

## **RECENT TRENDS AND CHALLENGES OF COASTAL RESOURCE MANAGEMENT PROJECTS IN THAILAND**

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### **ABSTRACT**

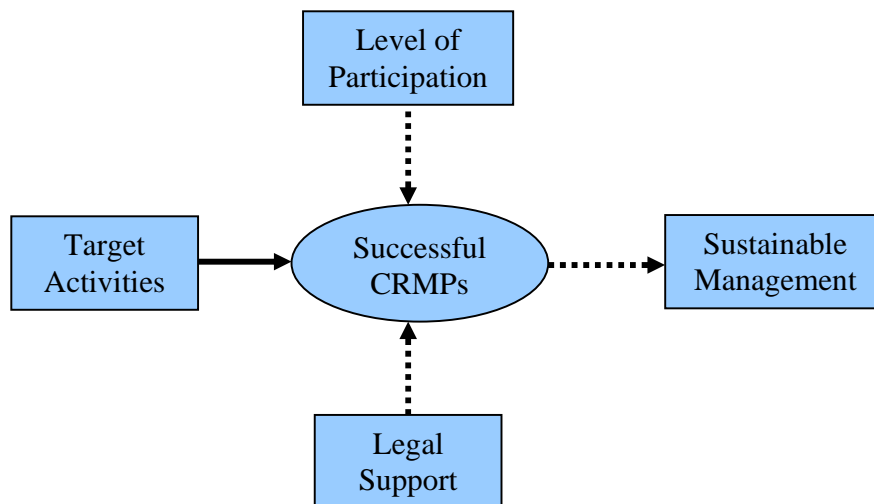
As the stock of marine resources are showing declining trends, the marine fisheries development policy in Thailand has focused on the conservation and sustainable utilization of resources. Many projects for coastal resource management have been planned and implemented during the recent decades. The purpose of this study is to define the groups of coastal resource management projects (CRMPs) in Thailand that has been implemented by Department of Fisheries. The level of participation from fishers and their communities is the first of the criteria used to group CRMPs. There is a wide variation of participation in CRMPs. The second criteria used for defining projects is their target activities. There are various types of activities implemented for CRMP, including the provision of fisheries-related infrastructures for communities, to encourage fishers to form groups, to rehabilitate and enhance coastal resources, to raise capacity building of human resources and promote self-regulatory fishing activities. Some activities have been successful, but some have failed. The critical third criteria is the level of legal support to CRMPs, that may be classified as participation in the decision-making process, self-rule making, protecting their voluntary-based activities, and devolving authority for management at local level. By using these criteria to group CRMPs, the study will illustrate models on CRMP and forecast a future direction of policy for coastal resource management. To achieve the effectiveness of coastal resource management, government should not only implement projects with clear understanding and full participation from fishers and their communities, but also support a legal framework for their activities.

**Keywords:** Coastal resource management project; Trends and challenges; Defining criteria; Participatory approach; Target activities; Legal support for local management

### **INTRODUCTION**

Thai National Fisheries Development Policy has been aligned with the National Economic and Social Development Plan since the latter came into existence in 1961. Particularly, the marine fisheries development policy was emphasized to increase the marine production at an early stage of the plan. There were the developments in fishing technologies to achieve more efficiency in catching fish. The numbers of fishing boats and fishers were increased both in the commercial and small-scale sectors. As a result, the heavy exploitation of marine resources caused a severe decline in the target resources. Conflict among the fishers often occurred in the congested fishing grounds. Therefore, fisheries policy started to place emphasis on a reduction of catch effort and the conservation of marine resources. The Thai government issued various measurements to solve over-investment and over-exploitation, but these measurements were not always effective. There was ineffectiveness in law enforcement and a lack of fisher participation. Meanwhile, during the last two decades many projects on coastal resource management were designed and implemented to alleviate such problems. The objectives and approaches differed from project to project, according to the development level of resource management. Some projects achieved successful cooperation with people in implementing activities. However, some could not reach their target goals, because of little participation by the targeted people.

At present, Thailand has emphasized the participation by the people in every development project. The present constitution, proclaimed in 1997, declares that the people have right and duty to conserve and manage their local resources. The people should participate in the decision making process of community development and welfare. In the case of coastal resource management projects (CRMPs), the target activities will be input to achieve the goals of project. If we include the concept of participation by fishers and stakeholders and also support the measures by a legal framework, the project will have more potential to succeed and it will continue to achieve the sustainability in management. (Figure 1)



**Figure 1. Study framework**

## OBJECTIVES OF THIS STUDY

This paper describes the projects that have been implemented in coastal resource management, especially the projects that have been initiated by the Department of Fisheries (DOF), Ministry of Agriculture and Cooperatives. The approach and methods adopted for the projects during these two decades are studied. The purpose of this study is to define the groups of coastal resource management projects. Lessons learned through the earlier projects can give profound insight into the appropriate direction for future projects. The direction of challenge to coastal resource management projects will be proposed according to the trends.

## MATERIALS AND METHODS

This study relies upon the secondary data analysis of selected projects that were or are already implemented and show some result from the people's participation. The background and reports of projects are used for analysis. Interviews and discussions with the project staff and people at the project site also provide valuable information in the analysis. Data analysis on the level of participation from the fishers and their community is based upon the concepts of Pretty and Hine (1999). [1] They classify the type of participation into 6 types. (Table I) The first three types of participation are Passive Participation, Participation by Consultation and Bought Participation that is like participation without action. People participate by being told, or by answering questions. The fourth type is Functional Participation, in which

the people must form groups before implementing a project. The fifth type is Interactive Participation by joint analysis their problems and solutions. The last is Self-mobilisation; people take the initiatives to change the system by themselves.

**Table I: Typology of Participation**

| Type                                  | Characteristics of Each Type  |
|---------------------------------------|---|
| 1.Passive Participation               | People participate by being told what has been decided or happened  |
| 2.Participation by Consultation       | People participate by being consulted or by answering questions   |
| 3.Bought Participation                | People participate in return for food, cash or other material incentives  |
| 4.Functional Participation            | People participate by forming groups to achieve predetermined objectives.   |
| 5.Interactive Participation           | People participate in joint analysis, development of plans of action and formation or strengthening of local groups |
| 6.Self-Mobilisation and Connectedness | People participate by taking initiatives independently to change systems.   |

From Pretty and Hine (1999)

## RESULTS AND DISCUSSIONS

### Development of coastal resource management project

During the past two decades, the projects in coastal fisheries or coastal resource management had been implemented with various objectives and approaches. The important projects, which have been implemented by the DOF and the collaborative projects with other organisations also have an effect on the management aspects of Thai coastal resources and will be discussed as follows. (Table II)

(1) The Small-scale Fisheries Development Project (SSFDP) was implemented under the 6<sup>th</sup> and 7<sup>th</sup> National Social and Economic Development Plans (1987-1991 and 1992-1996). To improve the living standard of fishers and their communities, the fisheries-related infrastructure like small fishing piers, the place for keeping and repairing fishing gear and a water supply tank was built. The project had activities to promote alternative sources of income for the fishers' families, which included fish cage culture, shell culture and fishery product processing extension. Moreover, artificial reef (AR) installation was provided to be fish shelters and spawning and nursing grounds for the fish stocks. [2] The activities in this project were implemented in communities along the coastlines of both the Gulf of Thailand and Andaman Sea. They were designed to cover the general problems of coastal communities. It seemed like a package of activities that had already been designed for implementation in suitable areas. In practice, some activities were suitable in a certain situation, but some were not. Officers or the project staff obtained community information to make a plan for activities by survey and interviews with the people. The people did not have much opportunity to participate in the decision making process or in the selection activities that would suit their community. They paid less attention to the project, because they did not understand the overall goals and purposes of government-sponsored projects. The project often ceased activities soon after the project staff were transferred and no official took care of them.

(2) The Bay of Bengal Program in PhangNga Bay (BOBP) is a collaborative project between the DOF and the BOBP under the FAO. It was initiated in 1995 with the aim of building sufficient resource management skills within the bay communities to eventually transfer a majority of fisheries management

responsibilities to the villages. [3,4] The activities of this project were designed to address the identified problems like mangrove reforestation, which would solve the degradation in coastal habitats. Fishers gained new sources of income by introducing eco-tourism around the mangrove areas and they operated passenger boats. Besides such tourism business activity, the fishers started to manage the central markets in their communities. They can sell their catches, mainly shrimp, at much higher prices than before. [5]

The projects successfully enhanced the fishers' awareness of the need for the sustainable use of coastal resources. One example of this attempt was to ban trawlers and push nets, which often caused conflict with other types of small-scale fishing operation. They were very destructive, overharvesting marine resources and degrading sea-grass beds. The ban was agreed for implementation by the government and the communities in the bay. The combination of activities that supported this attempt was public education by convincing the push net fishers to change their fishing practices, increasing enforcement and economic incentives. [3]

The people participated in this project, to increase their incomes. The illegal fishing operations like push net operations were very serious, so that they willingly joined in the activity to solve their problem.

(3) The Fishing Right Pilot Project in Bang Sa Phan Bay, Prachuap Kiri Khan Province (FRPP), was developed from the Small-Scale Fisheries Development Project (SSFDP), to establish a fishers group in each village. At the beginning of the FRPP, the fisher groups were engaged in the operation of a revolving fund for members' fishing or aquaculture activities. In 1999, this project was given a demarcated coastal area that comprised about 150,000 *rai*<sup>2</sup> or 240 km<sup>2</sup> (one *rai* = 1600 m<sup>2</sup>) of Bang Sa Phan Bay in the Gulf of Thailand.[6] Nine fishers groups in the project site have functioned as a management body for the demarcated area. The project has regulations that inside the demarcated area the operation of trawls and luring light purse seines using less than 2.5 cm mesh size are prohibited. Monitoring of the prohibited fisheries inside the demarcated area has been conducted by using a patrol boat and fisher volunteers. They have needed to put great effort both in manpower and budget for monitoring. The local fishers and stakeholders have been encouraged to become involved in the management of the project area by holding public hearings and exchanging necessary information for management procedures. Day by day the fishers and local people gained an understanding about why they must protect their coastal resources and area.

(4) The Locally Based Coastal Resource Management Project (LBCRM-PD) in Pathew District, Chumphon Province is a collaborative pilot project on coastal resource management between the DOF and the Training Department of the Southeast Asian Fisheries Development Center (SEAFDEC/TD). The project purpose being to establish a practical framework for sustainable coastal resource management at local level through the encouragement of fishers' participation. This encourages the people to join in a decision making process on coastal fisheries management at community level by providing the opportunity for training and education programs [5]. The project has activities that include a base line survey to obtain the necessary information and data for the establishment of sustainable coastal resource management, extend and encourage locally based coastal resource management with the participation of stakeholders in achieving a consensus on a demarcated zone for fishing and aquaculture, and encourage local businesses by improving techniques and marketing of processed fishery products to the ladies group. From these activities, the local people have learned how to achieve a consensus for their management measures. Also the local organization has increased its role in supporting the peoples' consensus. However, LBCRM-PD is still a new concept for the people, they still need guidance from officers or researchers to discuss their problems and solutions.

**Table II: Characterization of CRMPs**

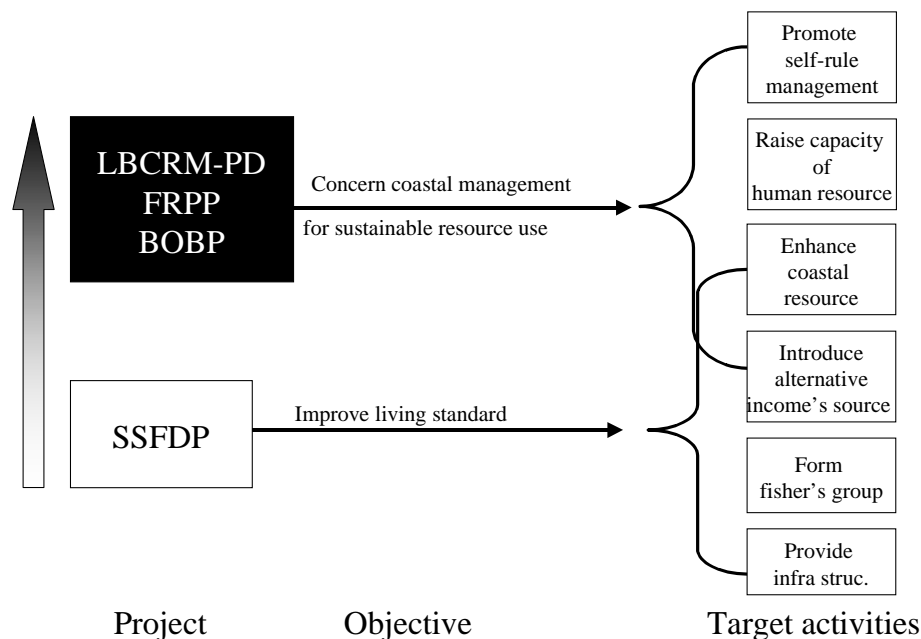
| <b>Project</b> | <b>Main objectives</b>  | <b>Target activities</b>  | <b>Outcome</b>  |
|----------------|---|---|---|
| SSFDP          | to develop fishers' living standards  | (1)infrastructure for fishing communities<br>(2)extending of alternative income<br>(3)fishers group formation<br>(4)training in coastal resource conservation<br>(5)artificial reef installation<br>(6)release fish fingerings            | -people participated by giving information.<br>-at some sites, people are not clear on the project's objectives.<br>-many places could not maintain the activities.                                   |
| BOBP           | to enhance of awareness building for responsible fishing and to improve fishers' income   | (1) educating people for natural utilisation<br>(2)push net ban<br>(3)community central market<br>(4)mangrove reforestation   | -success activities concerned about fishers' income.<br>-conservation activities of coastal resource allowed fishers more benefit.  |
| FRPP           | to develop the demarcated areas to be the tools for coastal management  | (1)made the demarcated area for community protection<br>(2)volunteer for monitoring demarcated area from prohibited fishing gear<br>(3)training in coastal resource conservation  | -put great effort both in manpower and budget for monitoring.<br>-people came to understand why they must protect their coastal resources.  |
| LBCRM-PD       | to establish a practical framework for sustainable coastal resource management at local level through the encouragement of fishers' participation | (1)base line survey<br>(2)getting a consensus on the demarcated zones and cage culture areas<br>(3)improve technology of processing fishery products<br>(4)participatory training course<br>(5)rehabilitate and enhance coastal resources | -people learned how to get the consensus.<br>-local organization increases its role in supporting the people's consensus.<br>-still need guidance from staff to discuss about problems and solutions. |

### Lessons from past experiences

From the details of 4 projects described above, they may be grouped into two categories. The first group is the Small-Scale Fisheries Development Project that has the objectives of improving living standards of the fishers. The second group is concerned more about coastal resource management for sustainable use with projects like BOBP, FRPP and LBCRM. Target activities also re-align from providing infrastructure for fisheries communities to promoting people to make self-rules for management. (Figure 2)

Lessons learned from many cases of implemented projects should put more emphasis on improving the next project.

- Lack of clarity in the objectives of implementation
- Lack of suitable innovation at different project site
- Unbalanced role of management and development in the project
- Provide more material input than that of information



**Figure 2. Patterns of CRMPs' activities**

### **Trends in Coastal Resource Management Projects in Thailand**

We analyse the activities of the CRMPs in respect of the participation level from fishers and their communities. In the SSFDP, local people joined the project with passive participation or participation by consultation. They did not participate in any action in the activities, only being informed about the project by researchers or project staff. Such activities as promoting fishers' group formation, introducing alternative sources of income to the fishers' families and enhancing coastal resources had the participation type as functional participation and bought participation. For instance, the project had an activity to introduce fish cage culture technology for increasing income of the fishers' families. The fishers had to form a group before they got the material or technology support from the project. The people had more opportunity to participate in the activities concerning management measures in the recent projects. They were promoted to interactive participate in making a consensus and self-regulations for management. The fishers and local people had to discuss about facing their problems and trying to adjust their opinion in solving that problem. They could achieve a final solution appropriate to their community. These types of activities needed support from legal frameworks to make their rules and authority to be more efficient.

(Figure 3) Trends of the coastal resource management project could be separated into 3 criteria as target activity, people's participation and legal framework support.

#### Trends of target activity

- Reduction of subsidized activity like infrastructure.
- The education or training activity based upon the needs of the community.
- Promotion of alternative jobs to fishers to increase their income.
- The activities, which encourage fishers to make self-rule management, are increasing for solving the problem of inadequate enforcement.
- Raising people's capacity by devolving authority for management to local organizations such as Sub-District Administrative Organization or Village council.

#### Trends of participation from people

- Use of local knowledge to input to management.
- Participation in data collection and analysis. To avoid people going against the proposed activities, they should believe in the essential data for making decisions by participating in data collection and analysis.
- More interactive participation in the project management process, not only involvement in the implementing stage.

#### The Legal framework trends

The legal framework will support any management measures at local level to make their activity continue effectively. For example

- Support people's authority when they protect their coastal areas from illegal fishing operations
- Devolving authority for management to a local authority such as the Sub-District Administrative Organisation, so they can issue their management measures after getting a consensus from the stakeholders

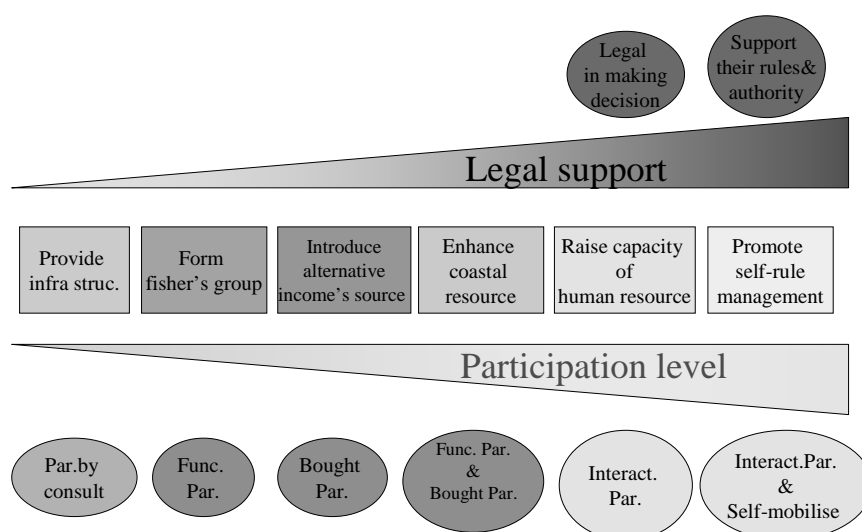


Figure 3. Trend of activities by participation level and legal support

### Decentralization: A new challenge to CRMPs

In Thailand, decentralization has become the most important approach for community development. The central government gradually delegates some functions and authority to the local level by establishing a Sub-District Administrative Organization in every sub-district throughout the country. [7] Since the trends of coastal resource management realize that the effective approach is people's participation. A management unit that has authority and responsibility should be close to the people within a defined area like the territory where the Sub-District Administrative Organization is in charge in community development and improve people's welfare. [8] The devolution of authority from central government to local level should not only be the responsibilities for coastal resource management, but should also support their work by legal frameworks. In the stage of transferring authority, the government should raise the capacity of the local government and local people, and rebuild local institutions that have the function of resource management. The local level will take part of the responsibility, identify the problems facing them, make action plans, set up regulations for sustainable utilization of coastal resources, and monitor the measures that they adopt. People and local institutions will gradually grow up to manage coastal resource effectively. (Figure 4)

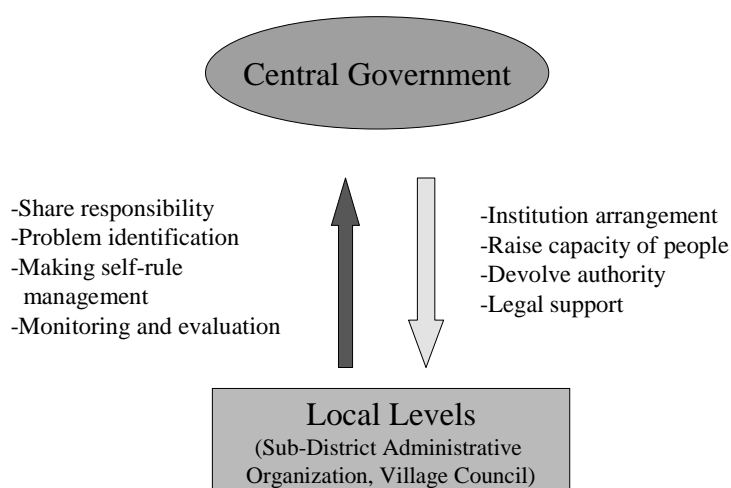


Figure 4. Decentralization's mechanism for coastal resource management

### CONCLUSION

Coastal resource management projects in Thailand are finding the direction of decentralization. Many aspects should be considered prior to the implementation of projects. This study would suggest the following implications:

- To obtain the effectiveness of coastal resource management, government should implement projects after giving a clear understanding by the fishers and their communities.
- To make decisions in management measures that will have effect to the people, stakeholders should participate more interactively.



- Because of the characteristics of coastal resources, only one community or one management unit cannot manage effectively alone. There should be a network of communities or units to support any management measures.
- Legal frameworks should support the management rule that is achieved according to the stakeholder's consensus.
- Government should work step-by-step for decentralization and gradually transfer the authority to the Sub-District Administrative Organization.
- Clear-cut function and authority at the local level to avoid repeating the task by each organization should be identified.

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