

## PROSPECT OF CO-MANAGEMENT APPROACH IN MANAGING FISHERIES IN INDONESIA: *Closer Look on Ikan Larangan (“Forbidden fish farming”) System in West Sumatra \**

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### ABSTRACT

*Ikan Larangan is a good example of the revived traditional community-based resource management in Indonesia. Purposive sampling was employed to withdraw 99 household samples in the study area. A research framework for institutional analysis as recommended by ICLARM (Pomeroy, 1993) was applied to this study. The results found that the average score of the 11 key-conditions for successful Co-management is close to 4. This indicates that the prospects for Co-management application of Ikan Larangan system is sound. Therefore, the salient approach of Co-management could be adopted to prescribe acceptable fisheries resource management in Indonesia.*

**Key words:** Co-management, Fisheries, Ikan Larangan, Prospect, West Sumatra.

### BACKGROUND

Ikan Larangan (translated as forbidden fish) system is a kind of fish farming which has been traditionally practiced in West Sumatra, Indonesia for along time. With changing times, this system has been adjusted to modern farm management ways. Meanwhile, the traditional practices remain to exist. As described by Susilowati (2001), the purposes of *Ikan Larangan* could be viewed from environmental, economic, social and political aspects. Originally, the main purpose of

establishing *Ikan Larangan* was for reserving food for the community. Due to the increase of the needs of the population, the purpose of *Ikan Larangan* has been expanded. There are several salient characteristics of *Ikan Larangan* in West Sumatera. The most unique one is that the community provides a very high commitment to carry out their obligation for the resource management. People are also very aware of the need to put surveillance on the *Ikan Larangan* resources through self-enforcement. This

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character of the community is seldom found in other places in Indonesia.

There are three general types of *Ikan Larangan* in West Sumatera, i.e. traditional, semi-traditional, and modern. The classification is mainly based on whether or not there is a *pawang* influence. Most of *Ikan Larangan* that have existed since a long time ago (since the Dutch colonial period) had employed a *pawing* (traditional leader). On the other hand, *Ikan Larangan* that were established lately (in 1990s) do not use a *pawang*, but rather they were managed like a modern farming system. The latter were then called a modern system of *Ikan Larangan*.

There are seven big *Ikan Larangan* systems in West Sumatera Province, spread out in the Padang Pariman, Pasaman, and Agam districts. The prototypes of *Ikan Larangan* in West Sumatera are: traditional, semi-traditional; and modern. The traditional *ikan larangan* is defined as a fish rearing system which uses the influence of a traditional spell on its management, while the modern system is defined as a fish farming arrangement which applies modern techniques in the farming management. Meanwhile, the semi-traditional system lies between the traditional and the modern systems.

The fish species of *Ikan Larangan* found in the study area are almost similar, namely: *ikan gariang* or *ikan lambao* (*Labeobarbus* sp), *ikan baran* (*Hampald* sp), *Rasbora macrolepidola* sp, *Rasbora lariafriata* sp., *ikan mas* or *ikan rayo* (*Caprinus scarpio* sp) and *ikan kulari*. These fish species breed naturally and are usually difficult to be cultured. The fish feed on a kind of grass called *jariamun*. This kind of grass usually grows at the bottom and bank of the river. Further, this kind of grass is a good habitat for animal organism and fish.

In addition, the marketing distribution of fish from *Ikan Larangan* needs three channels: (1) direct selling to consumers; (2) wholesaler to fish vendor; and (3) wholesaler to fish retailer in

market. The quantity of fish supplied from *Ikan Larangan* is less than the quantity of fish demanded by the local people.

## MATERIALS AND METHODS

*Study Area:* The study was carried out in seven *Ikan Larangan* sites in West Sumatra Province, e.g. in Padang Pariaman, Pasaman, and Agam districts. *Ikan Larangan* in Lubuk Landur (Pasaman District) represents the traditional system and *Ikan Larangan* in Kayu Tanam and in Pasir Lawas (Padang Pariaman district) were chosen to represent the semi-traditional and modern systems, respectively. The study areas were selected after pre-survey activities and discussions with local resource persons.

*Data and Sample:* Primary data were taken from household survey, informal discussion with key-persons, and focus group discussion (FGD) with competent persons such as religion leader ("Buya"), community and local government leaders at the study areas. The socio-economic data were collected by using purposive sampling of 99 respondents through face-to-face interviews. Training was given to all enumerators before they undertook the survey and the survey was supervised directly by the researcher. A standardized questionnaire was used to collect the data from respondents. In addition, the biological data of *Ikan Larangan* fish farming were also gathered in this study. To facilitate ample information for analysis, the secondary data were also collected from concerned institutions (Fisheries Office, Central Bureau of Statistics of West Sumatra Province, and the Provincial Government Offices) and other various related publications.

*Method of Analysis:* This article is aimed at evaluating the prospect of Co-Management approach in managing fisheries in Indonesia with special

reference of *Ikan Larangan* system in West Sumatra, Indonesia. A research framework for institutional analysis as recommended by ICLARM (Pomeroy, 1993) was applied in the study with appropriate modification.

## RESULTS AND DISCUSSION

Among the required circum-stances for successful co-management are the presence of key conditions. The more these key conditions exist in a particular situation or system, the greater the chance for successful co-management (Pomeroy et al., 1994). Key conditions such as given by Ostrom (1990, 1992) and Pinkerton (1989) are used to evaluate the success of fisheries co-management for *Ikan Larangan* in West Sumatra. Every key-condition observed for evaluation was

measured by the Likert scale (1 to 5). Based on observation in the field and discussion with several competent key-persons, then judgement was made by the researcher to evaluate the success of co-management application in *Ikan Larangan*, West Sumatra.

The total score of 11 key-conditions for successful co-management of *Ikan Larangan* is 43 as shown in Table 1. The average score is 3.99, which is close to a level of 4 of the Likert scale. This implies that the prospect for successful co-management for *Ikan Larangan* is quite good. This situation indicates that the co-management approach could have a bright prospect in managing privatization of the common property resource such as *Ikan Larangan* system in West Sumatra, which is revived from the traditional community-based resource management.

**Table 1.** Key-conditions for Successful Co-management of *Ikan Larangan*

No.	Key-Conditions	Phenomenon in the Field	Evaluation **
1	Clearly defined boundaries	There are physical boundaries, so that fishermen groups can have accurate knowledge of them; Boundaries are drawn using natural man-made marks	5
2	Membership is clearly defined	Individual fishermen have rights to fish in the bounded fishing area and participate in area management	4
3	Group cohesion	There is a high degree of homogeneity in terms of kinship, ethnicity, religion, local ideology, customs and belief There is common understanding of the problem and alternative Strategies and outcomes	5
4	Existing organization	The fishermen have some prior experience with traditional community-based systems and with organization	4
5	Benefit exceed cost *	Individuals have an expectation that the benefits to be derived from participation and compliance with community-based management exceed the cost of investments in such activities	5
6	Participation by those affected	Most individuals affected by the management arrangements are included in the group that can make and change the arrangements	4
7	Management rule enforced	The management rules are simple, thus easily understood by the community	5
8	Legal rights to organize	The fisherman's group or organization has no legal rights to organize and make arrangements related to its need. However, in practice the fishermen's group or village organization has made their own arrangements. There is no legislation from the government defining and clarifying local responsibility and authority. However, informally the government provide some support for <i>Ikan Larangan</i> , although still minimal	2

No.	Key-Conditions	Phenomenon in the Field	Evaluation **
9	Cooperation and Leadership at Community level	There is an incentive and willingness on the part of fishermen to actively participate with time, effort, and money in fisheries management; There is an individual or core group who takes leadership responsibility for the management process	5
10	Decentralization and Delegation of authority	The government has established formal policy and/or laws for decentralization of administrative functions (Regulation No 22/99, as an amendment to Regulation No. 5/1974. However, delegation of management responsibility and/or authority to local government and local group organization levels has not be given	2
11	Coordination between Government and Community	The blue-print of establishment of coordinating body of ikan larangan is being processed by the Fisheries Office. This body is established to monitor the local management arrangements, resolve conflicts and reinforce local rule enforcement.	2
	Total score		43
	Average score **		3.99
Note: Likert scale: 1, 2, 3, 4, and 5			
	* Definition B/C is very subjective for each person. In most study areas, people interpreted the B/C in terms of social context.		
	** The average score is close to 4. This can be interpreted that the prospect for successful Co-management for Ikan Larangan is good.		
	*** Definition: (1) Strongly disagree; (2) Disagree; (3) Doubtful; (4) Agree; and (5) Strongly agree. (1) Very bad; (2) Bad; (3) Neutral; (4) Good' and (5) Very good.		

## CONCLUSIONS

Regulation No. 22/1999 as an amendment of regulation No. 5/1974 (concerning Local Government in Indonesia) encourages the implementation of decentralization policy in Indonesia. It is expected that there will be a trickle-down effect of delegation of authority to formalize the *Ikan Larangan* system. Fairly good prospects could be expected from the evaluation for successful fisheries co-management of *Ikan Larangan* using the key-conditions outlined by Ostrom (1990, 1992) and Pinkerton (1989). It is hoped that the government as one of the stakeholders for *Ikan Larangan* will be willing to welcome the initiatives from local communities to improve the *Ikan Larangan* system as a community-based resource management. Perhaps, the co-management approach to manage the fisheries resource can be tried out in Indonesia by sharing responsibility and

authority among the related stakeholders (government, academician and/or researcher and community) of *Ikan Larangan* system in West Sumatra. Indeed, this stipulates political will from the government to delegate some of the authority and at the same time to legalize the legal rights of local communities in organizing and making arrangements as needed. Therefore, the salient characteristics of co-management system for *Ikan Larangan* could be adopted and prescribed as an acceptable resource management measure for similar circumstances of the resource in Indonesia. The findings of the study are expected to encourage the government to legalize the local institutional system of *Ikan Larangan* as a formal system.

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