



Group Dynamics of Bina Karya Fish Farmer Group of Milkfish (*Chanos Chanos*) and Tiger Prawn (*Penaeus Monodon*) in Kersik Village, Marangkayu District, Kutai Kertanegara Regency

Eko Sugiharto^{1*}, Gusti Haqiqiansyah¹, Julia Syahnur Rahmani¹

¹Departement of Fisheries and Aquatic, Universitas Mulawarman, Samarinda, Indonesia.

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Corresponding Author:

Julia Syahnur Rahmani

juliasyrb@gmail.com

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Abstract: The purpose of this study was to learn about and understand the aquaculture business and the dynamics of the POKDAKAN Bina Karya group in Kersik Village, Marangkayu District, Kutai Kartanegara. This research was carried out for 9 months starting from preparation to research results from August 2022 – June 2023 in Kersik Village. The samples were taken using purposive sampling method. The sampled members of the POKDAKAN Bina Karya with a tenure of membership of 10 years and over. Based on this consideration, out of 30 members, 10 members with a tenure of membership of 10 years and over are taken as a sample. Data analysis was performed using descriptive analysis and Likert scale. The results of the research show that the cultivation business has been going on for 31 years. Cultivation activities are carried out using traditional pond systems and using polyculture techniques involving Milkfish (*Channos Channos*) and Tiger Prawn (*Penaeus Monodon*) as the main commodities. The level of group dynamics in POKDAKAN Bina Karya has a cumulative score of 71.9, categorizing it as high (dynamic).

Keywords: Group Dynamics; Level of Group Dynamic; POKDAKAN.

Introduction

Kutai Kartanegara Province has a land area of 27,263.10 km² with approximately 4,097 km² of water bodies. One of the districts in the province is Marangkayu District. Marangkayu District comprises 11 villages, and in 4 of them, the main livelihood is fishing, like Kersik Village, among others, which has an area of 4.21 km². Kersik Village possesses excellent fishing potential; thus, most of the population work as fishermen and fish farmers (Kutai Kartanegara Statistics, 2021).

Kersik Village is an area with significant potential in the fisheries sector, boasting a marine fish production

of 5,086.71 tons and aquaculture production through ponds totaling 7,758.22 tons, along with 38.73 tons from pool aquaculture. There are 42 active participants in fisheries in this village (Central Bureau of Statistics Kutai Kartanegara, 2021). To capitalize on this potential, fish farmers in Kersik Village were motivated to gather fellow farmers with the hope that they can work together in every cultivation activity and strive to achieve mutual prosperity. Essentially, factors that give rise to this motivation include views of hope and belief in their efforts so that from within themselves they are moved to achieve a certain goal (Zulkarnain, 2012). In this case, the cultivators' expectations regarding the capabilities and potential of fisheries in Kersik Village were the driving factor for founding a group named POKDAKAN Bina

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Karya with milkfish (*Chanos chanos*) and tiger prawn (*Penaeus monodon*) as commodities.

Based on the survey results, the members of POKDAKAN Bina Karya try to apply elements of group dynamics in each activity. One of them is deliberation where all group members are involved in every decision-making process in the hope that they are able to understand and take responsibility for every group activity. However, not all members actively participate or fully realize their responsibilities, so that the cooperative relationships established in the group are still not sufficient to achieve group goals and affect the dynamism of a group. This is in line with the study by Tambas et al (2018), stating that a group is considered dynamic when it effectively achieves its goals. Determining whether a group is dynamic or not can be done by analyzing the behavior of group members through aspects or elements of group dynamics. as suggested by Sri Rahayu (2021) also stated that group dynamics, as a method, makes each group member more aware of themselves and others present with them in the group with all their strengths and weaknesses.

Based on the description above, the researchers were interested in conducting research on group dynamics in the POKDAKAN Bina Karya entitled "Dynamics of The Bina Karya Fish Farmer Group of Milkfish (*Chanos Chanos*) And Tiger Prawn (*Penaeus Monodon*) in Kersik Village, Marangkayu District, Kutai Kartanegara Regency".

Method

The research was conducted for 10 months, starting from August 2022 to June 2023 at the POKDAKAN Bina Karya in Kersik Village, Marangkayu District, Kutai Kartanegara Regency.

This research was a qualitative descriptive study. The type of data collected consists of primary data and secondary data. Primary data was obtained from the fish farmer group using the observation method, by directly observing the state or condition of the Bina Karya fish farmer group. Additionally, interviews and questionnaires were used to gather necessary information and data. Secondary data was obtained from parties or institutions, case studies and literature related to the object of research needed to support the study.

The sampling method used was purposive sampling. According to the Sugiyono (2019), it is a sampling technique with certain considerations. In this case, members of the POKDAKAN Bina Karya group who had been involved for more than 10 years were considered. Based on the criterion, out of 30 members, 10 members with tenure of membership above 10 years

were taken as the sample.

This study was descriptive qualitative using a Likert scale. Descriptive research is a type of research that aims to describe phenomena that are happening, both natural and man-made phenomena, which can include activities, characteristics, changes, relationships, similarities, and differences between one phenomenon and another.

The level of group dynamics was analyzed using an attitude scale namely Likert scale. The Likert scale model was a form of questionnaire that can reveal the attitudes of respondents based on responses to questions where each answer was given a score from 3 to 1, with 3 being high, 2 being moderate, and 1 being low in accordance with the positive or negative of the item (Subana dan Sudrajat, 2001). To determine the scoring based on the interval classes, the indicators in the following table were used:

Table 1. Interval of Group Dynamics Indicators

Indicator	Min Score	Max Score
Group goals	3	9
Group structure	3	9
Indicator	Min Score	Max Score
Group development	3	9
Group cohesiveness	3	9
Group pressure	3	9
Group atmosphere	3	9
Group effectiveness	3	9
Hidden agenda	3	9
Total	27	81

Furthermore, to determine the level of group dynamics, cumulative criteria were used as follows:

$$\text{Class Interval} = \frac{\text{Highest Value} - \text{Lowest Value}}{\text{Class}} \quad (1)$$

$$\text{Class Interval} = \frac{81-27}{3} = \frac{54}{3} = 18$$

Table 2. Cumulative dynamic criteria of the Bina Karya fish farmer group in Kersik Village, Marangkayu District

Interval Class	Criteria
63.01 – 81.00	High
45.01 – 63.00	Moderate
27.00 – 45.00	Low

The dynamic level criteria of the Bina Karya fish farmer group in Kersik Village, Marangkayu District based on 9 dynamic indicators partial was as follows:

$$\text{Interval Class} = \frac{9-3}{3} = \frac{6}{3} = 2$$

Table 3. Partial dynamic criteria of the Bina Karya fish farmer group in Kersik Village, Marangkayu District.

Interval Class	Criteria
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7.01 – 9.00	High
5.01 – 7.00	Moderate
3.00 – 5.00	Low

Result and Discussion

Overview of Research Location

Marangkayu District is one of the districts in Kutai Kartanegara Regency, East Kalimantan Province. Geographically, it is located between 117°06'-117°30' East Longitude and 0°07'-0°13' South Latitude with an area of 866.20 km. Marangkayu District consists of 11 villages, namely Perangat Baru Village, Bunga Putih Village, Perangat Selatan Village, Makarti Village, Sebuntal Village, Kersik Village, Santan Ilir Village, Santan Tengah Village, Santan Ulu Village, Sambera Baru Village, and Semangkok Village.

Kersik Village is one of the villages in Marangkayu District. It has an area of 4.21 km². The people of this village are determined to make this village a tourist village by leveraging the existing village potential and the ability of the residents, which includes Kersik Biru Beach tourism, home culinary and souvenirs businesses such as pyrography, decorative lamps and flower pots.

Profile of the POKDAKAN Bina Karya

The Bina Karya Fish Farming Group (POKDAKAN) is the only fish farming group in Kersik Village, established in 1992. The establishment of this group was motivated by the demand of business actors for commonness of commodity cultivation of milkfish (*Chanos chanos*) and tiger prawn (*Penaeus monodon*). These entrepreneurs needed a platform for cooperation among themselves to develop their businesses, receive guidance, and enhance their well-being.

Based on an interview with the group leader, the POKDAKAN Bina Karya is a beginner farmer group because their business scale, organization and limited access to market information. In addition, the main work background of the members was oil palm plantation farmers and cultivation activities are more of a side job. Because of this, the fish farming activities are sometimes hindered, and group activities are occasionally neglected.

Overview of Aquaculture

The aquaculture activities conducted by POKDAKAN Bina Karya in Kersik Village are based on traditional pond systems and polyculture techniques involving Milkfish (*Channos Chanos*) and Tiger Prawn (*Penaeus Monodon*) as the main commodities. This cultivation utilizes moss, plankton and seaweed (*Gracillaria Sp*) as natural food.

Cultivation begins with pond preparation which consists of drying and liming to stabilize the acidity of the pond and kill pests and diseases. Subsequently, the

pond is fertilized to help grow natural food for fish and prawn consumption. Then, the pond is filled with water to a certain height according to the height of the pond foundation. Milkfish and tiger prawn fry are then stocked. Application of fertilizers and additional nutrients is also important to help fry growth. The final stage involves harvesting, which takes about 4 months for Milkfish (*Chanos Chanos*) and approximately 5-6 months for Tiger Prawn (*Penaeus Monodon*) to reach harvestable size.

Overview of Cultivation by the POKDAKAN Bina Karya

The cultivation business conducted by this the POKDAKAN Bina Karya has been going on for 31 years. It all started when the residents realized the potential of fisheries in Kersik Village. The village's proximity to the beach has led some local residents to take the initiative to conduct fishing and fish farming activities for personal consumption and additional sources of income. The series of cultivation activities by the POKDAKAN Bina Karya does straight to the rearing stagem bypassing the stocking stage because the farmers buy the milkfish and tiger prawn fry from Santan Village.

Farming activities are also supported by a number of counselling or education services, training and monitoring from relevant agencies. Counseling is usually delivered by counselling officials and fisheries agencies, dealing with farming techniques, how to maintain water quality, fish and prawn care, fertilizers and what nutrients can help stimulate the growth of fish and prawn.

1 hectare of milkfish and prawn ponds can produce a harvest of 3 quintals and sell at 11k/kg. The harvest is usually sold based on orders from local consumers, collectors and traders from nearby areas, such as Santan Village, Semangkok, Sebuntal and areas a little further away such as Bontang City.

Group Dynamics Indicator Level

The levels of dynamics of the fish farmer group in Kersik Village have a number of questions for each indicator. The group dynamics indicators consist of group goals, group cohesiveness, task function, group development, group structure, group atmosphere, group pressure, group effectiveness, and hidden agenda.

Based on the table 4, the group dynamics indicators show high scores in various aspects. group goals had a score of 9, therefore falling into the high category. Group structure had a score of 8.5, thus falling into the high category. Group task function had a score of 9, thus falling into the high category. Group development had a score of 8.5, thus falling into the high category. Group cohesiveness had a score had a score of 8.3, thus falling into the high category. Group atmosphere had a score of 8.6, thus falling into the high category. Group pressure

had a score of 8, thus falling into the high category. Group effectiveness had a score of 9, thus falling into the high category. Lastly, hidden agenda had a score of 3, thus falling into the low category. Below are the interpretations of the group dynamics indicators.

Table 4. Group Dynamics Indicator

Group Dynamics Indicator	Group Dynamics Score	Category
Group Goals	9	High
Group Structure	8.5	High
Task Function	9	High
Coaching and Development	8.5	High
Group Cohesiveness	8.3	High
Group Atmosphere	8.6	High
Group Pressure	8	High
Group Effectiveness	9	High
Hidden Agenda	3	Low

Group Goals

Group goals can be described as outcomes that each group member is expected to achieve. All 10 (100%) respondents stated that the group's goals had been pursued jointly. All 10 of them further stated that regarding understanding of group goals, they understood perfectly the group's goals. Lastly, they stated that cooperation between group members has been established.

Group Structure

Group structure is a form of bond between individuals in the group that is adjusted to the position and role of each individual. All 10 (100%) respondents stated the roles and tasks of group members have been clearly and fairly divided. This is because the positions have been adjusted to the desires and abilities of each member and each aspect is running well. Furthermore, 7 respondents (70%) stated that all group members have understood the group structure and while the other 3 (30%) respondents answered doubtfully. Regarding the role of group structure in providing information, 8 (80%) respondents said they have played a role in group activities while the other 2 (20%) responded doubtfully.

Group Task Function

Group task functions are all things that must be carried out by group members according to their position in the organizational structure, with the intention of achieving group goals. All 10 (100%) respondents stated that coordination between group administrators and group members has been very well established. The relationship between the management and group members is close, making coordination very smooth and unobstructed. Furthermore, all 10 (100%) of

them said all group members are always asked to participate in group activities and agreed that every member has equal rights and obligations to produce initiatives or provide input for the group. The POKDAKAN Bina Karya gives freedom to anyone who wants to give input or opinions if it benefits fellow members and the group.

Coaching and Development

Group coaching and development is an effort to improve the performance, cooperation, knowledge and skills of the members. 10 (100%) respondents stated that coaching and development activities aimed at improving the knowledge skills and abilities of group members. These activities are usually organized by the group leader as well as counselling workers from related agencies. Furthermore, 5 (50%) respondents stated that every member is involved in group activities and the other 5 (50%) said that some members lack participation. All 10 (100%) respondents admit the existence of rules and obligations as well as group rules that must be obeyed by each member. The rules and regulations are not written and are only agreed upon by all members.

Group Cohesiveness

Group cohesiveness can be described as a sense of togetherness derived from strong cooperation and bonding among Bina Karya members. 8 (80%) respondents stated that cohesiveness is well established while the other 2 (20%) respondents stated that the group cohesiveness is not that good. Furthermore, 7 (70%) respondents recognized the harmony that exists within the group while the other 3 (30%) doubt such harmony. 8 (80%) respondents stated that cohesiveness is smoothly established while 2 (20%) respondents mentioned lack of cohesiveness.

Group Atmosphere

Group atmosphere refers to the atmosphere within the POKDAKAN Bina Karya, whether physical interaction, emotional feelings, tensions and attitudes. 10 (100%) respondents recognized harmonious atmosphere. Furthermore, 10 (100%) respondents said that there had been tensions between group members of the POKDAKAN Bina Karya. 6 respondents (60%) mentioned the existence of good decision-making and freedom of expression and 4 (40%) respondents were doubtful. In general, the atmosphere within the POKDAKAN Bina Karya is conducive and harmonious.

Group Effectiveness

Group effectiveness signifies the success achieved through good cooperation and communication among members. It affects reciprocal relationship with group dynamics. 5 (50%) respondents said that the members

are active and take the initiative in finding information and 5 (50%) respondents were doubtful, meaning that not all members of the POKDAKAN Bina Karya are actively seeking information regarding the importance of cultivation and group welfare.

Furthermore, 8 (80%) respondents said there is good productivity in the group and 2 respondents were doubtful. All management and members of the POKDAKAN Bina Karya have made every effort to continue to improve work productivity for the development and welfare of the group. Regarding satisfaction, 7 (70%) respondents stated they are satisfied with the programs in the group and 3 (30%) respondents were doubtful. Most of the programs were from Field Fisheries Educators routinely visiting every month at the POKDAKAN Bina Karya.

Group Pressure

Group pressure refers to conditions and situations that can create tension among members or administrators. It can serve as a trigger for motivation and enthusiasm to maintain and develop the group. All 10 (100%) respondents confirmed the tensions felt both within the external group and the internal group. Tensions are common when there is a difference of opinion, but these tensions are resolved successfully. 10 (100%) respondents said that the management and members of the POKDAKAN Bina Karya are open in overcoming the problems that are happening. This is an advantage for the group as problems can be resolved without dragging on. 10 (100%) respondents said sanctions were given in the event of violations committed by group members. The sanctions are given in accordance with the level of offense committed by the group members.

Hidden Agenda

The hidden agenda may be defined as one or more goals that group members want to achieve. The agenda is usually known and unknown to fellow group members. All 10 (100%) members stated that they have no hidden or personal goals when joining the organization, other than the common goal of the group. Regarding personal goals, 10 (100%) respondents said that they have not achieved them.

Challenges of the POKDAKAN Bina Karya

One of the main challenges faced by the POKDAKAN Bina Karya is the inability in expanding the marketing area, thus solely relying on regular consumers and consumers in the immediate area around Kersik Village for harvest sales. In addition, there has been no innovation in processing cultivation products to add value and increase income. Another issue is shortage of fisheries education workers, causing lack of

intensity in counselling activities that leads to poor knowledge in cultivation and poor yields. Cultivation products are only marketed in the immediate area around Kersik Village.

Conclusion

Bina Karya's aquaculture efforts, centered on cultivating *Chanos Chanos* (milkfish) and *Penaeus monodon* (tiger prawns), have yielded positive results within a 1-hectare pond. Despite challenges in market expansion and limited guidance, the group's overall dynamics are robust, fostering a cooperative and productive atmosphere. However, addressing the challenges faced in marketing and innovation could further enhance Bina Karya's overall sustainability and success. The group's high scores in various aspects indicate effective communication, collaboration, and task performance. The cumulative dynamic level of the POKDAKAN Bina Karya is 71.9, which is considered high. Partially, indicators of group goals, group structure, task function, development and coaching, group cohesiveness, group atmosphere, group pressure, group effectiveness are in the high category. While hidden agenda is in the low category.

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Author Contributions

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Conflicts of Interest

The authors declare no conflict of interest.

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