

## INCOME ANALYSIS OF DUCK FARMING BUSINESS IN KEDAWUNG DISTRICT SRAGEN REGENCY

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### ABSTRACT

*This study aims to analyze the income factors of duck farming in Kedawung District, Sragen Regency because the majority of the population in the district work as duck farmers. Farmers feel the increase in feed prices caused by the El Nino phenomenon. The price increase will affect production costs. This study analyzed the income of duck farming businesses in Kedawung District where the majority of the population works as duck farmers. This study analyzed production costs, total revenue in one year to determine the total income received. The analysis method used is income analysis, with the formula total revenue minus total production costs. Total revenue can be known from the selling price multiplied by the yield. The results of this study are the total revenue of each farmer in Kedawung Subdistrict, Sragen Regency per year amounting to Rp 23,150,160 while the total costs per year incurred amounted to Rp 18,644,037. By subtracting the total revenue from the total production cost, the net income or profit per year is Rp 4,506,123. The calculated average income per month is IDR 403,456. This figure shows the amount of average income earned by household-scale duck farmers in Kedawung District every month of the year.*

### KEYWORDS

Income, duck farming, revenue analysis



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## INTRODUCTION

Livestock is one of the important sectors in the agricultural industry in Indonesia. According to the Central Bureau of Statistics, the contribution of the livestock subsector to Gross Domestic Product (GDP) is 1.52% in 2022. This contribution shows how important the livestock sector is in supporting economic. According to data obtained from BPS, in 2021 Sragen Regency is one of the duck farming centers in Central Java. The contribution of Sragen Regency's duck population to the duck population in Central Java is 1.32% with a total population of 83,540 heads. This shows the potential in the duck farming sector in Sragen, creating opportunities for livestock entrepreneurs as well as contributing to meeting the needs of duck meat in the area. Kedawung sub-district is one of the sub-districts that cultivate ducks in Sragen Regency. According to data obtained from BPS, in

2023 the total population of ducks in Kedawung sub-district reached 5,933 heads. Interestingly, every village in Kedawung sub-district has residents who work as duck farmers. One of the most famous villages in Kedawung is Celep village, which is known

as “Kampung Bebek” because the majority of its residents raise ducks. Duck farming is one of the main livelihoods in this village. The existence of this duck village reflects the potential and wealth of natural resources in the Kedawung area.

Currently, duck farmers are faced with the serious problem of overcoming the increase in feed prices due to the El Nino phenomenon which has caused a decrease in rice yields. The effect of El Nino on the decline in rice yields has caused the availability of key feed ingredients such as rice bran to be limited, resulting in increased feed prices. The price of rice bran before the increase was IDR. 3,000/kg and after the increase to IDR. 4,500/kg. This increase in feed prices is a heavy burden for duck farmers, especially household-scale duck farmers. It should be noted that feed is one of the most important factors affecting the success of duck farming. This is because the largest production cost in the livestock business is feed, which is around 70% of the total cost. Farmers must face the challenge of maintaining a balance between the ever-increasing cost of feed and the stable selling price of duck meat. This condition can reduce profit margins, even resulting in losses for some farmers. Faced with rising feed prices due to the El Nino phenomenon, duck farmers need to implement the right strategies and innovations to maintain the sustainability of their business. It is hoped that duck farmers can overcome these challenges and continue to contribute to meeting the need for duck meat in the midst of unpredictable fluctuations in feed prices. Based on the problems that occur, researchers are interested in studying further and in detail by conducting research on income duck farming in Kedawung sub-district.

#### **Problem Formulation**

Based on the background above, the following problems can be formulated: How much is the income of duck farmers in Kedawung Subdistrict, Sragen Regency.

#### **Problem Limitation**

The following are the limitations of the problem in this study:

1. This research focuses on the net income of duck farmers.
2. This research focuses on household scale duck farmers.
3. This study limits the type of duck studied is the type of Tegal duck.

Respondents in this study were duck breeders of both broiler and layer ducks. This observation is carried out by taking data on the activities of one harvest year.

#### **Research Objectives**

Based on an understanding of the background and problem formulation, this research aims to achieve several important objectives, namely: the income of duck farmers in Kedawung Subdistrict, Sragen Regency.

## **RESEARCH METHOD**

#### **Research Location**

This research will be conducted in Kedawung Sub-district, Sragen Regency. Determination of the research site was done purposively, with the consideration that Kedawung Sub-district is one of the sub-districts that has a large duck population in Sragen Regency. The contribution of Kedawung Sub-district duck population to the duck population in Sragen Regency amounted to 7.1% with a total population of 5,933 heads. Duck farming business in Kedawung Sub-district is very suitable to be developed. The majority of people's livelihood in Kedawung sub-district is duck farming. Kedawung subdistrict also has a village known as “Kampung Bebek” due to the large population of ducks there.

#### **Types and Sources of Data**

The types of data needed in this research are primary data and secondary data. Primary data is data that refers to data collected directly from the original source for

research purposes. The primary data of this study are the characteristics of farmers (age of farmers, education), the use and cost of production factors (cage area, feed, labor, medicine/vitamins), the amount of production, the selling price of ducks and duck eggs (output). Secondary data were obtained from sources such as scientific publications, government reports, related agencies, journals, literature studies, previous research and other sources of information. Secondary data used in this study include data on the contribution of livestock to GDP in 2022, data on the duck population of Central Java Province, data on the duck population of Sragen Regency sourced from the Central Bureau of Statistics.

#### Data Collection Methods

There are several data collection methods, each of which has different characteristics. Choosing the right data collection method needs to consider the type of data that will be needed so that the data obtained is appropriate. When viewed from the data source, this research data collection is obtained from interviews, documentation, and recall.

#### Population and Sample

##### a. Population

According to Hardani (2020) population is a set of objects studied that have one or more characteristics or traits that have been determined by the author for later study. The population in this study were all duck farmers in Kedawung District, Sragen Regency. The total population of duck farmers in Kedawung District is 317 farmers.

##### b. Sample

According to Hardani (2020) the sample is some members of the population taken using sampling techniques. The sample must really be able to reflect the state of the population. The sample to be taken is duck farmers in Kedawung District, Sragen Regency. Based on calculations using the Slovin formula, it is known that the number of samples in this study was 35 respondent farmers.

#### Data Analysis Method

Revenue Analysis According to Salim et al., (2023) the success of livestock business can be seen from the amount of income obtained by farmers or breeders in managing a farm or livestock business. The greater the income received by farmers, the greater the success rate of their livestock business. Income is a measure of the difference between receipts and expenses in a certain period, if the difference obtained is positive indicating a net profit earned, and if negative indicates a loss. To find out the income used with the formula:

$$\Pi = TR - TC$$

Description:

$\Pi$  : Total income or profit earned by farmers

TR : Total revenue earned by farmers

TC : Total costs incurred by farmers

## RESULT AND DISCUSSION

Table 1 Age Range of Farmers and Percentage by Age Group

Age of Respondents (Years)	Total (People)	Percentage (%)
<20	1	2,86%
20 – 30	2	5,71%
31 – 40	6	17,14%
41 – 50	10	28,57%
51 – 60	16	45,71%
<b>Jumlah</b>	<b>35</b>	<b>100%</b>

According to Supriyantono et al., (2023) age is one of the factors that influence farmers in terms of learning, understanding and finding new things in increasing work productivity and developing livestock businesses. Table 1 explains that this data describes the characteristics of respondents based on age in Kedawung District. Respondents of this study were categorized into 5 age groups, namely less than 20 years old, 21 years to 30 years old, 31 to 40 years old, 41 years to 50 years old, and 51 years to 60 years old. The table shows the number of respondents for each age group. Of the total 74 respondents, 1 respondent (2.86%) was less than 20 years old, 2 respondents (5.71%) were 20 to 30 years old, 6 respondents (17.14%) were 31 to 40 years old, 10 respondents (28.57%) were 41 to 50 years old, and 16 respondents (45.71%) were 51 to 60 years old. The age group with the most respondents was 51 to 60 years old, which accounted for 45.71% of the total respondents. This indicates that the majority of respondents in this study came from the older productive age group in Kedawung Sub-district.

Table 2 Characteristics of Duck Breeding Duration

Length of time raising livestock (years)	Frequency	Percentage (%)
<10 years	10	28,57%
10 years - 20 years	21	60,00%
20 years - 30 years	4	11,43%
<b>Total</b>	<b>35</b>	<b>100%</b>

According to Supriyantono et al., (2023) the longer a person is in the livestock business, it is expected that their knowledge and skills in running a livestock business will increase. Their understanding of the duck production cycle will be better. This includes understanding the process of egg hatching, duckling growth, egg production, and harvesting. Table 2 shows the characteristics of the length of duck breeding in Kedawung District, Sragen Regency. It was found that as many as 10 people or 28.57% of duck farmers had been in the duck farming business for less than 10 years. Meanwhile, farmers with duck farming business length ranging from 10 to 20 years reached 21 people or 60.00%. As for farmers who have been in the duck farming business 20 to 30 years only 4 people or 11.43%. The majority of duck farmers in Kedawung Subdistrict have a fairly long breeding experience, which ranges from 10 to 20 years, this can be an important asset for them in managing duck farming more effectively, starting from the process of enlargement, egg production, to marketing. The longer someone has experience in raising ducks, the better their understanding of the duck production cycle.

Table 3 Average Total Cost per Month and per Year

Cost Description	Average (IDR/month)	Percentage (%)	Average (IDR/month)	Percentage (%)
Feed	IDR 1.400.815	91,81	IDR 16.809.785	90,16
Vitamins	IDR 9.896	0,65	IDR 118.747	0,64
Vaccination	IDR -	0,00	IDR 41.408	0,22
Labor	IDR 103.325	6,77	IDR 1.239.896	6,65
Depreciation	IDR -	0,00	IDR 293.941	1,58
Duck breeds	IDR 11.688	0,77	IDR 140.260	0,75
<b>Total</b>	<b>IDR 1.525.724</b>	<b>100,00</b>	<b>IDR 18.644.037</b>	<b>100,00</b>

Production costs are a number of costs incurred by farmers to make a profit. Production costs incurred by farmers consist of fixed costs and variable costs. (Matialo, Elly, Dalie, & Rorimpandey, 2020). According of Sugiarti et al., (2021) Providing vitamins, medicines, and vaccinations is expected so that the immune system of ducks can

survive various types of diseases that can attack these livestock. According of Elfadila and Febriand (2020) labor costs are the price charged for the use of human labor, while depreciation costs are the cost of systematically allocating the depreciable amount of an asset over its useful life. According Sol'uf et al., (2022) Feed cost is a variable cost that always changes during the production process. Table 3 shows the average total costs per month and per year for various costs in the livestock enterprise. The "Cost Description" column lists several data such as Feed,

Vitamins, Vaccinations, Labor, and Other. Feed costs have an average value (IDR/month) of IDR 1,400,815, a percentage of 92.52%, and an average (IDR/year) of IDR 16,809,785. Overall, the total cost per year is IDR 18.644.037.

Table 4 Average Acceptance

Village	Average Estimated Harvest		Average Selling Price		Average Revenue		
	Meat (Per Head)	Eggs (Per Grain)	Meat	Eggs	Meat	Eggs	Total
Celep Village	0	4364	IDR 66.000	IDR 1.900	IDR	IDR - IDR 8.290.909	IDR 8.290.909
Karang Pelem Village	27	5018	IDR 64.364	IDR 1.818	IDR 1.772.727	IDR - IDR 8.989.091	IDR 10.761.818
Jenggrik Village	0	7886	IDR 64.143	IDR 1.971	IDR	IDR - IDR 15.668.571	IDR 15.668.571
Kedawung Village	0	7200	IDR 64.500	IDR 2.000	IDR	IDR - IDR 14.400.000	IDR 14.400.000
Wonokerso Village	0	5600	IDR 64.667	IDR 2.000	IDR	IDR - IDR 11.200.000	IDR 11.200.000
Wonorejo Village	0	3600	IDR 63.000	IDR 2.000	IDR	IDR - IDR 7.200.000	IDR 7.200.000
Total	27	33668	IDR 386.673	IDR 11.690	IDR 1.772.727	IDR 65.748.571	IDR 67.521.299
Average (per month)	1	962	IDR 64.446	IDR 1.948	IDR 50.649	IDR 1.878.531	IDR 1.929.180
Average (per year)	9	11543	IDR 773.346	IDR 23.379	IDR 607.792	IDR 22.542.367	IDR 23.150.160

Revenue is the amount of money received from selling products to traders or directly to consumers. Revenue is all income received regardless of the source, with the amount not always the same for each period or period of time. The revenue earned by business actors in each month varies quite a lot depending on the amount of production. (Karlina, Taena La, 2023) Based on table 4 Celep Village has an average revenue of IDR 8,290,909 obtained from the sale of duck eggs. Karang Pelem Village has an average revenue of IDR 10,761,818 with average revenue from meat sales of IDR 1,772,727 and egg sales of IDR 8,989,091. Jenggrik Village, Kedawung Village, Wonokerso Village, and Wonorejo Village have an average revenue of IDR 15,668,571, IDR 14,400,000, IDR 11,200,000, IDR 7,200,000. The revenue is obtained from the sale of duck eggs. Based on Table 4, the village with the highest average revenue is Jenggrik Village with an average revenue of IDR 15,668,571. The village with the lowest average revenue is Wonorejo Village with an average revenue of IDR 7,200,000. The average annual income is IDR 23,150,160, with each sample receiving IDR 1,929,180 per month. The high and low average income of breeders in each village is influenced by several factors. Factors that affect the acceptance are the number of respondents in each village, the selling price and the production or harvest.

Table 5 Total Revenue

Description	Total (IDR/year)	Average (IDR/month)
Total Revenue	IDR 23.150.160	IDR 1.929.180
Total Cost	IDR 18.644.037	IDR 1.525.724
Income = TR-TC	IDR 4.506.123	IDR 403.456

Table 5 presents information about the total income from duck farming in Kedawung District. Total revenue per year amounted to Rp 23,150,160, - while the total costs incurred per year amounted to Rp 18,644,037. By subtracting the total revenue from the total costs, the net income or profit per year is Rp 4,506,123. In addition, Table 5 also lists the Average Income per year, which is calculated at IDR 403,456. This figure shows the amount of average income earned by duck farmers in Kedawung District each year.

## CONCLUSION

This study analyzed the income of duck farming business in Kedawung District, where the majority of the population works as duck farmers. Based on the results of the analysis, the total revenue per year amounted to Rp 23,150,160 while the total costs per year incurred amounted to Rp 18,644,037. By subtracting the total revenue from the total cost, the net income or profit per year is Rp 4,506,123. Average income per year, which was calculated at IDR 403,456. This figure shows the average income earned by duck farmers in Kedawung District every month and year.

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