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ANALYSIS OF THE WELFARE LEVEL OF KOI FISH IN CISAAT SUBDISTRICT SUKABUMI DISTRICT WEST JAWA

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ABSTRACT

Research on the analysis of the level of welfare of households of koi fish farmers in Cisaat Subdistrict, Sukabumi District, was held in May 2018 until March 2019. This study aims to analyze income and welfare of koi fish farmers in Cisaat Subdistrict, Sukabumi District based on welfare criteria of the Central Bureau of Statistics (BPS) 2015. The method used in this research is the case study methods. Information and data were collected from respondents through questionnaires. The sampling method carried out using purposive sampling processing method through descriptive analysis using income analysis and welfare level analysis. The result showed that the average monthly income per capita of koi fish farmers in Cisaat Subdistrict, Sukabumi District reached IDR 2,840,104 is greater than the District Minimum Wage of Sukabumi District which was IDR.2,376,558 /month. Based on BPS indicators, all respondents were in a high level of welfare, which can be proven by the average score of scores reaching 2.40 from BPS reference.

Keywords: *Income, Welfare, Koi Cultivators*

INTRODUCTION

Sukabumi District is the center of koi fish production in West Java with an increasing number of koi fish production each year. In 2015 koi fish production reached 21.88 million while in 2016 the production of koi fish in Sukabumi District reached 23.14 million, in 2017 koi fish production continued to increase by reaching 24.39 million and in 2018 it reached 25 , 11 million head (DKP 2018). Sukabumi District also has nature suitable for fish farming, because it is located near the foot of Mount Gede, so it can have a positive impact on the utilization of clean water. This has implications for the increase in the freshwater fisheries sector in the area. With these natural conditions, Sukabumi District is suitable for koi fish cultivation. Because in the Koi fish farming business, good quality water resources are needed so that it can provide good results.

Koi fish is one type of freshwater ornamental fish. Koi fish still have kinship with consumable goldfish, the difference being is color patterns and patterns. When compared with other types of fish farming such as catfish, goldfish, and tilapia, the benefits of Koi fish farming are far greater, because these fish enthusiasts are on average from the upper middle class. This causes the

Koi fish cultivation business to provide a guarantee of large profits for farmers. Koi fish.

One of the central koi fish farms located in Cisaat Subdistrict. Cisaat Subdistrict is a Small and Medium-sized Home Industry and Trade Area. Cisaat Subdistrict has fisheries development potential, starting from ornamental fish such as Koi fish. Koi fish production benefits the surrounding community, for example opening new jobs.

In Sukabumi District the profession as fish cultivators is the majority, where in 2016 the number of fish farmers in Sukabumi District reached 18,271 people (BPS 2018). Families working in the fisheries sector are a component in the community that needs attention to improve their welfare. Fisheries have a higher dependence on nature, so they face relatively large risks. Many obstacles they have to face include capital and environmental conditions that support the survival of these fish. Fish cultivator productivity is predicted to decline in line with the decrease in water quality due to water pollution. The low productivity of farmers causes low profits to be obtained so that they are no longer able to meet the needs of household farmers. Cultivator productivity can also decrease due to failure to overcome technical problems of fish cultivation such as disease, feed, and seeds (Effendi 2004).

Poverty alleviation in the fisheries sector is one of the focuses in implementing fisheries development. Based on data from the Central Bureau of Statistics, the number of poor people in Sukabumi District in 2017 reached 197.12 thousand people (BPS 2018). The fundamental problems of poverty are the quality of individuals who are still low, lack of access to capital, markets and technology, social protection does not have assets as active capital and weak institutional cultivation of fish. Poverty is the main problem that the response must be a top priority in implementing social welfare.

Well-being is essentially the condition of fulfilling the material, spiritual, and social needs of citizens in order to live properly and be able to develop themselves, so that they can carry out their social functions (Law No.11 of 2009 concerning Social Welfare. Welfare is assessed not only in its economic field but in The social aspect also refers to the definition of welfare, the Central Bureau of Statistics (BPS) issued welfare indicators to measure the level of social and economic welfare.The measurement of the level of welfare of koi fish farmers in Cisaat Subdistrict was intended to see the level of welfare of household koi cultivators in Cisaat Sukabumi District.

RESEARCH METHODS

Places and Times

Research have been conducted in May 2018 - March 2019, which includes data collection, data analysis, and final report

writing. This research was conducted in Cisaat Subdistrict, Sukabumi District.

Data Collection Methods Data collection

The research used interviews with the help of questionnaires to respondents, direct observation, and study of literature / documents.

Respondent Retrieval Methods

Method of determining respondents uses the purposive sampling method. The number of respondents is 20 respondents. The criteria of respondents were willing conducte interview, koi fish farmers who occupied business land in Cisaat distric Sukabumi District, and had more 3 years of business.

Data Analysis Method

Measuring the level of family welfare using BPS indicator based on ten criteria including: household income consumption / household expenditure, state of residence, living facilities, health of family members, ease of utilizing health personnel facilities, quality of education for family members, ease entering children into the level of education, feeling safe from disruption of crime, ease of access to technology and communication.

RESULTS AND DISCUSSION

Overview of the Research Location of the

Cisaat Subdistrict is one of the districts in Sukabumi District which is in the north of the Sukabumi District and consists of thirteen villages. The thirteen villages include: Cisaat Village, Sukamanah Village, Cibatu Village, Nagrak Village, Sukamantri Village, Sukasari Village, Gunungjaya Village, Babakan Village, Selajambe Village, Cibolangkaler Village, Padaasih Village, Sukaresmi Village, and Kutasirna Village. The area of Cisaat Subdistrict, which is 2 165 ha with the regional boundaries as follows:

1. The northern side borders the Kadudampit District area;

2. The south borders the Gunung Guruh district area;

3. West side bordering the Caringin District and Cantayan Districts;

4. East side bordering Sukabumi City area.

Contour of land in the Cisaat Subdistrict is flat and hilly with an altitude of around 500−600 Meters above sea level, air temperature between 20−28 ° C, and average rainfall ranges from 2 000−3 000 mm / year. This situation makes land conditions in the Cisaat Subdistrict area generally quite fertile and loose so it is suitable for use as wet agricultural land and aquaculture (BPS 2018).

Population

According to the BPS (2018) District of Cisaat there are 33,569 heads of families with an average life of 3.56 per head of household. Cisaat Subdistrict has a population of 119,572 people, where the population that is mostly in Sukaresmi village with a population of 15,036 people means that 17.97% of the population in Cisaat Subdistrict are in Sukaresmi Village. Cisaat Subdistrict

itself has a population density of 44.54, which means that the District of Cisaat is still not crowded or the population is less than the area.

Characteristics of Respondents

Based on the results of interviews in the field, the age of koi fish farmers in Cisaat Subdistrict ranged from 21-30 years as many as 3 people with a percentage of 15%, age 31-40 years as many as 5 people with a percentage of 25%, age 40-50 years as many as 8 people with a percentage of 40%, and those aged ≥ 51 as many as 4 people with a percentage of 20%. This means that 80% of koi fish farmers fall into the category of productive age, and 20% in the age category are not productive.

Education is one of the factors that influence the level of one's well-being. Because with education someone can have many skills or knowledge that can be applied in the world of work that can improve the welfare of these individuals. Based on the results of a study of koi fish cultivators in Cisaat Subdistrict, there were 2 elementary school educated with a percentage of 10%, junior high school level as many as 6 people with a percentage of 30%, high school level as many as 8 people with a percentage of 40%, D1 level of 1 person with a percentage of 5 %, S1 level of 2 people with a percentage of 10%, and the level of S2 as many as 1 person with a percentage of 5%.

Business experience is the length of time (in units of year) that has been carried out by business people in carrying out their business, namely koi fish cultivation. According to Tohir (1991) in Hanifah (2014) said that the longer a farmer is in managing his farming business, the more experience gained. Based on the results of the study as many as 2 people with a percentage of 10% already had business experience for 1-3 years, as many as 4 people with a percentage of 20% having business experience for 6-10 years, as many as 5 people with a percentage of 25% having business experience for 11- 15 years, and as many as 9 people with a percentage of 45% having experience of> 15 years.

The number of family dependents is the number of family members needs that must be fulfilled by the head of the family. The number of dependents will affect the expenditure of each respondent.Based on the results of the study as many as 2 people with a percentage of 10% not yet family dependent or unmarried, as many as 11 people with a percentage of 55% having family dependents as many as 1-3 people, and as many as 7 people with a percentage of 35% having family dependents as many as 4-6 people .

Welfare Level Analysis

Based on 10 2015 BPS welfare indicators in the 2015 National Socio-Economic Survey, it can be analyzed indicators that affect fish farmers' welfare, namely household income, consumption of household expenses, living conditions, living facilities, health of family members, ease of utilization of health personnel facilities ,

Quality of education of household members, Ease of entering children into education levels, Sense of security from crime, and Ease of accessing information and communication technology

Income Indicators Revenues

Obtained by koi fish farmers are the result of koi fish production produced in planting times multiplied by the price of koi fish .

Table 1. Average Koi Cultivator Income

No	Component	IDR
1	Total Expenditures	4,385,499
2	Total Revenues	14,325,000
	Total	9,939,501

Based on the table above, it can be seen that the average income of the family koi fish farmers in Cisaat Subdistrict is IDR. 9,939,501/ month on average or per month per capita income of IDR. 2,840,104 which means that the income of farmers is far above the Minimum Wage of Sukabumi District in the amount of IDR 2,791,016 / month.

Expenditures Indicator

Expenditures divided into two, namely household consumption expenditure and expenditure on production costs. For household expenditures 85% of farmers have not been included in the World Living Needs (KHL) criteria or live a decent life because the average expenditure is still between IDR. 420,000-1,625,000 per capita per month and only 3 family farmers are included in the KHL criteria with a per capita expenditure of IDR 1,950,000, IDR. 2,100,000 and IDR. 6,500,000 per capita per month. Koi fish farmers in Cisaat Subdistrict do not include the KHL criteria because many household expenses are allocated to meet basic needs, while the KHL criteria include expenditures for food and non-food (clothing, housing, education, health, transportation, recreation and savings).

In addition to household consumption expenditure, there are also expenses for production costs. Expenditures for production costs are divided into two, namely fixed costs and variable costs. Fixed costs are a number of fixed costs that must be incurred during the production process or not, for example the cost of building land tax and depreciation costs. Fixed costs are listed in Table 2.

Table 2. Fixed Cost of koi cultivation in Cisaat Subdistrict

No	Fixed Costs	Average Expenditures Monthly / Hectares (IDR)
1	Depreciation of Tools	34,080
2	Tax	7,219
	Total	41,299

Variable costs are a number of costs used to produce koi and the amount is very dependent on the amount of capacity and

production period in question. Variable costs are listed in Table 3.

Table 3. Costs variable of koi cultivation in Cisaat Subdistrict

No.	Costs Variable	Average Monthly / Hectares Expenditures (IDR)
1	Medicines	63,000
2	Feed	1,292,500
3	Additional Labor (Harvest)	280,000
4	Land Leases	280,450
5	Maintenance	78,250
6	Labor	2,350,000
Total		4,344,200

Total costs are the total costs that must be incurred by the farmer in carrying out his business. This fee is the sum of the fixed costs and variable costs. The total costs are listed in Table 4.

Table 4. Total Cost of koi cultivation in Cisaat Subdistrict

No.	Components	Average Monthly Expenditure / Hectare (IDR)
1	Total Fixed Costs	41,299
2	Total Costs Variable	4,344,200
	Total	4,385,499

So it can be concluded that the total costs incurred by koi fish farmers in Cisaat Subdistrict each month for cultivation production costs is IDR.4,385,499.

Indicator of the Situation of Residence

Every citizen has the right to live in physical and spiritual prosperity, by fulfilling his physical and spiritual needs.

One of the basic human needs is a place to live and get a good and healthy environment. Based on the 2015 BPS indicator, koi fish farmers in Cisaat Subdistrict were included in the good category with the details that 20 families (100%) had used roof tiles, besides that the walls used by the koi fish farmers were made of walls, while 75% or 15 were owned. the family already owns it, and also for the floor all families have non-land floors, and as many as 10 families (50%) have a house area of more than 15 meters.

Indicators of Residence Facilities

Completeness of residential facilities is an illustration of the quality of environmental health and has become a concern of the government, especially the health ministry. Based on the results of the study, 19 people with a percentage of 95% of koi fish farmers belonged to the good category and 1 person with a percentage of 5% was included in the sufficient category.

Household Health Indicators

Level of health of the population can be seen through indicators of health status. Health status provides an overview of the health condition of the population at a certain time. The health status of the population is an important factor that can affect the level of productivity of the population, eventually resulting in the success of health development and the level of progress of the nation. Based on the

results of the study as many as 19 respondents koi fish farmers with a percentage of 95% entered in the good category.

Ease Indicators for Using Health Workers

Health closely related to social welfare. Some of the criteria that are indicators of the ease of utilization of medical personnel include service facilities used, distance of the hospital, distance to the clinic / health center, quality of service, cost of treatment, and price of medicines. Based on the results of the study of 7 families of farmers with a percentage of 35% included in the category of easily obtaining health personnel facilities and as many as 13 families with a percentage of 65% included in the category it was quite easy to get health personnel facilities.

Indicators of Quality of Family Education

Success of the development of a region is determined by quality human resources (HR). Output indicators that can show the quality of HR education include literacy rates (AMH), education level, school participation rate (APS), gross participation rate (APK) and pure participation rate (APM). Based on the results of research on the quality of family education from as many as 20 families all were able to read and write and complete basic education. So that it can be concluded

that the quality of education of farmers who are respondents in Cisaat Subdistrict is categorized as good.

Ease of Entering Children into Education Level

Development of a region can be seen from qualified Human Resources (HR). One of the qualities of HR can be seen from education. In addition to the quality indicators of family education, one of the other indicators is that it is easy to put children into education, which consists of school fees, distance to school and admission procedures. Based on the results of the study showed that koi fish cultivator households in Cisaat Subdistrict stated that as many as 19 families with a 95% percentage were easy to enter children into education and as many as 1 family with a 5% percentage stated that it was quite easy to enter children into education.

Indicator of Safe Feelings from Crime Disorders

Assessment of indicators of security from crime disturbances experienced by farmers in the area of residence includes three criteria, namely safe (never experienced crime), safe enough (having experienced crime), and not safe (often experiencing crime). Based on the results of the study, 10 families with a percentage of 50% stated that they were safe from crime, and as many as 10 families with a percentage of 50% stated that they were

safe enough. The crimes that have been experienced by farmers are theft of fish, or robbery when sending fish out of town.

Ease Indicators of Accessing Information and Communication Technology

According to the BPS indicator the syndicator to see the level of ease of accessing information and communication technology is the ease of accessing information and communication technology and access tools used. Based on the results of research, koi fish farmers are still considered easily accessible by the majority of Koi fish farmers. in Cisaat Subdistrict this was proven by a percentage value of 70%, namely 14 of the 20 respondents stated that access to information and communication technology was easy to access. Then as many as 5 people with a percentage of 25% stated that it was quite easy to access and as many as 1 person with a percentage of 5% said it was difficult to access.

Recapitulation of Welfare Levels

Based on the results of the recapitulation of the BPS welfare indicators in the 2015 National socio-economic survei. The households of Koi fish farmers in Cisaat Subdistrict are 100% included in the high welfare group. The results of the recapitulation can be seen in Table 5.

Table 5. Recapitulation of Welfare Level

No.	Indicators	average score
1.	Household income	0.75
2.	Consumption/ household expenditure	0.3
3.	Circumstances dwelling	0.29
4.	Health house hold members	0.30
5.	Residence facilities	0.11
6.	Utilization Easy of health workers	0.12
7.	Easy to put children level of education	0.14
8.	Easy of accessing information and communication technology	0.05
9	Quality of Family Education	0.28
10	Sense of security from criminal disturbances	0.07
	Total score of	2.40

Koi fish farmers in Cisaat Subdistrict has an average score of 2.40. The score has a range that is still included in the category of high welfare level. The most influential indicators are income and expenditure, where income plays an important role in fulfilling farmers' daily needs and expenditures which also play an important role in knowing how far the farmers have fulfilled their needs.

CONCLUSION

Based on the results of research conducted on koi fish cultivator households in Cisaat District, it can be concluded that the average income per capita per month is Rp. 2,840,104 and classified as larger than the UMK Regency UMK Rp.2,791,016 / month. Household welfare of koi fish farmers based on questionnaires based on 10 household welfare indicators according to the 2015

Central Bureau of Statistics is classified as a high welfare category.

REFERENCES

Central Bureau of Statistics. 2015. 2015 *People's Welfare Indicators* Central Bureau of Statistics. Jakarta

Central Bureau of Statistics. 2018. *Cisaat Subdistrict in Figures 2018.* Central Bureau of Statistics. Sukabumi District.

Sukabumi District Marine and Fisheries Service. 2018. *Report on the statistics of ornamental fish cultivation production and value according to fish species in 2015−2018 in Sukabumi District.* Sukabumi. Marine and Fisheries Service.

Effendi I. 2004. *Introduction to Aquaculture.* Jakarta: Spreading Self-Help.

Hanifah, N. 2014. *Analysis of Welfare Rates of Minapadi Cultivators in Majalaya, Ciparay and Pacet Districts, Bandung Regency.* Faculty of Fisheries and Marine Science. Padjadjaran University