Analysis of Community Participation Level on Fish Farming in Cagenet (*Karamba*) Business Control in Banjar District, South Kalimantan Province

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Abstract

Fish farming in cagenet (*karamba*) business control in the watershed of the RiamKanan River is an effort to make this activity sustainable. One of the instruments believed to be able to help the success of a control program is community participation. This study aims to analyze the level of community participation in controlling fish farming in cagenet (*Karamba*) in Banjar Regency. The type of data used is primary data in the form of interviews with 67 respondents using a questionnaire. The data analysis used a rating analysis technique through the sum of the scores on each variable so that the level of community participation could be determined. The results of this study indicate that the level of community participation in controlling fish farming in cagenet (*Karamba*) with a value of 126.27 is low.

Keywords: rating analysis; level of participation; control and sustainability.

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1. Introduction

The fish farming in cagenet (*Karamba*) in the Riam Kanan River has developed rapidly and has great potential for development. The absence of regulation on this activity is the cause of uncontrolled growth of the cagenet (*karamba*) fishery business. This condition is also a common phenomenon in small-scale aquaculture businesses in Asian countries, causing environmental problems and difficulties for further planning, management and development [9]. The potential that is owned is expected to have a welfare impact on the community, but this can be realized if the community participates in managing aspects of fish farming in good cagenet. Fish farming in watersheds has special characteristics compared to fish farming in other places, where the productivity is determined by the carrying capacity of the relevant aquatic environment. The carrying capacity of the aquatic environment is the ability of the aquatic environment to support the survival of a number of fish naturally in a habitat. Therefore, the farming system that takes into account the carrying capacity of the aquatic environment in determining the scale of the cagenet *(karamba)* business unit to ensure the continuity of the harvest is known as a sustainable farming system. To achieve sustainable fish farming requires a high level of community participation. The main objective in the management of fish farming in cagenet that involves the active role of the community is to empower the community, improve the community's economy, and increase local income, because theoretically, the community is increasingly playing an active role in fish farming management activities in the cagenet, the potential for loss due to mass death and damage in farming facilities can be avoided so that people's income will increase. So the parties should try to encourage community participation to overcome the problem. To strive for community participation, the parties, especially the government, should provide facilities according to their needs, provide a place for community participation, provide directions, and give directions so that the community knows the participation that the community should provide and how to participate. The Banjar Regency Government, through the Fisheries Office, revealed that the number of cagenet (*karamba*) units has decreased from year to year. 2001 - 2020 period from 6,800 units to 2,350 or a decrease of ± 222 units per year. The decrease in the number of cagenet (*karamba*) units cultivated by the population is due to the high mortality of cultivated fish. This reached its peak on 15-20 October 2019 when the fish cultured in cagenet (*Karamba*) along the Riam Kanan River experienced mass deaths due to decreased water quality. Other causes include damaged cages and loss of raised fish due to flooding that occurs every year. This death is very detrimental to fish farmers due to the exceeding carrying capacity of the waters, a natural phenomenon that tends to repeat itself in the future (Banjar Regency Fisheries Service, 2020). Based on these data, control of fish farming in cagenet (*Karamba*) is needed to optimize the potential of fish farming in such cagenet. Community involvement in the control program is one way to achieve the objectives of the control program. Therefore, the parties who have an interest in the sustainability of fish farming in the cagenet (*karamba*) need to know the level of community participation in controlling fish farming in the cagenet (*karamba*). With a background as above, this study aims to analyze the level of community participation in controlling fish farming in cages. According to Astuti [2] participation is the involvement of someone or several people in an activity. Involvement can be in the form of mental, emotional, and physical involvement in using all the abilities they have (taking the initiative) in all activities carried out and supporting the achievement of goals and responsibility for all involvement. Participation is the mental and emotional involvement of a person in a group situation that encourages them to support the achievement of the group's goals and take responsibility

for the group. Participation according to Tilaar [8] is the inclusion of the thoughts and emotions of workers into the situation of the group concerned and takes responsibility for that group. Participation is a natural process in which people including the disadvantaged (income, gender, ethnicity, and education) influence or control decision-making that directly concerns their lives. Community participation according to [5,6,7] is community participation in the process of identifying problems and potentials in society, selecting and making decisions about alternative solutions to dealing with problems, implementing efforts to overcome problems, and community involvement in the process of evaluating changes that occur. Community participation emphasizes the direct "participation" of citizens in decision-making in government institutions and processes. Astuti [2] emphasizes that community participation has shifted the concept of participation towards a concern with various forms of citizen participation in policy making and decision making in various key areas that affect the lives of community members. Community participation is the involvement of community members in the development and implementation (implementation) of development programs or projects carried out in local communities. Community participation has the characteristics of being proactive and even reactive (meaning that the community takes part in reasoning and then taking action), there is an agreement made by all involved, there are actions that fill the agreement, there is a division of authority and responsibility in an equal position [5]. Based on the above opinion, it can be concluded that community participation is a form of citizen participation in policy making and decision making in various key areas that affect the lives of community members. Arnstein [1] states that there are eight levels of participation in the form of level 1 (manipulation), level 2 (theraphy), level 3 (informing), level 4 (consultation), level 5 (placation), level 6 (partnership), level 7 (delegated power) and level 8 (Citizen Control). This is based on the level of community power in providing planning influence. The level of community participation is classified into several types of participation based on the level of strength. Levels 6 (partnership), 7 (delegated power) and 8 (Citizen Control) represent the level of community strength (Degree of Citizen Power). Furthermore, level 3 (informing), 4 (consultation) and 5 (placation) are the level of appreciation / tokenism (Degree of Tokenism). Level 1 (manipulation) and level 2 (therapy) can be concluded as the level of non-participation. The level of participation can be measured from the planning stage, the implementation stage, the program evaluation stage, and the benefit-taking stage [6].

2. Research Methods

2.1 Time and Location of Research

This research was conducted for 1 (one) month in January 2021. The research areas were four villages in *Karang Intan* District, Banjar Regency, namely *Sungai Asam* Village, *Sungai Alang* Village, *Sungai Landas* Village, and *Sungai Arfat* Village.

2.2 Types and Sources of Data

The data used in this study are primary data and secondary data. Primary data were collected using the interview method with a questionnaire. Secondary data were obtained from literature or documents both published and unpublished related to the research theme. Data processing in this study was carried out using Microscoft Excel 2007.

2.3 Research sample

Sampling was carried out by using a purposive sampling procedure, namely selecting samples based on considerations of several characteristics that are suitable in relation to the sample members needed to answer the research objectives [5]. Respondents selected are respondents who are thought to have the ability to control fish farming in cages. To determine the number of samples, the Slovin formula is used. From the results of the calculation, the sample size was 67 respondents.

2.4 Research Variables and Indicators

The research variables consisted of 3, namely:

1. Planning stage with indicators a. Participation in meetings / meetings, b. Activeness in speaking in meetings / meetings, c. Activeness in providing suggestions / ideas / input, d. Discussing suggestions / ideas / input from other participants regarding the Planning and Design of Sustainable Fish Farming.
2. Implementation stage with indicators a. KJA Unit Density Arrangement, b. Arrangement of location of KJA units, c. Arrangement of Feed Type Selection, d. Regulation of the frequency of feeding, e. Regulation of seed size selection, f. Regulation of seed density, g. Activeness of cleaning rivers from garbage / weeds, h. Not using the river as a means of bathing, washing, and sanitary activities.
3. Evaluation stage with indicators a. Every three months, participate in evaluating the management of KJA fishery farming, b. Provide suggestions / input / ideas to solve the problem of KJA fishery farming management, c. If there are problems in the environment, the respondent reports to the head of the neighborhood unit T / Village officials / district officials.

2.5 Method of Analysis

Data analysis uses rating / ranking analysis techniques through the sum of the scores of the variables in order to know the level of community participation based on the level of strength of community participation according to Arnstein [1]. Each answer on the questionnaire is associated with a form of statement which is expressed in words, namely: (1) never, (2) sometimes, and (3) often. The answer score is the answer value given by the respondent, to determine the score of each given answer, according to [4] the first step taken is to determine the number of answers to each question given to the respondent. The measuring scale and score used are as follows:

1 = Often   :   score 3

2 = Sometimes   :   score 2

3 = Never   :   score 1

Rating Scale Classification

To be able to determine the classification of the public participation rating scale, the Sturgess rule is used with

the following steps:

1.   Determine the criterion score / ideal score.

The ideal score in this study is the score used to calculate the scale rating score and the total number of answers. To find out the ideal total score (criterion score) the following formula is used:

$$\boxed{\text{Criterium Score} = \text{Scale Value x Number of Respondents}}$$

The highest score is three and the number of respondents (n) is 67 people, then the total score of the highest criterion score is 3 x 67 = 201. This 201 value is the largest data. While the lowest criterion score is one of the 67 respondents, so the lowest total score is 1 x 67 = 67. The score of 67 is the smallest value.

a.   Determine the range / range (j), namely the largest data (largest score) minus the smallest data (smallest score).

J   = 201 – 67

        = 134

b.   Specifies many interval classes (K)

Class intervals consist of 8 levels adjusted according to the level of community participation according to Arnstein [1].

c.   Determine the length of the class interval (P) with the formula:

$$P = \frac{\text{Range}}{\text{Number of class}}$$

$$= \frac{\text{The biggest data – The smallest data}}{\text{Number of class}}$$

$$= \frac{201 – 67}{8}$$

$$= 16{,}75 \qquad (17)$$

The next step is to create a participation level assessment classification table as follows:

Table 1: Community Participation Level Assessment Scale

No	Rating Classification	Level of Community Participation	Strength Level of Community Participation
1	185 - 201	Citizen Control (Eighth level)	Citizen Power
2	168 - 184	Delegated Power (seventh level)	
3	151 - 167	Partnership (Sixth level)	
4	134 - 150	Placation (Fifth level)	Tokenism
5	117 - 133	Consultation (Fourth level)	
6	100 - 116	Informing (Third level)	(Non-partisipation)
7	84 - 100	Therapy (Second level)	(Non-partisipation)
8	67 - 83	Manipulation (First level)	

3. Results and Discussion

a. Planning Stage

The level of community participation in planning is shown in Table 2.

The table above describes the level of community participation in efforts to control fish farming in cagenet (*karamba*) in Banjar Regency, South Kalimantan Province in terms of participation in planning, showing that of the 4 (four) benchmarks used, their respective values were 108,111, 132 and 124. The value of the two benchmarks is low on the level of participation power of Tokenism with the level of participation at the level of consultation. If the values of the two items are combined then the mean is calculated, the total is 118.75. The average value of these two items is 118.75, which means that the level of community participation in terms of participation in planning the control of fish farming in cagenet (*karamba*) is still low

Table 2: Community Participation in the Planning Stage

No	Indicator	Number of Respondents' Answers (people)			Total Respondents
		Often	Sometimes	Never	
		(N=3)	(N=2)	(N= 1)	
1	Participation in meetings / meetings	6	29	32	67
2	Activeness in speaking in a meeting / meeting	9	26	32	67
3	Activeness in providing suggestions / ideas / input	20	25	22	67
4	Discussing suggestions / ideas / input from other participants regarding the Planning and Design of Environmentally Friendly Fish Farming	15	27	25	67
	Total Frequency	**50**	**107**	**111**	**268.00**
	Average Frequency	**13**	**27**	**28**	**67**
	Percentage Average Frequency	**19%**	**40%**	**41%**	**100%**
	Total Score = (N x Total Frequency)	**150**	**214**	**111**	**475.00**
	Mean = Total Score / Number of Indicators	**37.50**	**53.50**	**27.75**	**118.75**

b.   Execution Stage

Table 3: Community Participation in Stages of Control of Fish Farming Business in Cagenet (*Karamba*) in Banjar Regency

No	Indicator	Number of Respondents' Answers (people)			Total Respondents
		Often	Sometimes	Never	
		(N=3)	(N=2)	(N= 1)	
1	KJA Unit Density Arrangement	14	23	30	67
2	Arrangement of KJA unit layout	12	26	29	67
3	Feed Type Selection Settings	21	36	10	67
4	Setting the frequency of feeding	10	41	16	67
5	Setting Seed size selection	17	39	11	67
6	Seed density regulation	18	38	11	67
7	Activeness to clean the river from trash / weeds	18	20	29	67
8	Do not use the river as a means of MCK	21	15	31	67
	Total Frequency	**131**	**238**	**167**	**536.00**
	Average frequency	**16**	**30**	**21**	**67.00**
	Percent average frequency	**24%**	**44%**	**31%**	**100%**
	Total Score = (N x Total Frequency)	**393**	**476**	**167**	**1036.00**
	Mean = Total Score / Number of Indicators	**49.13**	**59.50**	**20.88**	**129.50**

The level of community participation in terms of the implementation stage is shown in Table 3.

The table above explains the level of community participation in the management of fish farming in cagenet (*karamba*) in Banjar Regency with the level of community participation power tokenism in terms of participation in implementation, showing that of the 8 (eight) benchmarks used, each value is 118 , 117, 145, 128, 140, 141,123, 124. Of the eight benchmarks, there are benchmarks, which value is classified as placation, namely the benchmark for setting the selection of feed types with a value of 145, the benchmark for controlling the density of seeds with a value of 141, and a measure of the seed size selection setting with a value of 140. All of the other benchmarks are classified as low because the values are smaller than 117 to 133 so that they are classified as the level of consultation. The eight benchmarks illustrate the value of the level of community participation in the implementation, when combined from the eight benchmarks, the mean is calculated. Then the number is 129.50. So the value of the level of public participation in terms of participation in the implementation amounted to 129.50, namely consultation.

c.   Evaluation Stage

The level of community participation in terms of participation in the evaluation stage is shown in Table 11.

Table 4: Participation in the Evaluation Stage of Fish Farming Business Control in Cagenet (*Karamba*) in Banjar Regency

No	Indicator	Number of Respondents' Answers (people)			Total Respondents
		Often	**Sometimes**	**Never**	
		(N=3)	**(N=2)**	**(N= 1)**	
1	Every three months, participate in conducting an evaluation of the KJA fishery farming management	24	10	33	67
2	Provide suggestions / input / ideas to solve the problem of KJA fishery farming management	18	24	25	67
3	If there are problems in the environment, the respondent reports to the head of the RT / village apparatus / sub-district apparatus	16	32	19	67
	Total Frequency	**58**	**66**	**77**	**201**
	Average frequency	**19**	**22**	**26**	**67.00**
	Percent average frequency	**29%**	**33%**	**38%**	**100%**
	Total Score = (N x Total Frequency)	**174**	**132**	**77**	**383**
	Mean = Total Score / Number of Indicators	**58.00**	**44.00**	**25.67**	**127.67**

The level of community participation is reviewed as a whole from 3 (three) indicators by adding up the values of the three indicators and calculating their mean. Then the number is 127.67. So the level of community participation in the management of fish farming in cagenet (*Karamba*) in Banjar Regency with a value of 127.67

is classified as the level of participation in Consultation with the level of participation power of Tokenism. The following is depicted in the form of Figure 1.
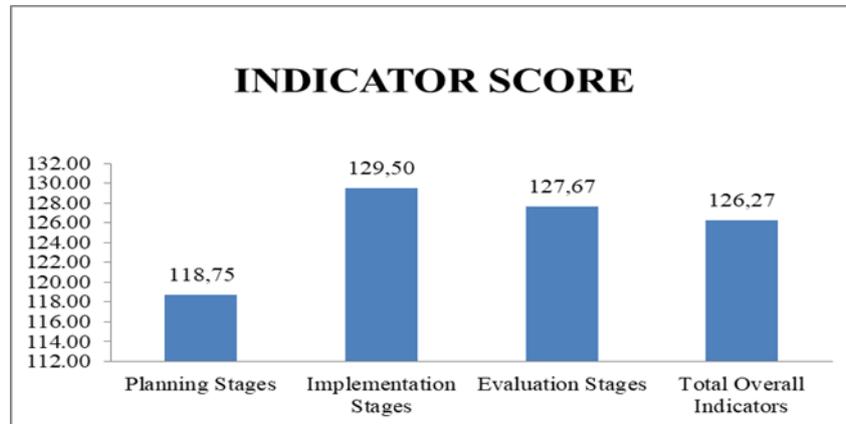

Figure 1: Graph of the Overall Level of Community Participation in terms of 3 indicators

The graph above explains the value / score of the three indicators and the overall score / score of the 3 (three) indicators. The participation indicator in planning with a value of 118.75, participation in implementation with a value of 129.50 and participation in evaluation with a value of 127.67, and the overall value of the three indicators of 126.27 So it can be concluded that the level of community participation in the Management of Fish farming in cagenet *(Karamba)* in Banjar Regency with a value of 126, 27, which is classified as low. Asnar [2] states that the results of research show that in the use of development results, community participation is still low because the development results provided are not used properly, and are not properly maintained and cared for. Barriers to community participation are the lack of public understanding of the importance of their participation in the success of development and the lack of socialization by the government to the community regarding development information.

4. Conclusion

The level of community participation in planning with a value of 118.75, participation in implementation with a value of 129.50 and participation in evaluation with a value of 127.67, and the overall value of the three indicators of 126.27 So it can be concluded that the level of community participation in the management of fishery culture in cages in Banjar district with a value of 126, 27, which is classified as low.

Acknowledgments

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