



ANALYSIS OF THE HOUSEHOLD LEVEL OF IRIDESCENT SHARK (*PANGASIUS HYPOPHTALMUS*) CULTIVATOR (CASE STUDY OF KOTO MESJID VILLAGE, KECAMATAN XIII KOTO KAMPAR, KAMPAR DISTRICT, RIAU PROVINCE)

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ABSTRACT

Research on the analysis of the level of household welfare of iridescent shark cultivators in the village of Koto Mesjid, Kampar Regency, was conducted from December 2018 to November 2020. This study aims to analyze the income and welfare of iridescent shark cultivators based on the welfare criteria of the Central Statistics Agency (BPS) in 2015. The method used in this research is a case study method where data is collected by direct interviewing 20 iridescent shark cultivators using a questionnaire. The sampling method used was purposive sampling method, processing data through descriptive analysis using income analysis and welfare level analysis. The results showed that the average income per month of iridescent shark cultivators in the village of Koto Mesjid, Kampar Regency reached Rp. 11.840.530 / month, this income is higher than the Regency / City Minimum Wage (UMK) in Kampar Regency which is only Rp. 2.950.088,28 / month. Based on the 10 2015 BPS indicators, all 20 respondents are in a high welfare level, this can be proven by the average score of 2.41 from the 2015 BPS reference.

Introduction

Kampar is one of the districts in Riau Province which has huge freshwater aquaculture potential. Geographically, Kampar District has land potential for aquaculture, especially freshwater fisheries covering an area of $\pm 6,521.30$ ha, consisting of pond cultivation of 6,111.30 ha, lakes / reservoirs (using floating net cages / KJA) 275 ha, and river cultivation (using karamba) covering an area of 135 ha (Yantos 2016). Koto Mesjid Village is located in XIII Koto Kampar District, Kampar Regency, Riau Province. The businesses in this village are generally fishery products, including cultivation and processing. Koto Mesjid village has a nickname as a iridescent shark village with a motto of no house without fish because most of the people cultivate iridescent shark because the village of Koto Mesjid has 776 fish ponds with an area of around 42 ha (Hamidi 2016).

Iridescent shark is a fish that is increasingly in demand in Indonesia and is one of the mainstays in increasing aquaculture productivity. Iridescent shark is one of the main fish cultivated in the village of Koto Mesjid with the production of iridescent shark reaching ± 6 tonnes per day or around 2,190 tonnes per year with a total of 776 ponds with a total area of 52 ha (Department of Fisheries, Kampar Regency 2013). This can be proven by the increase in iridescent shark production in 2015 by 339,069 tonnes and increasing to 437.11 tonnes in 2016, the production of iridescent shark continues to increase, where the national target for iridescent shark production in 2019 is 1,149,400 tonnes (KKP 2016). Iridescent shark is one of the main fish cultivated in Koto Mesjid Village with the production of iridescent shark reaching ± 6 tonnes per day or around 2,190 tonnes per year with a total of around 776 ponds with a total area of 52 ha (Hasnibar et al. 2014).

Based on the potential possessed by Koto Mesjid Village and the high interest of the community towards iridescent shark, it is necessary to pay attention to the level of welfare of iridescent shark cultivators in order to improve the quality of life of the cultivators in Koto Mesjid Village. This encourages the desire of researchers to study the levels that can affect the welfare of iridescent shark cultivator households in Koto Mesjid Village including household income, household expenses, housing conditions, housing facilities, household health, ease of use of health worker facilities, quality family education, ease of enrolling children in education, feeling safe from crime, easy access to information and communication technology.

Based on these problems, researchers are interested in analyzing business strategies in maintaining and developing businesses to improve the welfare of iridescent shark farmers. This study was conducted to analyze the level of household welfare of cultivators in Koto Mesjid Village, Kampar Regency.

Methods

The research method used is descriptive method with a case study approach. Data and information were collected from respondents through questionnaires. The method of determining respondents using the census method, where respondents are drawn from the entire population. Data collection was examined one by one with complete recording and calculation of the entire population. The number of respondents was 20 respondents. The interviewed respondents were iridescent shark farmers in the village of Koto Mesjid. Measuring data analysis method To measure the level of welfare the measurement is based on the criteria of the Central Statistics Agency (BPS) 2015, namely ten welfare indicators. In general, the level of welfare can be formulated as follows:

$$TK = I_1 + I_2 + I_3 + I_4 + I_5 + I_6 + I_7 + I_8 + I_9 + I_{10}$$

Information:

Kindergarten: Level of Welfare

- I_1 : Household income (Rp.)
- I_2 : Household consumption / expenditure (Rp.)
- I_3 : Living conditions (m²)
- I_4 : Living facilities
- I_5 : Health of household members (%)
- I_6 : Ease of utilization of health worker facilities (Km)
- I_7 : Quality of education of household members (%)
- I_8 : Ease of enrolling children into education (Km)
- I_9 : A sense of security from evil interference
- I_{10} : Ease of access to information and communication technology

The determination of the level of welfare is grouped into three parts, that is :

- a. Score > 2.31 (High level of welfare)
- b. Score between 1.65 - 2.3 (Medium welfare level)
- c. Score between 0.09 - 1.64 (Low welfare level)

Table 1. Welfare Level Indicators According to BPS 2015 Modified Accompanied by their Variables

No.	Welfare Level Indicators	Criteria	Weight	Value	Score
1.	Household income (Rp)	- Not poor	25%	3	0.75
	1. Income is greater than the UMR	- Poor		2	0.50
	2. Income is the same as the UMR	- So poor		1	0.25
	3. Income is less than the UMR				
2.	Household consumption / expenditure (Rp)	- Not poor	25%	3	0.75
	1. Expenses greater than KHL	- Poor		2	0.50
	2. Expenditures are the same as KHL	- So poor		1	0.25
	3. Expenditures less than KHL				
3.	Housing Conditions	- Good (score 14-18)	10%	3	0.3
	1. Roof: tile (5) / asbestos (4) / seng (3) / shingle (2) / leaves (1).	- Pretty good (score 9 - 13)		2	0.2
		- Less (score 5 - 8)		1	0.1
	2. Wall type: Wall (4) / Wood (3) / bamboo (2) / other (1)				
	3. House Status: Owned (4) / Rent (3) / Numpang (2) / Others (1)				
	4. Type of house floor: L not land (2) / ground (1)				
	5. House floor area:> 15 m ² (3) / 8 - 15 m ² (2) / <8m ² (1)				
4.	Health of household members	- Good(<25% often get sick)	10%	3	0.3
	The number of family members who often experience illness in one month	- Enough (25-50% often get sick)		2	0.2
		- Less (> 50% frequent pain)		1	0.1
5.	Residence facilities	- Good (score 13-16)	4%	3	0.12
	1. Lighting source: electricity (4) / petromax (3) / torch (2) / others (1)	- Enough (score 8 - 12)		2	0.08
		- Less (score 4 - 7)		1	0.04
	2. Source of water: PAM (6) / wells (5) / Wells (4) / springs (3) / rainwater (2) / rivers (1)				
	3. MCK: private bathroom (3) / shared bathroom (2) / public bathroom (1)				
	4. Fuel: gas (3) / kerosene (2) / firewood (1)				
6.	Ease of utilization of health worker facilities	- Easy (score 16-19)	5%	3	0.15
	1. Distance to the nearest hospital: 0 Km (4) / 0.01-3 Km (3) / > 3Km (2) / don't know (1)	- Enough (score 11 - 15)		2	0.1
		- Difficult (score 6 - 10)		1	0.05
	2. Distance to polyclinic: 0Km (4) / 0.01-2 Km (3) / > 2Km (2) / Don't know (1)				
	3. Medical expenses: affordable (3) / quite affordable (2) / difficult to reach (1).				
	4. Prices of medicines: affordable (3) / quite affordable (2) / difficult to reach (1).				
	5. Health service facilities: hospital (4) / clinic (3) / puskesmas (2) / traditional medicine (1)				
7.	Ease of entering children into education	- Easy (score 7 - 9)	5%	3	0.15
	1. School fees: affordable (3) / quite	- Quite easy (score 5 - 6)		2	0.1

No.	Welfare Level Indicators	Criteria	Weight	Value	Score
	affordable (2) / not affordable (1)	- Difficult (score 3 - 4)		1	0.05
	2. Distance to school location: 0 km (3) / 0.01 - 3 km (2) / > 3 km (1)				
	3. Admission procedure: easy (3) / fairly easy (2) / difficult (1)				
8.	Ease of accessing technology and information	- Easy (score 6 - 7)	2%	3	0.06
	1. Ease of access: easy (3) / fairly easy (2) / difficult (1)	- Quite easy (score 4 - 5)		2	0.04
		- Difficult (score 2 - 3)		1	0.02
	2. Information and communication technology access equipment: internet access (4) / computer (3) / cellular telephone (2) / public telephone (1)				
9.	Quality of education for household members	- Good (score 6)	10%	3	0.3
	1. Number of family members who can read and write: All family members (3) / some family members (2) / none (1)	- Enough (score 4 - 5)		2	0.2
		- Less (score 2 - 3)		1	0.1
	2. Number of family members who can complete basic education: all family members (3) / some family members (2) / none (1)				
10.	Safety from Crime Interference	- Safe (never experienced crime)	3%	3	0.09
		- Safe enough (have experienced crimes)		2	0.06
		- Less safe (experienced a crime more than once)		1	0.03

RESULTS AND DISCUSSION

Koto Mesjid Village is one of the villages in the XIII Koto Kampar District which is in the Kampar Regency area and consists of four hamlets. The four hamlets include: Dusun Satu Pincuran Bilah, Dusun Dua Pincuran Gading, Dusun Tiga Kampung Baru, and Dusun Empat Kampung Baru. The area of the village of Koto Mesjid is 1,099.5 ha with the following boundaries:

1. In the north, it is bordered by Silam Village in Kuok District.
2. In the south, it is bordered by the village area of Ulayat Kenagarian, Pulau Gadang in District XIII Koto Kampar.
3. In the west, it is bordered by the village area of Pulau Gadang in District XIII Koto Kampar.
4. In the east, it is bordered by the Merangin village area in the Kuok district.

The land contour in the village of Koto Mesjid area is flat and hilly with an average temperature of 29 ° C, and the number of rainy months is 6 months. This condition makes the soil conditions in the Koto Mesjid village area generally quite fertile and loose so it is suitable for use as wet farming and fisheries cultivation (Office of the Head of Koto Mesjid village 2020).

Residents of Koto Mesjid Village

Koto Mesjid Village has 728 households with an average population of 3.21 per head of family. Koto Mesjid village has a population of 2,342 people. Koto Mesjid Village has a population density of 2.13, meaning that Koto Mesjid Village is still not crowded or the population is less than its area (Head Office of Koto Mesjid Village 2020).

Koto Mesjid Village has more men than women. This can be seen from the gender ratio where the sex ratio in Koto Mesjid village is 1.048. Where the number of men in Koto Mesjid village was 1,199 and the number of women in Koto Mesjid village was 1,143 (Office of the Head of Koto Mesjid Village 2020).

Overview of Respondents

Based on the results of interviews in the field, iridescent shark cultivators in the village of Koto Mesjid who became respondents were mostly in the productive age, namely as much as 90% which was divided into several age groups, namely 21-30 years as much as 20%, 31-40 years as much as 45%, age 41-50 years as much as 25% and unproductive age that is above 51 years as much as 10%. Education is one of the important factors that affect a person's level of welfare. Based on the research results, it is known that in general the iridescent shark cultivators in Koto Mesjid village who are the majority of respondents are senior high school graduates, this can be seen from the percentage of high school graduates who reach 60% or as many as 12 people from a total of 20 respondents and school graduates. Junior High School is 10%, Diploma 3 (D3) graduates are 10%, and S1 graduates are 10. Business experience is the length of time that cultivators have run in running their business, namely iridescent shark farming. Based on the results of interviews with respondents with 3-5 years of business experience, the percentage is 40%, then 6-10 years is 35%, 11-15 years is 5% and respondents with work experience > 15 years are 20%. The number of family dependents is the number of needs of family members that must be met by the head of the family. The number of dependents will affect the expenses of each respondent. Based on the interview, it can be concluded that the farmers who became respondents had 3 family dependents with a percentage of 15% having 0 dependents or unmarried, 8 people with a percentage of 40% having 1-3 family dependents, and 9 people with a percentage of 45% have family dependents of 4-6 people.

WELFARE ANALYSIS OF IRIDESCENT SHARK CULTIVATORS

Based on the criteria of 10 welfare indicators from the Central Statistics Agency in the 2015 national social economic survey, indicators that affect the welfare of fish farmers can be analyzed, namely household income, household consumption expenditure, housing conditions, housing facilities, health of family members, ease of utilization of health worker facilities, The quality of education for household members, the ease of enrolling children in education, the sense of security from crime interference, and the ease of accessing information and communication technology.

1) Indicator of Household Income of Iridescent Shark Cultivator

The income earned by iridescent shark cultivators is the result of the production of iridescent shark produced by the harvest times the price of the iridescent shark.

Table 2. Income of Iridescent Shark Cultivator in Koto Mesjid Village

No	Component	Average
1	Total Income	18.000.530
2	Total Expenses	6.160.000
Total		11.840.530

Source: Processed Primary Data (2020)

Based on Table 2, it can be seen that the average income of iridescent shark cultivator families in Koto Mesjid village is Rp. 11,840,530 / month, this means that the farmers' income is still above the Kampar Regency Minimum Wage of Rp. 2,950,088.28 / month.

2) Indicators of Household Expenditures and Production Costs of Iridescent Shark Cultivators

Expenditures for iridescent shark cultivators are divided into two, namely household expenses and expenses for production costs. There are two types of household expenditure, the first is expenditure for food needs and the second is expenditure for non-food needs, necessities.

Table 3. Indicators of Expenditure of Iridescent shark Cultivator Households

No	Criteria	Members Of Family	Percentage (%)
1.	Not Feasible (< Rp. 2.972.715)	16	80
2.	Feasible (>Rp. 2.972.715)	4	20

Jumlah	20	100
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Source: Processed Primary Data (2020)

Based on Table 3, it shows that 80% of the cultivators are not included in the KHL criteria or live properly because the average total expenditure is still between Rp. 625,000-2,600,000 per capita per month and only 4 families of cultivators are included in the KHL criteria with the per capita expenditure of 3 families of Rp. 3,000,000 and Rp. 3,700,000 per capita per month.

3) Indicators of Living Conditions of Iridescent shark Cultivators

The condition of the iridescent shark cultivator's residence in the village of Koto Mesjid is included in the good criteria because 20 families (100%) have used zinc as the roof, besides that the walls used by the iridescent shark cultivator's house are made of walls, while the ownership status is 95% or as much 19 families already own their own, and also for the floor, all families have non-land floors, and as many as 8 families (50%) have a house area of more than 15 meters.

The criteria for the living conditions of iridescent shark cultivators who are respondents are included in good criteria, this is evidenced by the percentage of good criteria that reaches 100%. According to BPS (2010) in the results of the population census in 2010 the population of Riau province had the status of their own houses as much as 64.42%, while for the status of contract houses as much as 13.94%, for the status of rental houses as much as 5.17%, and for the status of houses. others as much as 16.46%.

4) Indicators of Residential Facilities for Iridescent shark Cultivators

In the Regulation of the Minister of Health of the Republic of Indonesia No. 39 of 2016, the government needs to ensure the fulfillment of the components of a healthy home for the family, namely access / availability of clean water and access / use of healthy latrines. From the results of interviews with farmers who were respondents in the village of Koto Mesjid 100% used electricity as a source of lighting, 100% of the water sources they used came from drilled wells. Iridescent shark cultivators in the village of Koto Mesjid have adequate housing facilities, this can be seen from the percentage of 100% of cultivators who get good criteria. Based on the results of the interview, it can be seen that the iridescent shark cultivators have adequate housing facilities, this can be seen from the percentage of 100% of cultivators who get good criteria.

5) Indicators of Household Health of Iridescent shark Fish Cultivators

Based on the results of the interview, almost all of the iridescent shark cultivators' household health was in the good criteria or the total percentage was 80%. This fairly good health condition cannot be separated from the government's efforts to increase the availability and affordability of health facilities. In addition, the government also has a public health insurance implementation program through BPJS Kesehatan. For Kampar Regency itself, 48.02% have been registered with the Health BPJS (BPS for Kampar Regency 2019).

6) Indicators of Ease of Use of Health Personnel Facilities

Based on the results of interviews, 100% of iridescent shark cultivators (20 families) use the health center health facilities, because the distance to the puskesmas is closer than the distance to the hospital, and the cost of medical treatment at the puskesmas is free. Koto Mesjid village has 1 clinic but the people in Koto Mesjid village have not maximized the use of the clinic because people have a tendency to prefer to go to the puskesmas, while the closest hospital is in the center of Kampar district, namely in Bangkinang. As many as 100% of the people who became respondents stated that the services obtained were good and meanwhile the medical costs and the price of medicines were still considered affordable. Based on the assessment criteria for the ease of utilization of health worker facilities. All farmers 100% (20 families) stated that it was quite easy to get health services

7) Quality of Education for Iridescent shark Fish Cultivator Families

Based on the results of the interview, we know that the quality of family education of 18 (90%) families are all capable of reading and writing, there are still 2 (10%) cultivator families whose family members are unable to read and write, and 17 (85%) families. whose family members have completed primary education and 3 (15%) families whose family members still have not completed basic education. So it can be concluded that the education quality of the Cultivators who were respondents in the Koto Mesjid village was categorized as good.

8) Ease of Enrolling Children in Education

Based on the results of the interview, it shows that 95% of farmers state that school fees are currently affordable, because almost all children of farmers go to public schools. The majority of the schools are not far from the cultivators' houses, namely 0.01-3 km, but there are also those who go to school in places that are quite far away or more than 3 km because they go to school in Kuok village.

Based on the criteria for the ease of enrolling children into education, it shows that iridescent shark cultivator households in Koto Mesjid village stated that 85% of them are easy to enroll their children into education and 15% stated that it is quite easy to enroll their children into education.

9) Safety Indicator from Crime Interference

Based on the results of the interview, it was shown that 80% of the cultivator's families stated that the environment where the cultivators lived was safe from crime. Several factors that may influence the increase in crime victims, namely the weak protection of security forces for the community, social supervision of the performance of security forces that has received less attention, and an increasing trend of crime.

10) Indicators of Ease of Access to Information and Communication Technology

Based on the results of interviews, the majority of farmers 80% stated that it was easy to access Information and Communication Technology because most of the cultivators were already familiar with the Internet, then as many as 20% said it was quite easy because there were some cultivators who did not have smartphones and only used cell phones to communicate. Based on the criteria for easy access to information and communication technology, the criteria for easy access to information and communication technology are still considered easy to access by the majority of iridescent shark cultivators in Koto Mesjid village, this is evidenced by a percentage value of 70%, namely 14 people out of 20 respondents stated that access to information and communication technology easy to access. Then as many as 30% of families said it was easy enough to access information and communication technology.

RECAPITULATION OF WELFARE INDICATORS

Based on the results of the recapitulation of the BPS welfare indicators in the 2015 national social economic survey, 70% of iridescent shark cultivator households in the village of Koto Mesjid belong to the high welfare group and 30% belong to the medium welfare group. These results were obtained based on the number of calculations based on the BPS indicators (Appendix 8). The results obtained in this research are not in line with Iqbal's research (2019) with the title Analysis of The Welfare Level of Koi Fish in Cisaat Subdistrict Sukabumi, West Java District, where 100% of koi fish cultivator households in Cisaat Sukabumi sub-district are included in the high welfare category with the same number of respondents, namely 20 respondents. Siregar (2017) with the title Analysis of the welfare level of gill net fishing gear fishermen in Sungai Buntu village, Pedes district, Karawang regency, where 11 respondents are in the high class, 12 respondents are in the medium class, and 7 respondents are in the low level group. The level of welfare can be seen and measured by 10 predetermined indicators and is considered to have included the picture of welfare in general. The results of the recapitulation of the level of welfare of iridescent shark cultivators in Koto Mesjid village are presented in Table 4.

Table 4. Recapitulation of the Average Score of Welfare Indicators of Iridescent shark Fish Cultivators

No.	Indicator	Score Average
1.	Household Income	0,75
2.	Household Consumption / Expenditure	0,35
3.	The State Of Residence	0,30
4.	Health Of Household Members	0,28
5.	Residence Facilities	0,12
6.	Ease Of Utilization Of Health Worker Facilities	0,10
7.	Ease Of Entering Children Into Education	0,14
8.	Ease Of Access To Information And Communication Technology	0,05
9.	Quality Of Family Education	0,27
10.	Safety From Crime Interference	0,08
Total score		2,41

Source: Processed Primary Data (2020)

The iridescent shark cultivators in Koto Mesjid village have an average score of 2.41. This score has a range that is still included in the high welfare level category. The most influencing indicators are income and expenditure, where income plays an important role in meeting the daily needs of cultivators and expenditures that play an important role also to determine the extent to which cultivators have fulfilled their needs. The development of the fisheries sector can be seen from the extent of the welfare of fisheries actors, one of which is fish cultivators. True welfare is the quality of human life, so that each individual must strive to get the quality that is appropriate for his life. However, government support in determining policies to improve community welfare in health, health care, social services, community empowerment, family planning, education needs to be carried forward to achieve real welfare. The picture of welfare with the BPS indicator in the 2015 national social economic survey is considered to have covered a part of the picture of welfare in general.

CONCLUSION

Based on the results of research conducted on iridescent shark cultivator households in Koto Mesjid village, it can be concluded that iridescent shark cultivators in Koto Mesjid village are Rp. 11,840,530 / month, this means that the farmers' income is still above the Kampar Regency Minimum Wage of Rp. 2,950,088.28 / month. The household welfare of iridescent shark cultivators is based on a questionnaire guided by 10 indicators of household welfare levels according to the 2015 Central Bureau of Statistics. The level of welfare is classified as high welfare category.

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