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Demand and Supply of Ducks in South Sulawesi Province, Indonesia

Sitti Nurani Sirajuddin¹, Zulkifli Maulana²

Abstract

The increase in population and the improvement of the Indonesian people's welfare have driven the food demand rate, which tends to continue to increase. The level of consumption of animal foods such as meat, eggs and milk not only reflects the purchasing power and high income level of the community. In addition, it is the achievement of government goals in order to realize sufficient food availability at the household level. The method of writing this scientific article is with qualitative methods and literature studies or library research. Reviewing the theory and reviewing literature books in accordance with the theory discussed, especially duck livestock products in South Sulawesi. In addition, it also analyzes reputable and non-reputable scientific articles and journals. All scientific articles were sourced from Google Scholar. Duck meat and egg production in a region (especially in South Sulawesi Province) is strongly influenced by the capacity and quantity of feed sources and the distance of livestock to areas that produce duck feed. Duck production is closely influenced by the human population, demand and taste for ducks, and the involvement of the private sector in advancing the duck business in a particular region. The conditions of the region strongly influence duck meat and egg consumption. There is a culture that makes duck eggs a unique characteristic. And there are also tourist areas with a very high taste and interest in duck consumption. This shows that tourist areas are generally areas that have the highest population of visitors or migrants from other regions/districts.

Keywords: Demand, Supply, Duck.

INTRODUCTION

The increase in population and improvements in the welfare of the Indonesian people have pushed the rate of food demand which tends to continue to increase. The level of consumption of animal foods such as meat, eggs, and milk, apart from reflecting people's purchasing power and high-income levels, is also an achievement of the government's target of realizing sufficient food availability at the household level.

The average protein adequacy figure for Indonesia is 46.2 grams per capita/day at an availability level of 55 grams, consisting of 40 grams of vegetable and 15 grams of animal origin, of which 6 grams come from livestock and 9 grams from fish. To achieve this adequate figure, animal protein from livestock is 6 grams/capita/day consisting of 3.87 grams of meat, 1.54 grams of eggs, and 0.59 grams of milk. For this reason, the livestock sub-sector has an increasingly strategic role in the dynamics of food consumption patterns, especially to meet protein adequacy levels and consumer demand. To respond to this demand, it is necessary to carry out a duck farming development program.

Law no. 22 of 2009 concerning Regional Autonomy mandates that regional governments have very broad authority in managing regional potential sources, including duck livestock potential. In this way, South Sulawesi can optimize duck farming by the potential of natural resources, human resources, and available technology. The basic problem experienced in the development of duck farming in South Sulawesi is that duck farming businesses are generally still in the form of small-scale people's farms with traditional daily maintenance.

The success of community economic development is much faster than the ability of the duck farming sub-sector to provide food products from animal protein sources even though imported products have been supported. This shows that increasing livestock production, especially duck meat and egg commodities, is receiving serious attention. Based on the description above, studies on the population, production, demand, and supply of ducks are very relevant to be used as input for various parties including policymakers, researchers producers, and consumers of livestock products.

RESEARCH METHODS

The method for writing this scientific article is qualitative methods and literature studies or library research. Examining theories and reviewing literature books that are on the theories discussed, especially duck livestock products in South Sulawesi. Apart from that, it also analyzes reputable and non-reputable scientific articles and journals. All scientific articles are sourced from Google Scholar.

In qualitative research, the literature review must be used consistently with methodological assumptions, meaning it must be used inductively so that it does not direct the questions asked by the researcher. One of the main reasons for conducting qualitative research is that the research is exploratory (Ali & Limakrisna, 2013). In the next stage, it will be discussed in depth in the section entitled "Related literature" (Related literature) or "literature review", as the basis for formulating hypotheses, and in the final stage these two pieces of literature become the basis for making comparisons with the results and findings revealed in the research (H. Ali & Limakrisna, 2013)

This type of research uses literature study. The literature study method is a series of activities related to methods of collecting library data, reading and taking notes, and managing research materials (Zed, 2008; Danial and Warsiah 2009). This technique aims to reveal various theories that are relevant to the problems being faced/researched as reference material in discussing research results.

This research aims to analyze the demand and supply of duck livestock in South Sulawesi. This research material comes from Central Statistics Agency documents, and other sources in the form of scientific journals and validated information from print and digital media. The data in this research is the trend in the number of duck livestock production in South Sulawesi from 2020 to 2022. The results of various literature reviews will be used to identify the demand and supply of duck livestock in South Sulawesi.

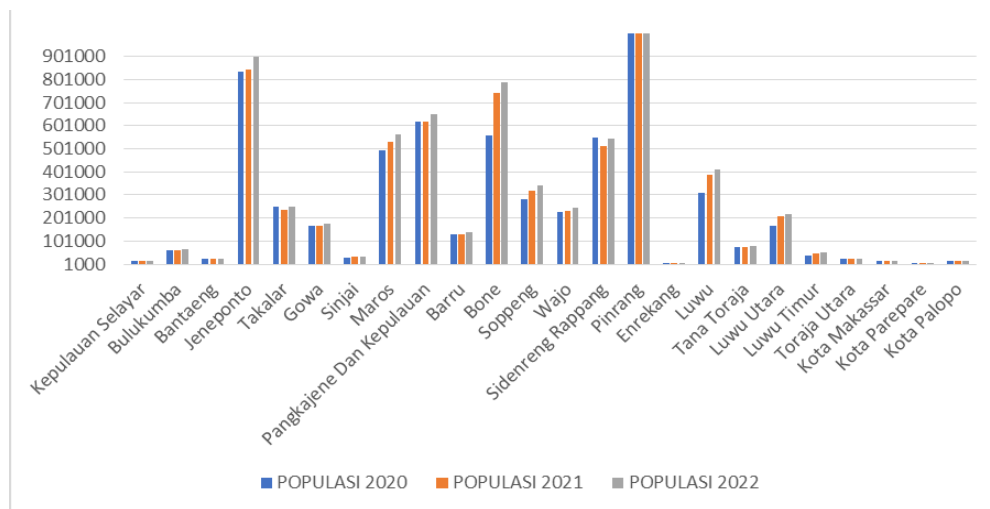
The analytical method used is descriptive from secondary data and a review of previous research. Descriptive statistics used to analyze data through descriptions or describing data that has been collected as it is without the intention of making general conclusions or generalizations (Sugiyono, 2017). Secondary data from the Central Statistics Agency and research results related to the demand and supply of ducks in South Sulawesi.

RESULTS AND DISCUSSION

Based on the literature study (library research) that has been conducted, the results obtained will be explained in several graphs regarding the Duck Population regarding the

supply of duck products and public consumption regarding the demand for ducks in South Sulawesi. The literature study raised is the last three years of data, namely BPS data for 2020 - 2023. The results and discussion we present as follows:

Duck Population in South Sulawesi



Graph 1. Number of Duck Population in South Sulawesi in 2020-2022 (Source: Results of Data Processing Central Statistics Agency)

The duck population in the South Sulawesi region is generally dominated by areas that have high agricultural yields. Based on Graph 1, Pinrang Regency is known to be one of the high agricultural product-producing areas in South Sulawesi, so its growth in duck production is also correlated with the availability of animal feed in the region. The interesting result from Graph 1 is that the population of ducks in Jeneponto Regency is high because it is supported by local culture because in general ducks and their by-products are used as the main complement in making a celebration that characterizes the local wisdom of the local community, especially in the surrounding area. both Takalar, Gowa, Makassar and Bantaeng. According to Marito (2017), Factors that influence duck egg production include the number of livestock, labor, and feed. This is of course in line with the phenomenon that occurs, one of the factors influencing the increase in livestock production is the availability of animal feed itself.

It can be seen that Pinrang Regency has the highest duck population among the districts and cities in South Sulawesi, and is also increasing from year to year. According to Sri Mulyati (2021), the increase in duck population is due to the high number demand for eggs and duck meat. ²⁵This is also supported by the large area of land and raw materials for duck feed that are available and cheap, making duck farming business opportunities in Sambas Regency still wide open for business.

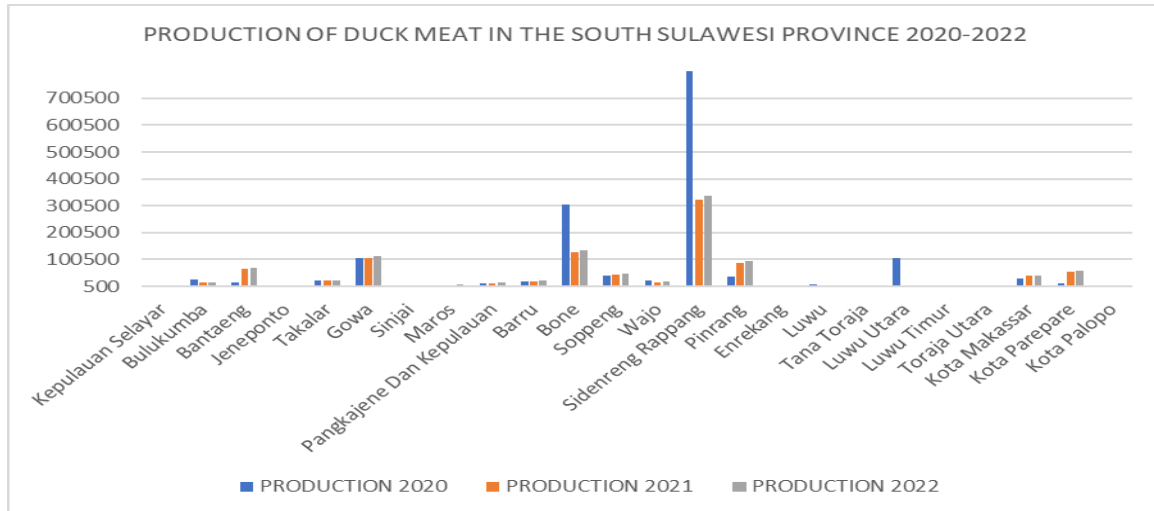
In the duck production process, several rules must be taken into account. According to Jones (2010), the rules that need to be taken into account include controlling ²³the duck's environment, especially temperature, humidity, ¹⁹dropping moisture, and ammonia, which are very important for the duck's welfare. An effective ventilation system, high-quality hay, and access to open water are considered important for duck welfare.

On the other hand, duck cultivation also serves to fulfill the community's need for animal protein. Increasing the duck population also aims to increase the variation in consumption patterns of the community itself. Apart from increasing the variety of flavors, another important thing that should not be ignored is the livestock distribution process. Distribution either as live livestock, or livestock that has gone through a process of diversification into processed products (Robinson, 2014).

The increase in livestock population is closely related to the human population. A high

population will create variations in consumer tastes, and price factors both in terms of feed and seed prices, and according to Akbar (2021) feed and seed price factors, as well as human population, have a positive correlation with increasing livestock production. Increased livestock production, including livestock itself.

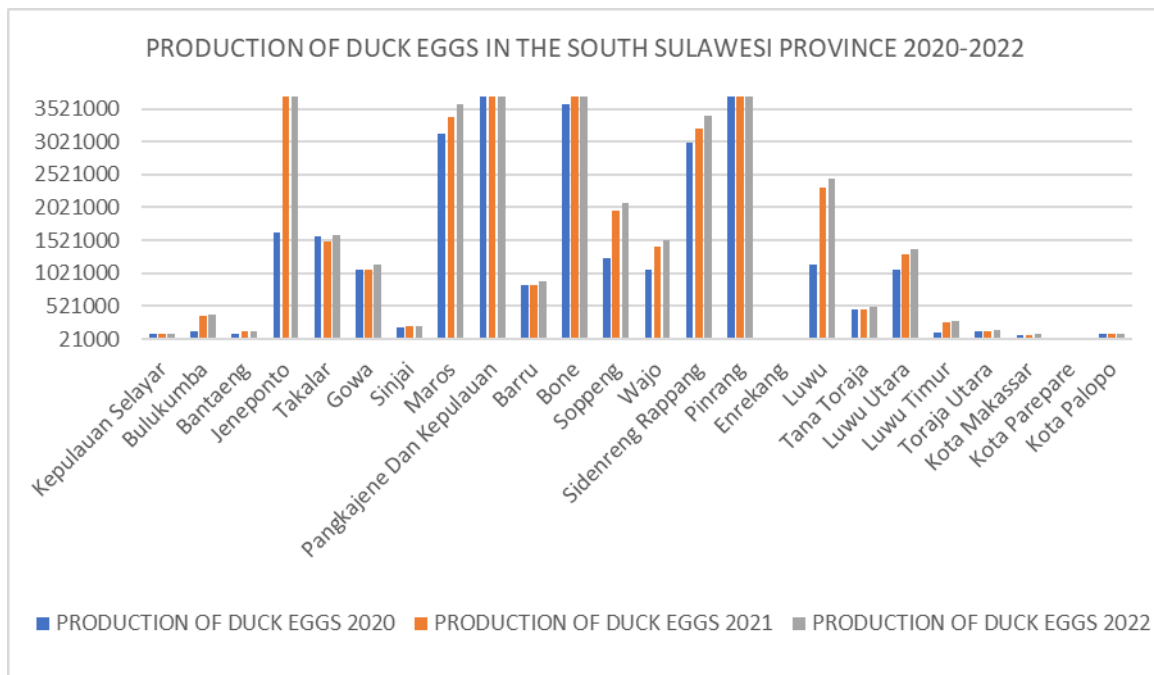
Duck Meat Production in South Sulawesi



Graph 2. Duck meat production in South Sulawesi 2020 - 2022 (Source: Results of data processing from the Central Statistics Agency)

It can be seen in Graph 2 that Sidrap Regency has the highest duck meat production among districts and cities in South Sulawesi but experienced a decrease in duck meat production in 2021 and another increase in 2022 by 10%. This has decreased due to the Covid-19 pandemic which has resulted in economic difficulties and lack of demand from restaurants and restaurants. According to Marito (2017), factors that affect duck egg production include the number of livestock, labor, and feed.

Duck Egg Production in South Sulawesi



Graph 3. Duck Egg Population Data in South Sulawesi 2020-2023 (Source: Results of data processing by the Central Statistics Agency)

It can be seen that Pangkep and Pinrang regencies have the highest duck egg production among the regencies and cities in South Sulawesi, and are also increasing from year to year. According to (Anisa, et al, 2020) the lack of nutritional intake obtained by these ducks causes low egg production. This traditional rearing system also does not provide proper housing for ducks. The traditional duck rearing system has several drawbacks, namely not producing too many eggs, nutritional intake of ducks not being by nutritional needs for metabolism because ducks find their food, pesticide poisoning, and eating carrion when released to look for food.

Apart from that, animal feed factors greatly influence duck egg production. If animal feed is expensive, the cost of goods sold (COGS) for livestock products will have a high value, so prices in the market tend to increase or experience inflation. This is following Ervina (2019) who explains that the variables selling price of livestock, labor wages, price of additional feed, and number of lactating cows corrected for milk production have a real influence on livestock business income. In other words, one of the variables used to calculate HPP is the price of animal feed.

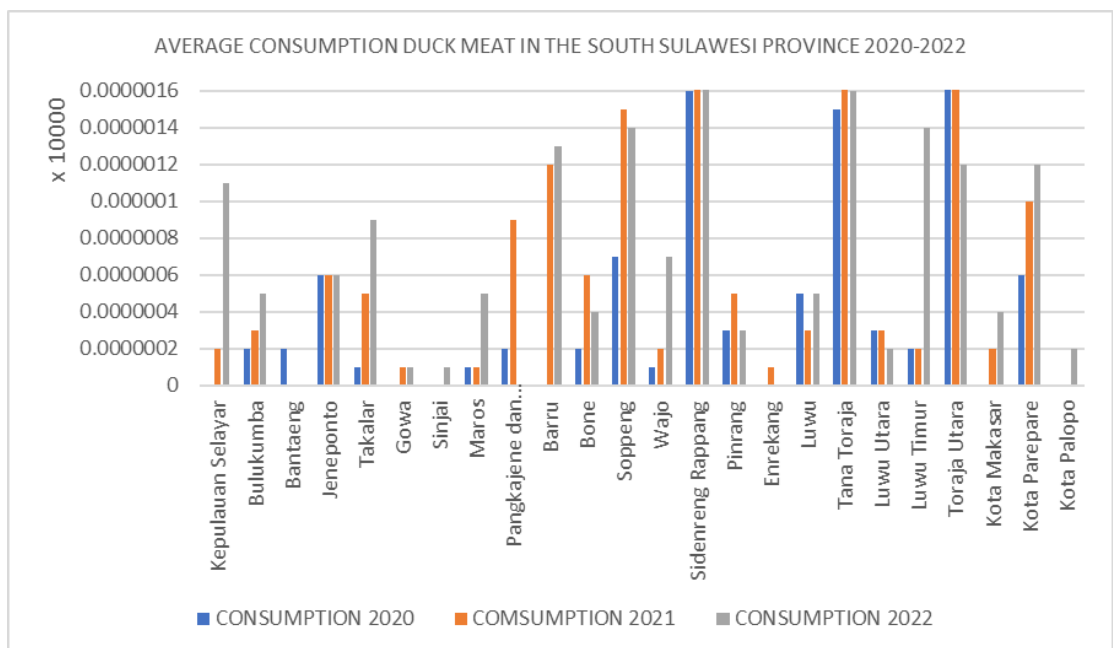
Demand for Duck Farm Products in South Sulawesi

Demand for livestock products in general is demand for live livestock products and processed livestock products themselves. In this section, we will convey the consumer demand for duck farming and by-products from duck farming.

Demand for livestock products, especially ducks, must be able to satisfy consumer tastes. Every person who consumes duck meat must meet ASUH (Safe, Healthy, Whole, and Halal) meat processing standards. According to Mail (2021) nature In the process, several policies made by the government are based on cases in the field. In the meat slaughtering process, especially in slaughterhouses, there is little attention to government policies regarding ASUH management principles or existing HACCP regulations. This will of course have an impact on increasing consumer confidence in the livestock product itself.

According to Keli G. (2022), urban areas have an increased demand for animal-source food. This is of course due to the process of population migration from villages to cities. This shows that high consumption patterns are certainly in urban areas.

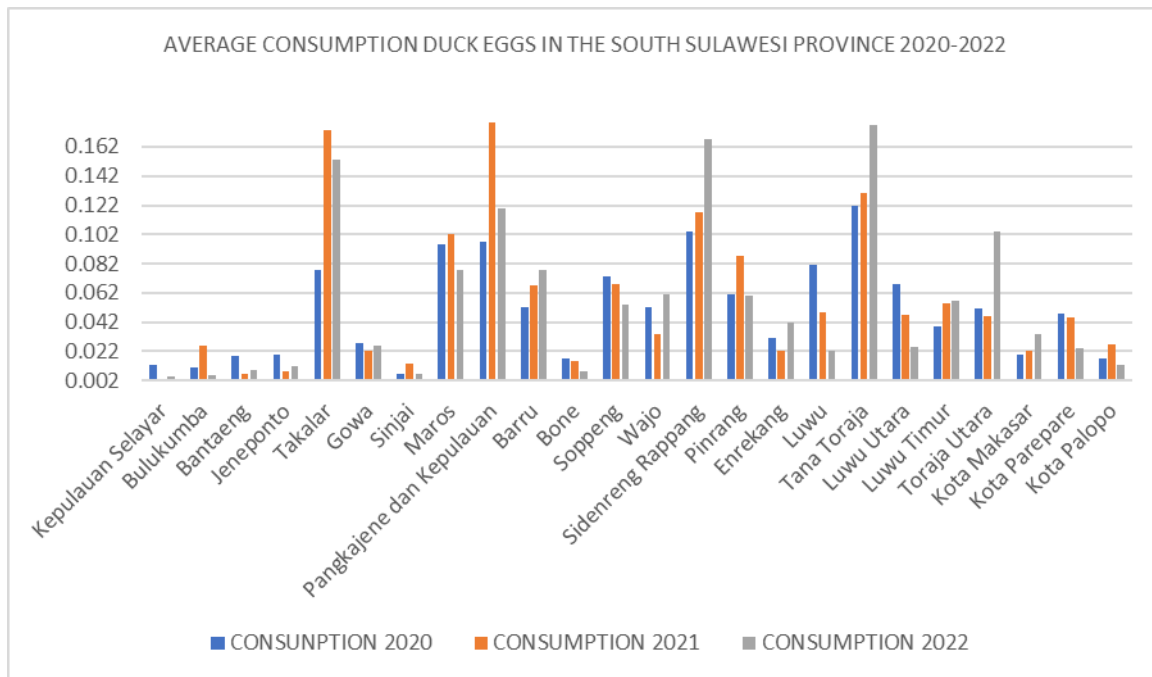
Duck Meat



Graph 4. Average Consumption of Duck Fresh Meat in South Sulawesi in 2020-2023 (Source: Results of data processing Central Statistics Agency).

It can be seen that Sidrap Regency has the highest demand for duck meat among regencies and cities in South Sulawesi, and also increases from year to year. According to Nor Faizah et al (2018) Factors that are thought to influence the demand for duck meat, namely, the price of duck meat, the price of chicken meat, the number of family members, and family income, after analysis of three factors have a real influence on the demand for duck meat, namely the price of duck meat, the price of chicken meat and family income, while one factor is the number of family members does not have a real effect on the demand for duck meat.

Duck Eggs



Graph 5. Average Consumption of Duck Eggs in South Sulawesi in 2020-2022 (Source: Results of data processing Central Statistics Agency)

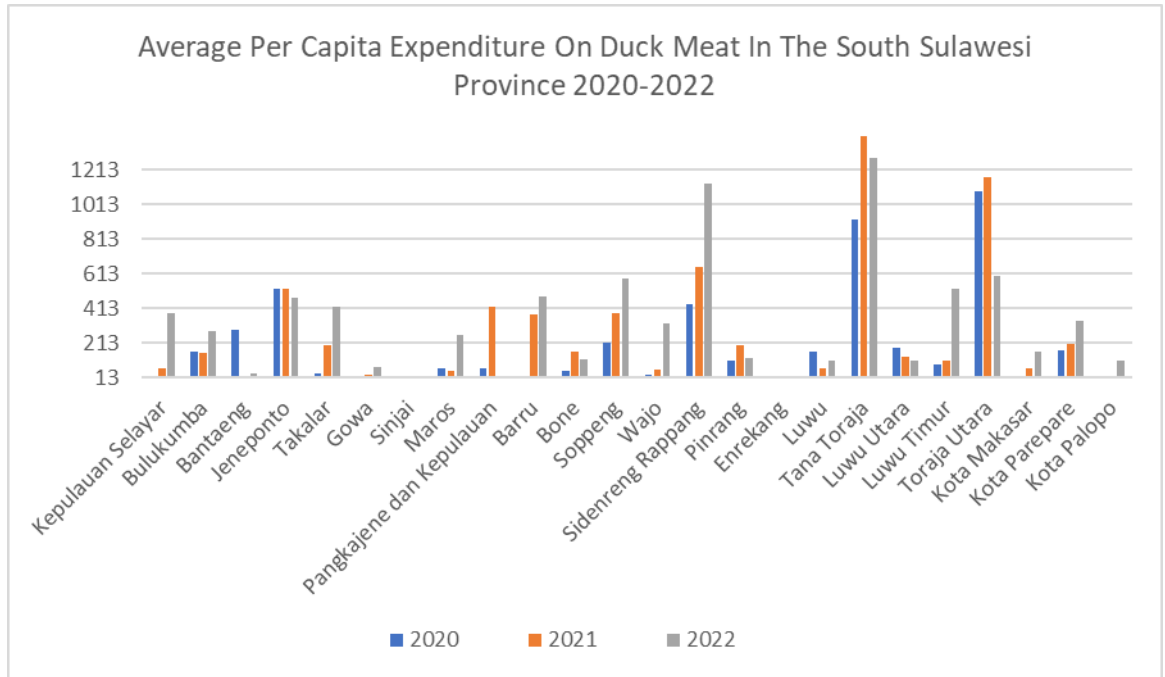
The demand for duck eggs in South Sulawesi continues to increase, especially in Sidrap and Tanah Toraja because duck eggs have become a cheap alternative protein fulfillment for the community. According to Sri Mulyani (2021), duck eggs have protein levels with a complete amino acid structure so they can be a good source of nutrition for the body. Duck eggs are also made into salted eggs, raw materials for cakes, bread, and other food materials so that the laying duck livestock business continues to open business opportunities among small and medium enterprises (MSMEs).

Duck Farm Product Offers in South Sulawesi

The development of livestock product offerings shows that meat products are the most widely produced commodity compared to eggs and milk. It is estimated that this is due to easier consumer accessibility to meat products produced by many species as sources compared to eggs and milk. For example, meat products can be sourced from beef cattle, dairy cattle (outcasts and young males), buffalo, goats, sheep, pigs, free-range chickens, broiler chickens, laying chickens (outcasts and male laying hens), ducks, as well as other meat-producing species. others include various types of meat so that the diversity of consumer choices for consuming meat becomes wider.

Apart from that, increasing livestock products is an activity that must be carried out considering the human condition. Humans today have certain needs the higher the need for animal protein. This of course encourages humans themselves to increase production, including duck production.

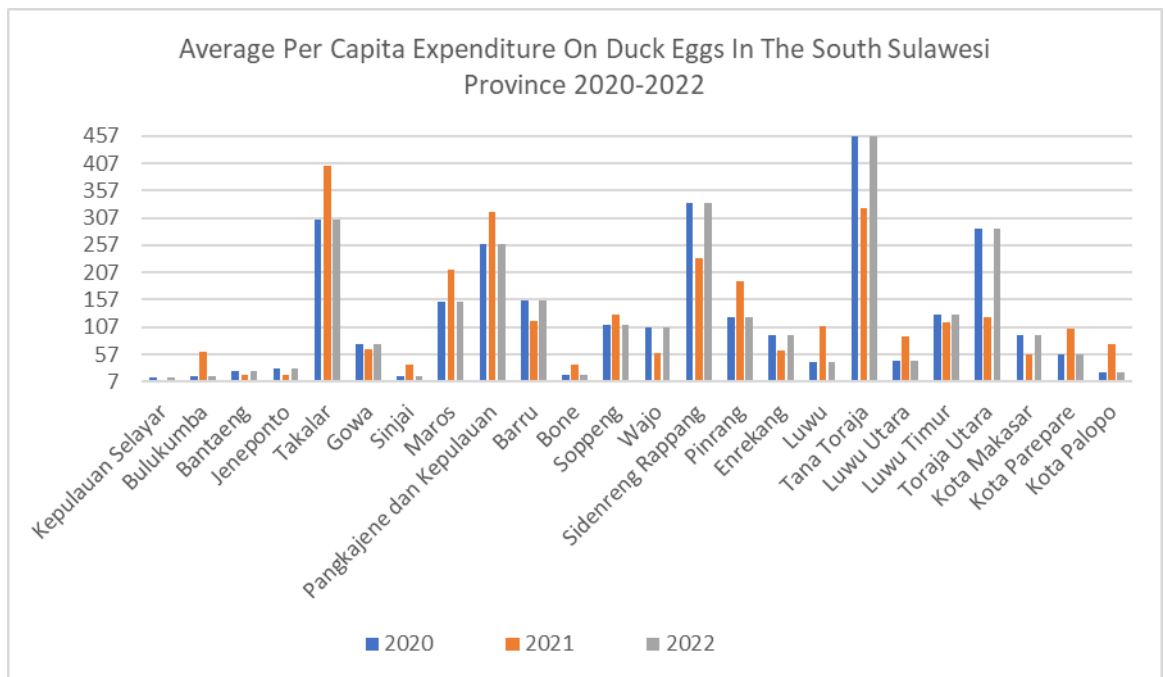
Duck Meat



Graph 6. Average Per Capita Expenditure of Duck Meat in South Sulawesi in 2020-2023 (Source: Results of data processing Central Statistics Agency)

Based on Graph 6 above, the average per capita expenditure of duck meat in South Sulawesi is Tana Toraja. This proves that the demand for duck products is very high because the area is an area with tourist areas that require very high duck products. According to Kline (2016), turning a community area into agrotourism will have a positive impact on demand and consumption. The consumption in question is of course in duck livestock products.

Duck Egg



Graph 7. Average Per Capita Expenditure of Duck Eggs in South Sulawesi in 2020-2022 (Source: Results of data processing Central Statistics Agency)

Based on Graph 7 above, we also see the average per capita expenditure of duck eggs in South Sulawesi, namely Tana Toraja. This proves that the demand for duck products is very high because the area is an area with tourist areas that require very high duck products. This also shows that the correlation between the relationship between demand for meat and eggs is in line with existing demand in the market. According to Kline (2014), agrotourism has a positive impact on the food system that today very much helps the process of improving tourist areas. This demonstrates the potential of agrotourism to connect specialty consumers with specialty farmers, increase farm incomes, support sustainably raised agriculture, and promote overall rural sustainability.

CONCLUSION

The production of duck meat and eggs in a region (especially for South Sulawesi Province) is greatly influenced by the capacity or quantity of feed sources and the distance of livestock to areas that produce duck feed. Duck livestock production is closely influenced by the human population, demand and tastes for duck farming, and the involvement of the private sector in advancing the duck farming business in a particular area.

Consumption of duck meat and eggs is greatly influenced by the conditions of a particular region. There is a culture that gives duck eggs unique characteristics. Some areas are tourist areas and have a very high appetite and interest in consuming ducks. This shows that tourist areas in general are areas that have the highest visitor population compared to other areas.

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