

THAI COASTAL FISHERIES AND MANAGEMENT ISSUES IN THAILAND: Through A Case of a Collaborative Pilot Project in Chumporn Province

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DEVELOPMENT OF THE FISHERIES INDUSTRY AND SMALL-SCALE FISHERIES IN THAILAND

Thailand ranks as the tenth largest producer in fish volume in the world. The total volume of fisheries production in 1998 was 3.5 million tons. The capture fisheries sector amounted to 2.9 million tons (83.0 %), while the culture sector is 0.6 million tons (17.0%). The marine capture fisheries sub-sector was 2.7 million tons and had a share of 77.3 % of the total production. The development of Thai fisheries was attributed largely to the rapid growth of marine capture fisheries, which increased from 1.7 million tons in 1981.

Development of Export-oriented Fisheries Industry and as a Great Food Fish Producer in the World

In 1998, Thai fisheries produced 124,547 million Baht in value, which was three times more than in 1990. They increasingly depended upon coastal aquaculture. This lucrative sub-sector contributed almost half the total production (49.4 %), reaching 61,526 million Baht. The marine capture fishery sharply reduced its share from 71.1 % in 1985 to 38.8 % in 1990 and has been less capable of further expansion since the mid 1990s.

Fisheries Food Center in Asia

Keeping pace with the rapid development of marine capture fisheries and coastal aquaculture, the fisheries processing industry has rapidly expanded its production capacity and has become very competitive in the world market. By using cheaper raw materials and employing skilled workers, the industry succeeds in exploiting great value-added products including ready-to-eat and ready-to-cook products that are exported to large importers like Japan, U.S.A. and the EU.

The Gap between Export-oriented Food Business and Small-scale Fisheries

The great success of export-oriented fisheries and food business industries is attributed to small-scale fisheries and aquaculture production, characterized as labor-intensive and resource-exploitative in nature. Provision of cheaper raw materials is possible under *de-facto* open-access to fisheries resources. Small-scale fisheries and aquaculture puts increasing production effort with improving means of production. They often fall into a sort of vicious circle of resource over-exploitation. The price level of raw materials goes up, while quality reduces. Together with the growing Thai economy, the wage rate has risen sharply. Fisheries food business has increased the import of raw materials to maintain its competitiveness, and as a result, structural changes take place in export-oriented fisheries.

The Struggle of Small-scale Fisheries

The Great Majority are Small-scale Fisheries

Shown by the 2000 Intercensal Survey of Marine Fishery, the great majority of fisheries households (establishments) are grouped into the category of small-scale fisheries. This statistical data defines small-scale fisheries as those undertaken by households that employ non-powered boats, outboard powered boats, inboard powered boats of less than 10 gross tons, or have no boat at all. The number of small-scale fisheries households amounted to 51,078 in 2000, being 92.3 % of all fishing households. The number of commercial fisheries was 7,041 in number, being 12.1 % of the whole.¹

Coastal Resources are an Important Livelihood Source

Fisheries households involved in marine capture fisheries received an annual income of 89,684 Baht in 2000, out of which 73,072 Baht (81.5 %) came from fishing activities.² The family members usually diversify livelihoods and depend on multiple sources of income including those of wage laborers, agriculture, fisheries-related activities and trading. In coastal communities, fisheries and related-activities bring additional income sources to the local people. They often invest in small-scale boats and gear to create job opportunities for family members. The old, the young and women collect fish and shell from the beach for “dishes tonight”, and for small processing. Utilization of coastal resources should be appreciated more than any economic indicators show and have a big ripple effect on the local and household economics.

Poverty, Scarcity of Job Opportunities and High Profitability

In coastal fisheries, at least three incentives effect the rapid expansion of production. In over-crowded fishing communities with a scarcity of job opportunities, poor small-scale fishers and their family members depend heavily upon coastal resource utilization. Fishing business attracts unemployed and underemployed people, as they achieve a daily cash income source. High profitability is a decisive factor causing resource exploitation. In more concrete terms, during this decade, anchovy fisheries have rapidly developed with the provision of investment and job opportunities in coastal communities. This is because of a strong incentive from foreign markets. Export-oriented grouper culture still gives economic incentive to small-scale fishers. Under *de-facto* free entry to fisheries, people increasingly invest in coastal fisheries and move from one to another lucrative fishery.

The Lack of Workable Management Frameworks in Coastal Fisheries

Over-capitalization and over-fishing are common phenomena everywhere in coastal fishing grounds. Near-shore areas especially are over-crowded. The number of fishing boats categorized as small-scale fisheries increased from 46,181 in 1995 to 51,078 in 2000, with an increase rate of 10.6 %. Small-scale boats may continue to increase in number. Coastal waters are very congested. Trawl and push net fishing are prohibited within 3 km from the beach, but their illegal operations are widespread throughout the country. Conflicts in the near-shore areas occur frequently between these illegal (commercial) and small-scale fishers. It is very hard for the government fisheries agencies to exercise strict control over the illegal boats. They lack personnel and budget. Small-scale fishers often damage aquatic resources in their immediate fishing grounds by using destructive fishing gear, too. The local community does not always keep small-scale fishers on target for the sustainable use of resources.

New Directions in Coastal Fisheries Management

Past Development of the CBFM Approach

The DOF has made enormous effort to make community development and community-based fisheries management (CBFM) successful by completing a series of fishing community development programs, “Small-scale Fisheries Development Scheme (SFDS)”.³ It provided financial subsidies to fishing communities, with such purposes as investment in small landing places and other facilities, supply of fishing and aquaculture equipment, and the installation of artificial reefs. Encouraging the targeted people to form into groups was a very important activity, not only providing revolving funds for micro credit activities, but also changing the groups into a unit of coastal fisheries management.

People's Efforts to Establish Sustainable Management

Fishers, stakeholders and NGOs have so far planned and implemented projects on the establishment of self-awareness and self-regulating management frameworks. They often cooperate with central and local government.⁴ These projects, which apply the concept and approach of CBFM, succeed in enhancing people's awareness of the necessity for the sustainable use of coastal resources. They induce and increase pressure on fishers and all stakeholders to abandon destructive fishing operations. It is reported that many push netters have ceased and now employ resource friendly fishing gear. As in the Phangnga Bay, and in Pattani and Narathiwat Provinces, local communities evolve into autonomous management bodies. They tend to set up local networks of communities in adjacent areas. These

self-dependent trials are now given higher and positive appraisal.

Preparation of New Fisheries Laws

In Thailand, the central government still retain a majority of the authority to control fisheries. The present fisheries laws do not have any specific content on the mechanisms and procedures of localized fisheries management. Local fishers and stakeholders are not allowed to participate. The present legal framework does not contain provisions for devolving management functions to strengthen the roles of local government. To establish a sustainable coastal fisheries management, the DOF proposes new approaches and frameworks. Thai marine territorial waters may be divided into "Commercial Marine Fishery Zones" and "Coastal Marine Fishery Zones". A "designated community" becomes a primary management body in coastal fisheries, which means a specific geographic area set up by the government. This community may be delegated rights and responsibilities as regards the management and implementation of appropriate measures for local resource utilization. The "Local Fishery Committee" functions as a management and coordination body within certain defined areas. By adopting such new concepts, the proposed fisheries laws describe the issues of community-based fisheries management (CBFM).

Towards a New Phase of Fisheries Decentralization

Having passed the stage of experimental pilot projects, Thai coastal fisheries have reached a turning point at which the successful lessons and experiences of CBFM should be extended throughout the country



and formulated into a well-designed and legal system of coastal resource management. Prior to the amendment of the fisheries laws, the DOF has begun to organize new types of project, the major purpose of which is to search for a workable locally based system on management issues. This is based on an achieved consensus between fishers, stakeholders and local governments. The local government administrative system is in the process of decentralization, in which sub-district administrative organization (Ao.Bo.To) enhances its capacity in planning and implementing matters of community development and people's welfare. The Ao.Bo.To and local government are stepping up their involvement in local coastal resource and environmental campaigns, though the amendment of fisheries laws remains uncertain.

STRATEGY OF A COLLABORATIVE PROJECT IN CHUMPORN

Background to the Project Under the FCG scheme

The Fisheries Consultative Group (FCG) scheme is a strategy for finding solutions to common problems that occur widely in the SEAFDEC member countries. SEAFDEC has developed the regionalization of the Code of Conduct for Responsible Fisheries. Under this scheme, a lead department of SEAFDEC implements a particular type of pilot project in collaboration with host countries. In coastal resource management, Thailand (DOF) acts as the lead country among the SEAFDEC member countries and TD is the lead implementing department of SEAFDEC. The DOF and the 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 the 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.

Socio-economic Surroundings at the Project Site

The project site is located in Tambol Pakklong, Pathew District, Chumporn, in the southern part of Thailand. In 2002, the population is 4,152, in 892 households. The number of households engaged in fishing operations is 243. They employ a wide variety of fishing gear, including falling nets, cast nets, gill nets, traps, hand lines and so on. Multiple fishing gear fisheries are undertaken in six fishing villages (Moobaans). Squid, anchovy and shrimp are important economic species, contributing to the growth of the local economy. During the last five years, anchovy fisheries have been widely extended throughout Tambol Pakklong. Shrimp gill net fishery brings a large source of fisheries income to small-scale fishers households. There are many seasonally

migratory fishers to catch shrimp from adjacent areas during the monsoon season.

Increasing Catch Effort and Conflicts

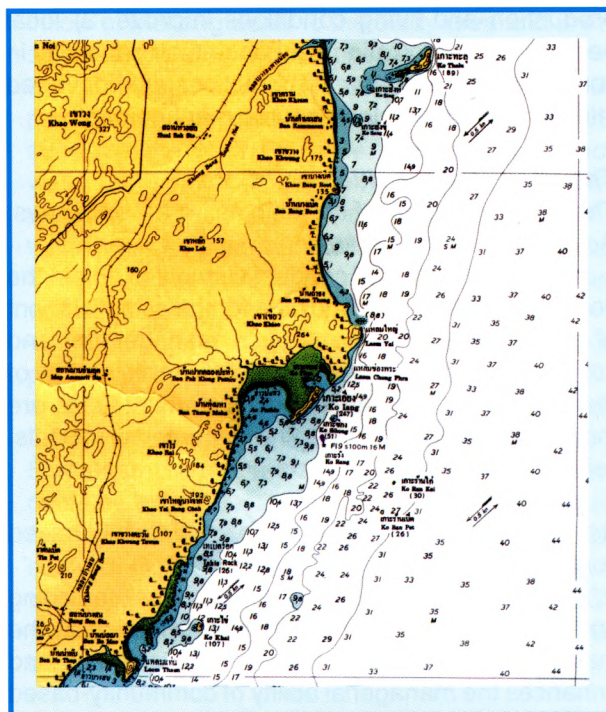
The number of small-scale fishing boats in Pakklong has steadily increased and fishing pressure becomes greater. Both agriculture and fisheries households continuously build small-sized and outboard engine boats for their younger family members. Underemployment prompts a further investment in capture fisheries. Small-scale fishers often employ destructive fishing gear for use in their immediate fishing grounds. Conflicts occur among themselves. Enormous numbers of crab traps covered by fine mesh sized nets are scattered indiscriminantly in front of their Moobaans. These traps target the smaller sizes of crab. Crab trap gill net fishers claim that crab resources are severely damaged by trap fishers. This is a typical example of a management problem. Trawl and push net boats illegally fish within the 3-km line from the beach, although the local people continue to protest. Small-scale boat owners also condemn anchovy purse seine fisheries in the near-shore areas as being irresponsible and reckless. They tend to distrust government fisheries agencies in charge of monitoring and controlling illegal fishing operations. Almost all fishers and resource users admit that coastal fisheries resources are depleted and are further deteriorating year by year.

Lack of Institutional Arrangements at Local Level

The present management framework should enable monitoring and control of fisheries at local level. In Tambol Pakklong, Pathew District and Chumporn Provincial Offices of Fisheries are in charge of registration, licensing, taxation, and monitoring. However, effective management measures cannot be achieved by these government agencies, because of a shortage of personnel and budget allocation. Not all fishers and resource users who employ fishing gear are subject to registration and licensing. The greater majority of small-sized and outboard engine boats are not registered. Local fisheries administration does not have a substantive picture of fishing gear and boats employed and operational.⁵

Who will be responsible for local fisheries management?

In Tambol Pakklong, fishers know how to avoid stiff competition in fishing grounds and how to settle conflicts. Their ways are mostly based upon individualism. Setting aside strengthening management functions of the District and Provincial Offices, there may be three alternative institutions that will take charge of management activities: Moobaan administration, Ao.Bo.To and fishers groups. These are more autonomous in nature. It is ideal that such local autonomous organizations and any



representatives of fishers and stakeholders will take some designated roles and issues of management.

The Purpose and Activities of the Project

Establishing a viable model and workable framework of locally based coastal resource management (LBCRM) in Tambol Pakklong is one initial objective of the collaborative project. Before starting this project, the DOF decided to proclaim the demarcation of coastal fishing grounds preserved for small-scale fisheries (145 square km), achieving consensus between local fishers at the project site. The project is expected to include the management of the demarcated zones by fishers and resource users, where particular types of fishing operations including trawl and push nets are prohibited. The LBCRM is modeled on the concept of CBFM, but more specifying on how to establish networks of primary management units at sub-district level.

Approach and Overall Objectives

This project adopts a comprehensive approach, which will encourage the active participation of fishers and resource users in management, supported by the creation of alternative job opportunities inside and outside the fishing communities. This helps to reduce fishing effort and pressure on coastal resources. 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. At least four results are expected from the implementation of this project: 1) locally based management in Pathew is successful, 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 Project's Activities and Core

The project consists of six main activities, as follows:

Activity I : Base line survey

The project staff conduct 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.

Activity II : To encourage and extend locally based coastal resource management

The project encourages responsible fishing and aquaculture operation and participation in the management of the demarcated coastal zones and enhances the managerial ability of community-based management groups, their networks and Pakklong Ao.Bo.To.

Activity III : Encouragement of local businesses

The project assists the people to increase their income by improved technologies of handling, marketing and processing fisheries products, and by creating job opportunities outside capture fisheries. The project can support the "One Village, One Product" scheme promoted by Ao.Bo.To and other government agencies.

Activity IV : To enhance human resource capability and participation

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

Activity V : To develop extension methodologies and strengthen the extension system

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

Activity VI : To rehabilitate and enhance coastal resource

Through consultation with resource users, the DOF will deploy artificial reefs around the demarcated zones, and release fingerlings.

The core activities are Activities II and III.

Two Phases of the Project Activities

The project has two development phases. The first phase focuses mainly upon 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.

Implementing Agencies

Besides the people and Ao.Bo.To at the project site, there are several government agencies and groups joining this project. The Chumporn Marine Fisheries Development Center (CMFDC), Provincial and District Offices of Fisheries, the Coastal Aquaculture Center and the SEAFDEC Training Department are core agencies, sharing responsibility and developing coordination among them. TD will undertake functions like training, text & manual development, research and advice.

Toward the Establishment of LBCRM

Sequence Plan for LBCRM

The project has a sequence plan for extending the LBCRM framework in which three development stages are prepared. In the first stage, the main activities are the expansion of the comprehensive coastal management campaign and the provision of 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.

Contexts of LBCRM

The project proposal for LBCRM-PD does not describe what function and authority a LBCRM will have in Tambol Pakklong. This is because the completion of proclaiming a new fisheries act takes much time and many sequential steps for adjustments and compromises among the stakeholders. Though having not yet proclaimed a new fisheries act, a new regime of coastal fisheries management contains the following provisions. A designated community becomes a primary unit of management, while a local fisheries committee has functions that include information, consultation and coordination at local level. 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 these organizations.⁶ Considering both elements of decentralization and the new fisheries act, an appropriate LBCRM in Tambol Pakklong should be designed. Given different geographical, resource, environment, and socio-economic surroundings, there will be many variations of LBCRM framework throughout the country.

Networks of CBMUs

One highlight of this project is that fishers, stakeholders and local government agencies will cooperate to organize and manage CBMUs and their networks. The CBMUs are expected to act in representative, consensus, suggestion, implementation, enforcement and adjustment functions. This will be a long process. The focus will be on the roles of representative and consensus at an earlier stage of the project. Moobaan (village) administration has a decisive role to achieve consensus at primary level. Local NGOs may enhance the people's concerns on coastal resource management and stimulate cooperative activities. CBMUs' 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.

Functions of Ao.Bo.To

In Tambol Pakklong, the project attempts to explore a *Tambol-based* coastal resource management system, in which Ao.Bo.To would have several functions, i.e., 1) an administrative unit of fisheries management, 2) to support resource users' activities on coastal resource management, 3) to make legitimate resource user decisions and arrangements. The Ao.Bo.To assists the development of registration of fishing gear, fishing boats, and aquaculture ponds. The project identifies selective functions that the Ao.Bo.To and coastal resource users can take over from the Provincial and District Office of Fisheries. This attempt will be made on a voluntary basis by the time of the completion of the amendment of the fisheries act and regulations. The Ao.Bo.To supports fishers and resource user activities in various ways, to achieve consensus and agreement on the sustainable use of the demarcated coastal zones. The Ao.Bo.To enables legitimate resource user decisions and their agreement, though it may find difficulty in extending its function to the management of local resources and environment because of a lack of personnel and budget.

CONCLUSIONS

The Project's Contribution to a New Regime of Local Coastal Resource Management

Seeking Viable Models

Considering the past experiences on pilot projects on CBFM and CM approaches, both people and government agencies have made great effort to set up a comprehensive strategy for coastal fisheries resource management and community development. Prior to the amendment of the fisheries laws, the DOF has taken up the challenge of building a new institutional framework at pilot project sites through consultation with the people and their organizations. Although the role and nature of LBCRM-PD are seen as a pilot project, the success of this project may, not only bring about a viable model(s), but also hint at a mechanism for sharing responsibility among local governments (provinces and districts), Ao.Bo.To and the people. The project's activities will provide a profound insight into a direction of development of policy for coastal fisheries resource management.

Experiments on the roles of Ao. Bo.To

There may be some doubt and disagreement over whether an Ao.Bo.To can become mature enough to take charge of coastal resource management. This will be investigated through the implementation of the project activities. In actual implementation, fishers and resource user organizations – of whatever type – should be the foundation of the self-regulatory management regime of demarcated coastal zones. The project will experiment and show one applicable model. Moreover, the Ao.Bo.To will arrange several kinds of fisheries registration and licensing, in collaboration with fishers and stakeholders.

Elements Supportive to the Development of LBCRM

Through the implementation of the project activities so far, it is assumed that the following elements will be vital to the establishment of LBCRM. Training and educational matters should be targeted at local government officers, besides enhancing awareness about the sustainable use of coastal resources. Local governments will take more responsibility for management issues, together with the decentralization programs. Local government officers should be well trained to promote and guide people's self-regulatory activities. This project will accumulate the technologies and information on human capacity building necessary to push forward the decentralization of coastal fisheries management.

As a Community and Social Development

The project adopts an integrated approach in which coastal resource management and community development are interlocked. In recent years, such a complicated approach has become available in many Thai coastal communities. The government prepares a number of community development programs with generous financial and technical support to encourage local business. Fishers and resource users access these programs. In Tambol Pakklong, most households have multiple memberships of people's groups and community-based arrangements, whose main purpose is to provide micro credits. These financial arrangements help fisheries households diversify income sources and reduce dependence on coastal resources.

The New Direction of TD under the FCG scheme

Attention to Domestic Concerns

Under the FCG scheme, the TD is expected to prepare new activities on coastal resource management like research, training and advisory functions. Training matters are widely acknowledged as the most important among TD's activities. The TD arranges a series of training courses that should target a particular country(ies), considering cultural, socio-economic and biological backgrounds, besides preparing general guidelines and theoretical frameworks for coastal resource management. This is because coastal resource management issues are likely to be domestic concerns, even if the widely accepted concepts and framework of CBFM and Co-management can be applied.

Enhancement of the Advisory Capability

Advisory functions will be included into the new direction of the TD's activities. Its staff members are accumulating knowledge and experiences gained in their involvement in LBCRM projects. These will soon be converted into advisory descriptions for the DOF and local government agencies concerned. Then, TD will prepare to transfer accumulated lessons and advisory experiences to other member countries through the SEAFDEC information mechanism. In other words, bi-laterally-based training and advising should be solid.

Making Core of Networks for Expertise and Information

In the Southeast Asian region, lessons and experiences on coastal resource management projects, their related issues and topics, are sufficiently accumulated to be transferred among member countries of the SEAFDEC. Resource management programs and projects are diverse, covering many issues and topics. TD will act as a core of network for expertise and information, and assist the member countries to effectively organize comprehensive pilot projects and training courses, in collaboration with other organizations and networks.

End note

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Generally speaking, small-scale fisheries have a meager amount of catch while commercial efforts account for more than 80 % of total catch in volume. However, this statement does not indicate the reality of coastal fisheries. There are a wide variety of economic groups and classes in smallscale fisheries. Some are definitely capital-intensive in nature. Accurately, unequal resource distribution takes place both in small-scale and coastal fisheries. Those fishers who operate in coastal fisheries, regardless of whether or not they are categorized into "small-scale fisheries", are in stiff competition.

²

Report of the 2000 Income of Small-scale Marine Capture Fishery Household Survey. National Statistics Office.

³

The SFDS ended in 2001 and has generated a number of successful pilot projects in both the fields of community development and community-based management.

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Foreign governments and international donor agencies occasionally bring financial and technical support.

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Only the figures of the Census surveys (1995 and 2000) are available.

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There is much disagreement over whether the Ao.Bo.To and/or local communities become owners of local resources. Since the 1990s, in the development of the reforestation program, the concept of social forestry has developed and is widespread through the North and the Northeast. However, agreement has not been achieved yet as regards the common property right of forestry resources. This is a very controversial issue.

