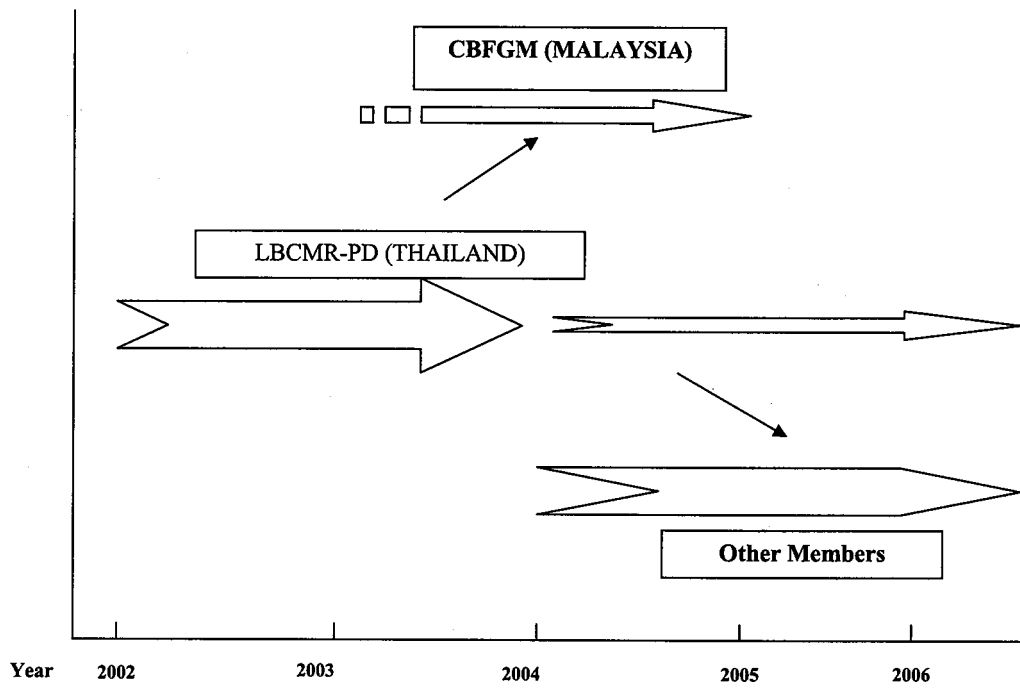
VII. Special Issues: Plans for "Coastal Resource Management 1" Under the FCG

33. Under the FCG scheme, the LBCRM-PD is already approved as a five-year project. Within the budget that will be earmarked in 2003, the LBCRM-PD expands its activities to Malaysia and other member countries. This Malaysian-based project is awarded a different name, containing different concepts and frameworks from the LBCRM-PD. However, because of the shortage of budget and personnel, the CBFGM is a sub project of LBCRM-PD.

34. The CBFGM is designed as a two-year project. From 2004, a new collaborative project will be started in other member countries under the FCG mechanism together with the Resource Enhancement (RE). **Chart 4** illustrates the process of the project activities undertaken by the TD under this scheme.



Chart 4. New Arrangement of Coastal Resource Management 1



**Report of the Proposed Collaborative Project Proposal Presented to
Malaysian Fisheries Department at Fisheries Research Institute, Penang, Malaysia
on 13-17 January 2003**

Phattareeya Suanrattanachai *

I. Lists of Participants: (on 13 January 2003)

1. Department of Fisheries, Malaysia:

- | | |
|-----------------------------------|---|
| 1. Mr. Abd. Hamid bin Abd. Shukor | Director for Policy and Planning Development |
| 2. Mr. Ahmad Saktian Bin Langan | Department of Fisheries, Kuala Lumpur |
| 3. Ms. Tan Geik Hong | Policy and Planning Development |
| 4. Mr. Abdul Talib | Fisheries Research Institute, Penang |
| 5. Mr. Bhadali Bin Hassan | Langkawi District Fisheries office, Kedah State |
| 6. Mr. Anuar | Fishery Extension officer, Kedah State |
| 7. Ms. Issha | Fishery Extension officer, Kedah State |

2. SEAFDEC/TD

- | | |
|------------------------------------|--------------------------------------|
| 1. Dr. Yuttana Theparunrattana | Resource Enhancement project manager |
| 2. Dr. Phattareeya Suanrattanachai | Socio-economic section head |
| 3. Ms. Penchan Laongmanee | Fishing Ground section head |
| 4. Ms. Sumitra Ruangsvakul | Socio-economic researcher |
| 5. Mr. Kongpathai Saraphaivanich | Socio-economic researcher |

II. Welcome Address from Director:

3. Mr. Hamid Shukor, Director of Policy and Planning Development, kindly gave all participants a warm welcome address for joining the meeting. The director gave background of this meeting arrangement to participants. He referred to result of the 4th Fisheries Consultative Group (FCG) Meeting, which was held in Myanmar in 2002. He requested SEAFDEC/TD to transfer gained experience coming from the implementation of the LBCRM-PD project to Malaysia.

4. SEAFDEC/TD visited Langkawi Island to comprehend feasibility and capacity building of the proposed community site to set up project proposal of experience transfer. SEAFDEC/TD wrote report of visited Langkawi Island in July 2002 and sent back to Department of Fisheries (DOF), Malaysia. Therefore, Dr. Masahiro Yamao, JICA expert who took responsibility as the LBCRM-PD project manager, kindly prepared draft of the proposed collaborative project of SEAFDEC/TD and DOF, Malaysia which based on comprehensive data and observation gained from the first visit.

5. SEAFDEC/TD arranged the draft of the proposed collaborative project and presented the draft at the 25th Program Committee Meeting, which was held in Singapore, in October 2002. Malaysian and Thailand delegates fully supported to extend the concept and methodologies to Malaysia. The result of this meeting led to pre-survey trip to Langkawi Island to present collaborative project proposal to Malaysian fisheries officers and staffs.

III. Presentation of Two Counterparts:

1. The LBCRM-PD Project Implementation

* *Socio-economic Section, Research Division, SEAFDEC/TD*



6. Representative of SEAFDEC/TD staff presented the implementation of the LBCRM-PD project year 2002 to Malaysian officers and staff. The presentation started from background of the project proposal, concept of the project and implementing activities, which composed of 6 components. The SEAFDEC/TD presented emphasized on Activity II (Encourage coastal resource management) and Activity III (Encourage local business). Objective of Activity II was to encourage local stakeholders to participate in coastal resource base management and development. Objective of the Activity III was to create an alternative job opportunity for local fishers particularly for women in community site.
7. Activity IV (Enhance human resource and capacity and participation) and Activity V (Develop extension methodologies and strengthen extension system) were strategic components to educate local stakeholders and transfer information to local stakeholders at the project site. Implementation of the Activity IV was training course arrangement which curriculum considered upon the target group. Objective of the Activity IV was to improve skill and knowledge of local stakeholders through information arrangement. Activity V was to transfer information of the project in concrete term. Many kinds of media and audiovisual were such leaflet, poster, VDO and notebook often distributed to local stakeholders. These media and audiovisual productions used collected data from the project to reflect logistic of community to local stakeholder.
8. Outcome of the project year 2002 was used to re-plan and adjust the direction of the project for the year 2003.

2. Coastal Fisheries Management Project in Malaysia

9. Fishery extension officer, Kedah State (Mr. Anuar) presented the community based fisheries management (CBFM) project and action plan which implemented in Langkawi Island from year 2000 to year 2003. The officer explained that the CBFM project composed of two main components. The components were establishment of fishers economic group (FEG) or Kampung Ekonomi Nelayan (KEN) in Malaysian word and fish aggregating devices (FADs).
10. Objective of FEG establishment was to encourage local stakeholders to participate in controlling marine resource base and its coastal area. Objective of FADs installation was to protect trawl encroachment and increase catch production in volume. The fisheries officer in Kadah State input the CBFM project and action plan to fishing villages in Langkawi Island.
11. The Kedah state fisheries officer stated that there were three fishing villages were Kampung Batu ala, Kampung Kuala Teriang and Kampung Kuala Melaka. Fishers of these three villages gathered together to establish KEN namely Kampung Kuala Teriang fishers economic group. The DOF supported this group to install 25 units of FADs in coastal areas of these three villages. These units of FADs were additional parts to expand protected areas of trawl encroachment in 5 nautical miles. Members of the Kuala Teriang KEN had taken responsibility to manage FADs and gotten right to utilize aquatic resources around the FADs areas.

IV. First Discussion between DOF, Malaysia and SEAFDEC/TD, in Penang State

12. Malaysian fisheries officers and SEAFDEC/TD delegate made discussion after they finished exchange of information through two presentations. Mr. Director appreciated the concept and action plan of the LBCRM-PD project. He supported to transfer this concept to Langkawi that both Malaysian and Thailand sites should get mutual benefit of the proposed collaborative project.
13. SEAFDEC/TD delegate also agreed with the Director's opinion on overall objectives of the proposed collaborative project that should be mutual benefit. A clear proposal of the collaborative project is required which DOF, Malaysia and SEAFDEC/TD should share information and idea to formulate the

appropriate proposal plan.

14. Mr. Director kindly informed SEAFDEC/TD delegate that Fisheries Research Institute had research publications that they are useful to two counterparts to comprehend fisheries situation in Langkawi island such oceanographic and fisheries socio-economic criteria.

15. Mr. Director agreed that the proposed collaborative project should be implemented through cost-sharing budgetary management as SEAFDEC/TD had shared with DOF, Thailand for implementing the LBCRM-PD project. This was limited number of budget of both counterparts.

16. Mr. Director advised that the discussion should be held once again in Langkawi Island after SEAFDEC/ TD delegate visited the fishing village sites and exchange information with local stakeholders at the sites. The next meeting would discuss the mechanism of the collaborative project and process of the proposal preparation and propose.

V. Second Discussion between DOF, Malaysia and SEAFDEC/TD in Langkawi Island

17. At round table of the second discussion, DOF, Malaysia invited 2-representative of Kuala Teriang fishers economic group, 2-representative of fishers' association, 2-representative of anchovy fishers' association and Chief of MFRDMD to join the meeting. These invitation local organizations were proposed to be member of implementing committee of the collaborative project.

18. Mr. Director gave background of SEAFDEC/TD and objectives of visiting at Langkawi Island to all invitation representatives' organizations. He also explained the background of the collaborative project and its proposal to them. He pointed out that this collaborative project should be a beginning point of technology transfer. This meant Malaysian fishers and Thai fishers could share and exchange concerned coastal resource management and fishing community development. This technology transfer might lead to creation of job opportunity for Thai and Malaysian local stakeholder and improve of customary life and included sustainable coastal resource utilization.

19. Chief of MFRDMD informed the meeting that MFRDMD had involved in the Kampung Kuala Teriang fishers economic group when DOF, Malaysia started to install FADs. MFRDMD supported oceanographic data to select sites for FAD installation. Moreover, MFRDMD fully supported the LBCRM collaborative project of DOF, Malaysia and SEAFDEC/TD. MFRDMD would give a related publication and baseline data to SEAFDEC/TD for site comprehension.

20. Representative of Kuala Teriang fishers economic group said that he was very interesting to look forward a concrete scenario of technology transfer to improve their life and to manage their coastal resource. Representative of fishers' association also supported expression of Kuala Teriang FEG representative and welcome to share experience with Thai stakeholder through the collaborative project. Representative of anchovy fishers' association requested that he wanted to observe anchovy business and processing technology in Thailand.

21. Finally, Mr. Director concluded that results of two-time meeting between DOF, Malaysia and SEAFDEC/TD would be proposed to DOF headquarter, Malaysia and arranged internal meeting on 6 February 2003 to finalize feasible direction of the collaborative project. Mr. Director said that he would bring the result of the finalized meeting to discuss with SEAFDEC/TD when he and his invitation officer join the seminar in February.

VI. Request from Malaysia

22. The Director informed the representatives that SEAFDEC/TD would arrange the LBCRM-PD



seminar at Chumporn, Thailand in February. Kuala Teriang FEG requested SEAFDEC/TD to sponsor them join the seminar (nominated 4 person). Representative of fishers' association mentioned that they would like to attend the seminar with their own expense (nominated 4 persons), but request SEAFDEC/TD to arrange accommodation and transportation. Representatives of anchovy fishers' association requested SEAFDEC/TD to arrange special trip for them to observe anchovy fisheries and business (nominated 4 persons) with their own expense.

23. SEAFDEC/TD delegate responded to Malaysian fisheries officer and all representatives that SEAFDEC/TD might provide accommodation at Chumporn Marine Fisheries Center and transportation for FEG nominees from Tamalung District border, Satun Province. This route was planned to pick up 3 invitation Malaysian fisheries officers from the same border to Chumporn Province. SEAFDEC/TD would not arrange any food allowance for the nominees. However, SEAFDEC/TD has to consult with the Director of Chumporn Center before any arrangement for the FEG and fishers' association nominees. SEAFDEC/TD delegate also responded the anchovy fishers' association that TD has to consult with the Chumporn Center and inform feasible schedule to DOF, Malaysia, later.

VII. Discussion of SEAFDEC/TD and Chumporn Marine Fisheries Development Center

23. SEAFDEC/TD brought Malaysian request to consult with Chumporn Center on 17 January 2003. The issue was accommodation arrangement for FEG and fishers' association nominees and study trip arrangement for anchovy fishers' association. The Chumporn Center welcomed to arrange accommodation for FEG and fishers' association nominees.

24. However, the center would like to postpone study trip arrangement for the nominees of anchovy fishers' association. The center gave two reasons that staff of the center had to involve in the seminar arrangement. Therefore, there is no activity of anchovy processing when the nominees of anchovy fishers' association come for visiting. The center considered that postpone of the study trip might make cost-effectiveness trip and efficient time-consuming to nominees of anchovy' s association.



SEAFDEC ADDRESSES

THE SECRETARIAT

P.O.Box 1046
Kasetsart Post Office
BANGKOK 10903, Thailand
Tel : (662) 9406326-29
Fax: (662) 9406336
E-mail: secretariat@seafdec.org
<http://www.seafdec.org>

The Secretariat coordinates and oversees the general policy and planning of the Center, and acts as the focal point for channeling and implementing the decisions and resolutions of the SEAFDE Council of Directors. It organizes the annual meetings of the Council and the Program Committee, inter-departmental meeting, *ad hoc* consultative meetings with international organizations, as well as technical seminars and workshops. The Secretariat also coordinates the development and implementation of the Strategic Plan to guide all Departments towards the common goal.

TRAINING DEPARTMENT(TD)

P.O.Box 97, Phrasamutchedi
Samut Prakan 10290, Thailand
Tel : (662) 4256100
Fax : (662)4256110,4256111
E-mail : td@seafdec.org
<http://www.seafdec.org/td/>

TD focuses on technology transfer in the marine fishery sector through training in marine engineering, navigation, fishing technology and extension methodologies: and through information dissemination, and extension work. TD also conducts research on fishing technologies, fishing gear improvements, fishing ground surveys, socio-economic profiles and a collaborative fishery resource survey program on the marine environmental system that sustains the fish stocks and their distribution in the South China Sea.

MARINE FISHERIES RESEARCH DEPARTMENT (MFRD)

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

MFRD specializes in fishery post-harvest technologies to optimize the utilization of marine catches through research into development of new products especially from unutilized fish, preservation, improved processing, packaging and shelf-life, and improvements in quality control and harmonization of quality standards. MFRD is also active in technology transfer through training and information dissemination, and works closely with seafood processors, handlers and consumers to achieve these objectives.

AQUACULTURE DEPARTMENT(AQD)

Tigbauan 5021, ILOILO, Philippines
Tel : (63-33)335-1009,336-2965
E-mail : aqdchie@aqd.seafdec.org.ph
<http://www.seafdec.org.ph>

AQD conducts research on the generation and improvement of aquaculture technologies, covering aspects of broodstock development, fish nutrition and disease management. The Department disseminates information through training, extension and other outreach activities, and works closely with universities in manpower and expertise development. AQD has already gained a reputation as a leading aquaculture research center in Southeast Asia

MARINE FISHERY RESOURCES DEVELOPMENT AND MANAGEMENT DEPARTMENT(MFRDMD)

Fisheries Garden, Chendering
21080 Kuala Terengganu, Malaysia
Tel : (609) 617-5135
Fax : (609) 617-5136
Email : seafdec@po.jaring.my
<http://agrolink.ma/dof/seafdec>

MFRDMD focuses on providing assistance to member countries on the development and management of marine fishery resources through resource exploration and stock assessment, applying modern technologies; investigations on fishery oceanography and the environmental conditions that sustain commercial fish stocks; migration of tunas; conservation of coral reefs and such endangered marine animals as marine turtles; as well as data management, training and information exchange on related common issues



TRAINING DEPARTMENT (TD)
P.O.BOX 97, Phrasamutchedi Samut Prakan 10290, Thailand
Tel. (66) 2425-6100 Fax. (66) 2425-6110-1
E-mail: td@seafdec.org
<http://www.seafdec.org/td>