

Analysis of Beef Cattle Population in Bulukumba Districk, South Sulawesi Province, Indonesia

(Analisis Populasi Ternak Sapi di Kabupaten Bulukumba, Provinsi Sulawesi Selatan, Indonesia)

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui perkembangan populasi ternak khususnya sapi potong di Kecamatan Kajang, Kabupaten Bulukumba, serta apa upaya pemerintah yang telah dilakukan untuk pengembangan populasi sapi potong di Kecamatan Kajang, Kabupaten Bulukumba, dilaksanakan dari Februari – Agustus 2021 yang bertempat di Kecamatan Kajang Kabupaten Bulukumba Provinsi Sulawesi Selatan, Penelitian ini bersifat kuantitatif dengan menggunakan analisis trend, dengan hasil penelitian yaitu terjadi perkembangan populasi ternak sapi potong di Kecamatan Kajang Kabupaten Bulukumba. Setelah dilakukan peramalan dengan analisis trend menghasilkan bahwa populasi ternak sapi potong di Kecamatan Kajang untuk periode 2021 dan 2022 memperlihatkan bahwa perkembangan akan terus terjadi di tahun berikutnya.

Kata Kunci : Analisis, Perkembangan, Populasi, Ternak, Sapi Potong

ABSTRACT

This study aims to analyze the development of beef cattle population, as well as to identify government efforts in order to develop beef cattle population in Kajang District. The study was carried out from February – August 2021 which is located in Kajang District, Bulukumba Regency, South Sulawesi Province. Quantitative data were analyzed using trend analysis, with the results of the study that there is a development of beef cattle population in Kajang District, Bulukumba Regency. For the period 2021 and 2022 shows that have been made by the development will continue to occur in the following year.

Keywords : Analyze, Beef Cattle Population, government's effort, trend

INTRODUCTION

Among several existing livestock businesses, beef cattle farming is a business that is fairly easy and much in demand by the community (Rexroad et al., 2019), The increasing demand for beef occurs every year marked by the increasing number of imports, both imports in the form of beef (Rudatin, 2016; Weis, 2013). This requires people who are authorized in business or in the livestock sector to implement a self-sufficiency strategy in meeting the

community's need for national meat so that they are no longer dependent on imports (Beltran-Pea et al., 2020; Clapp, 2017).

A program in the development of a beef cattle business can achieve its goals if the available natural resources can be used properly (Wunderlich & Martinez, 2018), with appropriate optimization in accordance with the natural conditions of a region, facilities and infrastructure, utilization of technological developments, socio-economic conditions of the local

community, and support of government policies (Mahesh & Datt, 2021; Singh et al., 2021).

Based on the description of the background, research is carried out related to livestock farmer groups that have the ability to livestock business development. Livestock farmer groups are expected to become facilities that can facilitate the development of breeders by agencies/institutions that related, besides that breeders are used as a vehicle to improve member knowledge and skills.

METHODS

Activity Design

This type of research is quantitative research which is a type of research where this research is used to examine a particular population or sample.

Scope

This study involved farmers in Kajang District, Bulukumba Regency, who raise beef cattle business with a total population of 532 breeders.

Tools

The sampling technique that will be carried out in this study is using the solving formula. Furthermore, from the existing population, calculations are carried out using the slaving formula.

$$n = \frac{N}{1 + N \cdot e^2}$$

$$n = \frac{532}{1 + 532 \cdot 10\%^2}$$

$$n = \frac{532}{1 + 5,32}$$

$$n = 84$$

Description :

n = Sample Size

N = Population Size

e² = Percentage of allowance for inaccuracy due to sampling error that can still be tolerated or desired, which is 10%.

Place

The time and place of the research was done in February– August, 2022, which is located in Kajang District, Bulukumba Regency, South Sulawesi Province.

Data Collection Techniques

The types of data used in this study are:

1. Qualitative data are data which are generally in the form of statements that relate to variables from the study which include the development of beef cattle population.
2. Quantitative data is data in the form of numbers obtained from measurement results including data on adult female cows, pregnancy data, calf births.

Operational Definitions of research variables

The research variable that will be carried out consists of one variable of beef cattle population development in Kajang District, Bulukumba Regency. This measurement will be based on the results of interviews with breeders in Kajang District.

Analysis Techniques

Descriptive analysis was used to describe the characteristics of beef cattle farmers in Kajang District, Bulukumba Regency including age, education level, occupation, experience of raising beef

cattle, number of family members and number of cattle kept. Descriptive research aims to systematically and accurately describe situations or events in a particular field (Atmowardoyo, 2018). Furthermore, the data is tested for trends.

RESULTS AND DISCUSSION

Table 1. Variable measured in development of beef cattle population in Kajang District, Bulukumba Regency.

Variable	Sub Variable	Measurement Indicator
Development of Beef Cattle Population in Kajang District, Bulukumba Regency.	1. Growth of Population	a. Calf Birth b. Parent Pregnancy c. Livestock Purchase d. Immigration Rate
	2. Decline of Population	a. Livestock Death b. Productive Livestock Slaughter c. Livestock Sales d. Emigration Rate

Considering that the community's need for something and other things continues to increase which requires breeders to increase their investment

power to support urgent needs at any time, look at the development of beef cattle below:

Table 2. Total Beef Cattle Population in Kajang SubDistrict, Bulukumba District from 2016 to 2020.

No	Year	Population	Percentage (%)
1.	2016	11.073	17,66
2.	2017	11.019	17,57
3.	2018	13.088	20,87
4.	2019	13.530	21,58
5.	2020	13.982	22,30
	Total	62.692	100 %

Source: Dinas Peternakan Kabupaten Bulukumba, Provinsi Sulawesi selatan (Regional Livestock office of Bulukumba Regency, 2022).

Based on table 2 above, in 2016 the number of beef cattle in Kajang District with a population level of 17.66%, but in the following year the livestock population decreased, namely in 2017 the percentage of the livestock population was at 17.66% which means the livestock population in the District Kajang in 2017 decreased from the previous year which was 0.14%, but in 2018 the beef cattle

population increased rapidly with a percentage of 20.87%, then in 2019 it increased again by 0.17% from the previous year, and continues to increase in 2020, namely 22.30% with a percentage increase in the number of population from the previous year, which is 0.17%.

Data from the Kajang Sub-district, Bulukumba Regency from 2016-2020. Furthermore, calculations are carried out

using a linear equation, namely $Y = a + bx$, namely $Y = 62692 + 8329(x)$ with this

equation, the population development trend in 2021 is as follows:

Table 3. Trend of beef cattle population development in Kajang District, Bulukumba Regency in 2016-2020.

District	Trend		Estimation	
	Year	Population	Year	Population
Kajang	2016	11.073	2021	15.037
	2017	11.019	2022	15.870
	2018	12.088		
	2019	13.530		
	2020	13.982		

Source: Primary Data, 2021.

Based on table 3, in the second year there was a decline in population from the previous year, but in the following year, in 2018, the beef cattle population increased to the following year. It is estimated that it will continue to increase after the trend test is carried out, where in Kajang District in 2021 it is estimated that the beef cattle population will increase to 15.870. Therefore, it is necessary to carry out future development efforts so that the estimated population

data in the future can be in accordance with estimates even greater than the estimated population, so that the role of sharing parties is needed in increasing the livestock population from year to year (Abin et al., 2016; Drouillard, 2018).

According to data obtained from respondents, the increase of cattle population was due to increasing in some parameters as showed in table 4.

Table 4. Variables affected the increase number of beef cattle population in Kajang District, Bulukumba Regency.

	Beef Cattle Population Increase			
	Pregnancy	Birth	Purchase	Immigration
Cow	35	19	3	8
Bulls	0	14	2	1
Total	35	33	5	9

Source: Primary Data, 2021.

In table 4, above regarding the indicator factors for increasing livestock population, the effect of population growth in Kajang District is the presence of 35 pregnant cow, 33 calf births consisting of 19 cow and 14 bulls, then the purchase of 5 cattle, 3 of them were cows and 2 bulls, and as many as 9 immigration cattle from Tugondeng Village, Herlang District, Bulukumba Regency who were immigrated to Lembang Village, Kajang District, Bulukumba Regency, where 8 of

them were cows and 1 male bulls. which is an indicator of population decline. It was stated by Hu (2017) Beside the quick increment within the supply of animal nourishment items, the production demonstrate of livestock and poultry has experienced noteworthy changes to extend the capacity and effectiveness of production (Hu et al., 2017). Furthermore Diskin (2016) In spite of the fact that expanded endeavors are being made universally to hereditarily distinguish and

select for more reproductively efficient beef cows, this can be a more long-term procedure and will not supplant the

require for a tall level of technical productivity and administration hone at farm level (Diskin & Kenny, 2016).

Table 5. Effect of decreasing beef cattle population in Kajang District, Bulukumba Regency.

	Decrease in Beef Cattle Population			
	Death	Slaughter	Sale	Emigration
Cow	3	5	8	0
Bulls	1	2	13	0
Total	4	7	21	0

Source: Primary Data, 2021.

Based on table 5, it can be seen that the effect of population declines in Kajang District, which is an indicator that causes population decline, can be seen that the mortality rate in Kajang District is relatively low, only 4 in 2020, 1 bull and 3 cows, then in 2020 Another indicator, namely the slaughter of productive livestock, only occurred 7 cases consisting of 2 bulls and 5 cows. Then on the sales indicator, a total of 21 cows sold, 8 cows and 13 bulls, there was no emigration rate. Koleci stated that Need of motivating forces to contribute in animals division represent a noteworthy challenge for long-term advancement of cattle industry (Koleci et al., 2021).

The development of the beef cattle population is something that is very important to pay attention to, especially for breeders, because of the increase in the number of cattle or the body weight of the cattle themselves (Berry, 2018; Gowane et al., 2019; Rustinsyah, 2019). Beef cattle or cattle are commonly referred to as beef cattle, their presence in the society is very important (Agus & Widi, 2018), one of which is that beef cattle are usually used as investment land for the society or breeders (Haile et al., 2019; Tester & Langridge, 2010), of course the price of these cattle can increase if the maintenance is carried out properly

(Korhonen et al., 2018; VandeHaar et al., 2016), and at any time can be sold by the owner in this case the breeder if there is an urgent matter that requires large capital or money (Rustinsyah, 2019).

The expanding demand for meat has not been coordinated by household meat production, the supply of which is less than 60% of the national request for beef. The gap between beef supply and demand is increasing (Agus & Widi, 2018; Silvestre et al., 2018). Live cattle and solidified meat imports are an easy route arrangement in the short-medium term. Government endeavors for more than 15 a long time to create residential meat cattle generation for Indonesian self-sufficiency are however to figure it out the objective of self-sufficiency in meat production (Agus & Widi, 2018; Bawono et al., 2020). And the population of beef cattle has increased in Kajang District as one of solution to this problem.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions of the research are the population of beef cattle has increased and after testing the trend to predict the population of beef cattle in 2021 and 2022 in Kajang District, the population of beef cattle will continue to grow.

The Recommendations of the research are Farmers and the government work together in improving and maintaining the development of a good population, so that if it can be further improved, so that it can provide encouragement for 9 other sub-districts also continue to strive to continue to develop the number of livestock populations, especially for beef cattle populations.

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