

**THE IMPACT OF COASTAL COMMUNITY DEVELOPMENT AND FISHERIES RESOURCES MANAGEMENT PROJECT (CO-FISH PROJECT) ON SOCIAL ECONOMIC IN BENGKALIS, RIAU INDONESIA**

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**ABSTRACT**

The community based for the fisheries resources management project (CO-FISH-Project) in Bengkalis is a coastal development project to improve the living standard of coastal community in this region. Over all project activities including resources and ecology assessments, social economy assessment, establishment of suitable fisheries resources management, community based fisheries resources management plan as well as establishment and consolidation of community based fisheries management group. The objective of this paper is to review the effect of Co-Fish Project on the social economy of coastal community in Bengkalis District, Province of Riau. All the data were collected by field survey and the desk literature studies based on the report of the Co-Fish Project, and then were analyzed quantitatively and qualitatively. The results suggested that the aver all Co-Fish Project activities give the positive effect to the social economic of coastal community and fisheries resources management for the purposed of program of sustainable development for the future.

**Key words:** *Co-Fish projects, community based, resources assessment, sustainable development*

**INTRODUCTION**

The development process is a systematic effort to improve the living standard of human society. The changing of the society as an effect of development can be limited but also it can be more comprehensive effects such as increasing competition in natural resources utilization, that influence the human attitudes and behavior in general. Coastal and marine resources are the important resources for the community to support their life, event majority of them are really depending of these resources.

Previously, the management approach practiced in most of the Southeast Asian countries including Indonesia were base on the centralized system (Pomeroy, 1995). As results, most of the decision-making structures with top-down decision framework that had completed power and control. This such approach also influenced at community levels in coastal resources management.

In the past two decades, the approach community based management has been applied in coastal resources management techniques, particularly in developing countries (Anonymous, 2003a; Pomeroy, 1994). This management model implemented due to lack of centralized approach to balance rapid development trends, increasing human population growth, and increased dependence on coastal resources for the human livelihood and food security needs. Therefore, in the last decade the community-based management in coastal resources has developed comprehensively in the many local Southeast Asian countries. The advantage of this management system is a highly adaptable to local socioeconomic, biological, and physical conditions (Anonymous, 2003b). Moreover, community fisheries may develop a greater sense of responsibility for the sustainable used of the resource, and local used conflicts are generally avoid.

The Co-Fish project in Bengkalis District was designed to help the coastal community to improve their ability in the coastal fisheries resources management and utilization through community base management approach. The first part of this project was to evaluate the fisheries resources status in Bengkalis District. The results indicated that the status of fisheries resources in over fishing and the habitat in destructed condition (Anonymous, 1999). This condition was become the main trigger in the fishermen conflict in this region. For instance, conflict between *rawai* fishermen and bottom gillnet, this conflict to become more serious and more frequent in the last five years.

To prevent further fisheries resources destruction and also to assist the sustainability of the resources and fishing activities as well as to minimized the fishermen conflict in Bengkalis District, the appropriate management strategy and regulation on the fisheries resources need to be applied, planned, and obeyed. Based on the experiences of several countries in the world indicate the effectiveness of the coastal resources management plans are really depend on the level of participation of the community in the resources area in the resources planning and also the implementation of the program. Of this approach had been known to be success in the Philippines (Courtney and White, 2000), and Indonesia, where the governments are actively decentralizing resources control and a strong history of community-based management exists (Anonymous, 2003a).

The several activities have been implemented by community based management program in Bangkalis region through Co-Fish Project. An objective this paper is to elucidate the impact of the Co-Fish project to the social economic of coastal community in Bengkalis Regency. The discussion was focused on the impact of the project into coastal resources management program for the conflict resolution and social economic of the coastal community in Bengkalis regency by using coastal-based community management approach.

## **METHODS**

### **Strategy of Approaches**

The implementation of fisheries resources management plan by community-based management is an integrated and synchronized of the three of main aspects including fisheries resources, need and ability of the coastal community, and the government policy based on the existing infrastructure. The scope activities and the implementation based approach that describe in the Fig.1.

The strategy approach in conflict resolution in Co-Fish program based on the Participatory Problem Solving (PPS). This strategy is similar to the Participatory Rural Appraisal (PRA), where in PPS approach only limited in specific problem during the implementation of the program. The community conflict was used as main source information by direct communication and interview through informal and formal meeting among stakeholder. The secondary data were collected from previews studies, newspaper, and available statistical data from government institutions.

The stakeholder analysis is a main topic of conflict management, dispute resolution as a root on social actor perspective in development sociology. The purpose of this analysis is to elucidate the different of the conflict society, basic attitude and analyzing of the specific the possible solution of the conflict. Moreover, the conflict analysis was also carried out to understand the current conflict situation among the fishing gear user, especially for the bottom gill net and mini longline.

The Government Institution Performance Accountability Report issued by *Menteri Penertiban Aparatur Negara* is used to evaluate the impact of coastal community development project and fisheries resources management (Co-Fish project) on the socio economic of coastal community in Bengkalis regency. All

data were collected from the field by surveyed and data related to the communities were collected using Rapid Rural Appraisal (RRA) Technique and in-dept interviews in each target location. Data were compared between before and after implementation of the project. Results were descriptively presented.

## RESULTS AND DISCUSSION

A number of social problems as a result of continually decreasing fisheries resources have long recorded in Bengkalis. One of the main problems encountered in this area was the conflict between the fishermen using *jaring batu* (drift gill net) and *rawai* (mini long line) that has been recorded since 1985. Several factors which has been listed as major causes of the conflict were including; a) the growing number of the fishermen and its fishing gears were not matched with the available of fisheries resources. Also, there were some different types of fishing gears which have the same fishing target, such as *jaring batu* and *rawai*; b) the different technology and capital for the two types of fishing gears. *Rawai* with very simple technology and low capital, while *jaring batu* need more advance technology requires higher capital. This was assumed the initial cause of the conflict among the group of fishermen; c) the application of regulation and license, were not followed by law enforcement. Some regulations and licenses have been to old and were not applicable to the current situation; d) weak coordination between institutions that issued the regulation or license and its lower level institutions; e) less educated of fishermen; and f) most of the conflicts occurred have never been completely solved (Anonymous, 2001). Technically, the conflict factor as listed previously can be simplified in the following Table 1.

Based on the problem encountered, the Co-Fish project was implemented the conflict resolution through community based fisheries management model to solve the conflict problem in Bengkalis regency. The first approach the program is to establish the local institutions through the informal and formal meeting among the fishermen group and other stakeholder in the Bengkalis regency. In this program the project set-up the *Rawai* Fishermen Association, *Jaring Batu* Fishermen Association, and the District Fisheries Resources Management Advisory (DFRMA). The stakeholder involve as representative in the DFRMA including Polis Department, Regional Navy, Harbor Authority, Law and Economic Division of Bengkalis regency, NGO, Fisheries and Marine Affair Department, University, and Fishing Gear Associations.

**Table 1.** The conflict factors indication between mini long line fishermen and drift gillnet fishermen.

Descriptions	Mini Long Line	Drift	Remarks	√/X
1. Construction	Line fishing	Net gear	≠	X
2. Position in the water	Bottom	Bottom	=	√√
3. Facilities	Simple	Semi-modern	≠	√
4. Gear Characteristic	Passive	Semi-active	=	√
5. Fishing target	<i>Kurau</i>	<i>Kurau</i>	=	√√
6. Fishing Ground	Malacca Street	Malacca Street	=	√√
7. Owner	Small scale fishermen	Big scale fishermen	≠	√

**Explanation:** √ = indirect factor, √√ = direct factor, X = no effect

In order to increase the public awareness for the sustainable fisheries resources management program, and also to avoid or to minimize the fishermen conflict, the project also set-up the information, education and campaign programs. The campaign aids used in this program including comics, poster, sticker and T-Shirt.

Overall program in the conflict resolution suggested that the impact of the program has improved the understanding between the fishermen group and other stakeholder in the Bengkalis Regency. For instance, among the conflict group that already agreed to be ended the conflict. This implemented in the several informal and formal meetings facilitated by Department of Fisheries and Marine Affair Bengkalis Regency. The participant involved in the discussion is all the stakeholders in the district and the provincial levels. The output of the conflict resolution activities including establishment and strengthen of the local fisheries resources management institution, e.g. fishermen association, stakeholder working group. Moreover, other importance output is the draft of conflict resolution agreement that already submits to the local representative group in order proved to become official regulation (*PERDA*). Eventhough, the conflict resolution program not yet completely solve the conflict problem, but Co-Fish program has give the significant contribution to put the social facilities to solved the overall fishermen conflict in the Bengkalis Regency. It is suggested the role of local government and other all stakeholder to continued the process of the fishermen resolution.

Based on the survey and analysis results obtained in 2000-2003 in the several target village suggested that the Co-Fish program give the beneficial effect to the socio economic of coastal community in the Bengkalis regency. Several improvements have been in the socio economic such as increasing number of social economic group (e.g. home industry group) in each village from 11-15 groups to become 18-24 group (is about 26.7-63.6%) after the project implemented. This increased followed by increasing number of people involved social economic group from 250-300 people to become 450-600 people. The benefit of the overall project activities can be seen in Table 2.

Table 2.shows that the activities on the development of coastal community and fisheries resources management were useful in the coastal community income and eradicating poverty. The program need to be sustained, eventhough there is no more any loan for this program. For the sustainability of the program, it is recommended that: 1) the government is expected to facilitate and encourage the coastal community group in developing activity to improve their income and eradicated the poverty; 2) the government is expected to allocated the budget to maintain /repair the facilities and infrastructures in the village where project that already provided; 3) involving of the related stakeholder to have the suitable decision for the future coastal community development; and 4) helping the fishermen in the product marketing.

**Table 2.** The socio economic benefit of overall Co-Fish in coastal community of Bengkalis regency.

No.	Activities/indicator	Before the project	After the project
1.	Construction rainwater reservoir	Drinking water price Rp.1000/ 20 liter	Drinking water price Rp.500/ 20 liter
2.	Providing cool box	90% used the ice to prolong the freshness of fish product; ice price Rp.360/kg	Reduced using the ice to become 75%
3.	Cementing the village road		Reduced transportation cost by 50%, increased the fish price by about 30%
4.	The average income of household	Rp.675, 250.00	Rp.842, 850.00 (increased about 24.8%)
5.	Community perception		7 out 8 people in villages target satisfied on the Co-Fish program

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**Figure 1.** The framework of study approaches

