RESEARCH ARTICLE | JUNE 05 2023

Influence of socio-economic characteristics on the scale of beef cattle business in Itterung Village Tellusiattinge Bone District FREE

Maryam; S. Baba ✉; A. Abdullah

AIP Conference Proceedings 2628, 130002 (2023)
https://doi.org/10.1063/5.0143977

Influence of Socio-Economic Characteristics on the Scale of Beef Cattle Business in Itterung Village Tellusiattinge Bone District

Maryam[1, b)], S. Baba [2, a)], and A. Abdullah [2, c)]

[1]*Study Program of Animal Science and Technology, of Hasanuddin University, Makassar 90245, Indonesia*
[2] *Department of Social Economics, Faculty of Animal Science, Hasanuddin University, Makassar 90245, Indonesia*

[a)] *Corresponding author: syahdarbaba@gmail.com*
[b)] *marmaryam123@gmail.com*
[c)] *abdullah_ina@yahoo.com*

Abstract. Business scale is one of the keys to the development of livestock businesses to support national meat self-sufficiency programs. If the scale of the farmer's business increases, then the cattle population will increase as well. This research aims to find out the influence of socioeconomic characteristics (capital, livestock seedlings, land area, animal feed, age, education level, number of family members, breeder experience, breeder motivation, perception of the farming business, extension intensity, and status of livestock ownership) simultaneously and partially against the scale of beef cattle business in Tellusiattinge Bone District. The study was conducted from July to August 2021. Taking in Itterung Village, Tellusiattinge Bone District with the consideration that in the village, the largest cattle population. The type of research used is a type of quantitative research explanatory. The number of breeders in Itterung Village as many as 88 people were selected as research samples. The type of data used in this study is quantitative data. Data collection is conducted using questionnaires. Data analysis uses the F test and the t-test using multiple linear regression models. The results showed that capital (X1), land (X3), feed (X4), education level (X6), number of family members (X7), breeder experience (X8), and breeder motivation (X9) affect the scale of beef cattle business (Y) while livestock seedlings (X2), age (X5), perception of farming business (X10), extension intensity (X11) and cattle ownership status (X12) has no real effect on the scale of slaughter cattle business (Y). Livestock business in Tellusiattinge Sub-district is still dependent on the availability of capital and land. To increase the scale of the business, an alternative funding model is needed so that the capacity of farmers can increase. Feed processing technology from rice straw waste is also needed so that the availability of feed can increase.

INTRODUCTION

Livestock is one of the sub-sectors of agriculture that greatly affects people's income in the Bone Regency. The livestock business has a competitive ability to compete in meeting the nutritional needs of the community. In addition, the livestock sector has a livestock development policy that is directed at the development of ruminant livestock to achieve self-sufficiency in meat. The beef cattle business is a source of meat production in Bone Regency, especially in Itterung Village which still relies on large ruminants, namely beef cattle because it is easy to maintain and an abundant source of feed for livestock [1].

Cattle are large ruminants that have high potential in the supply of meat. In Bone Regency, most of the cattle business is still the community's livestock, namely the maintenance is still traditional, as a side job from farmers with a livestock ownership scale of 1 to 5 heads. In general, the cattle business has long been developed by the community in Bone Regency as one of the livelihoods on a relatively small business scale because there are many obstacles and problems faced by farmers to develop beef cattle business scale [1].

In Tellusiattinge Sub-district, there are many obstacles faced by various breeders to develop their livestock business, such as capital, beef cattle, seeds, land area, and availability of feed. In addition, many factors affect the

Proceedings of the 4th International Conference of Animal Science and Technology (ICAST 2021)
AIP Conf. Proc. 2628, 130002-1–130002-6; https://doi.org/10.1063/5.0143977
Published by AIP Publishing. 978-0-7354-4529-1/$30.00

slow increase in the scale of the beef cattle business, namely internal, external factors and the maintenance system are still hereditary (traditional) Livestock businesses run by the people are generally only used as a sideline or savings that can be used at any time if the breeder needs it. a certain amount of money, such as selling their livestock for daily expenses, for their children's school fees, and other purposes, because raising beef cattle is not the main source of income for farmers in Tellusiattinge District. Whereas the main purpose of raising beef cattle is to improve the economic economy of the farmer's household, improve the standard of living and welfare of the farmer, especially in Itterung and Village. These effects resulted in the low productivity of cattle itself [2].

Seeing this reality, various efforts are continuously being made to meet the increasing demand for meat, including by importing beef cattle in the form of beef seeds and meat. To meet the demand for meat, farmers who are still traditional must further develop the scale of beef cattle farming as an effort to meet the demand for meat, increase income and develop the beef cattle business scale.

From the description above, of course, it becomes an important concern for farmer farmers to the obstacles and factors that influence the rate of increase and development of beef cattle business scale. This is the background for researching "Influence of Socio-Economic Characteristics on the Scale of Beef Cattle Business in Itterung Village Tellusiattinge Bone District".

RESEARCH METHOD

This research was conducted from July to August 2021 in Itterung Village, Tellusiattinge District, Bone Regency. Sources of data are primary data and secondary data. The types of data are quantitative and qualitative data. The population in this study was all breeders in Itterung Village, Tellusiattinge District, Bone Regency. The sample in this study was the number of farmers who carried out beef cattle farming as many as 88 people. The determination of the research location was based on the consideration that the Tellusiattinge District had a large cattle population. The data analysis used was descriptive data analysis and inferential data analysis using the f test (simultaneous) and partial test (t-test) with multiple linear regression models with the help of the SPSS 23 program. The instrument used was a questionnaire (questionnaire) followed by interviews with a breeder.

Definition of Conceptual Variables and Operational Variables

The definitions of conceptual and operational variables can be seen in Table 1.

TABLE 1. Definitions of Conceptual and Operational Variables.

Variable	Concept Definition	Operational definition of Indicator
Capital (X.1)	The total capital used in the production process is both financial and non-financial capital (rupiah).	According to Andrenie [3], Capital is everything in the form of money or all goods that are still in the production process and are used for business costs.
Cattle Seeds (X.2)	Whether or not there will be or prospective broodstock of beef cattle.	According to Sugeng [4], one of the success factors in raising livestock is the availability of seeds and skills in choosing livestock seeds.
Land (X.3)	There is land used for growing forage	According to Ananta et al. [5], Breeders who have relatively large land are very important capital in the cattle business, especially in the development of livestock as shepherds' land, planting forage for livestock.
Feed (X.4)	Availability of sufficient feed for beef cattle	According to Ahmadi [6], the availability of feed and the use of additional feed support the growth and breeding of beef cattle.
Age (X.5)	Age level of beef cattle breeders.	According to Maryam et al. [7], that the age of the breeder is not a determinant of the scale of the beef cattle business. This can be

		because the age criterion of the breeder does not encourage the performance of the breeder in the beef cattle business, both at a productive and unproductive age.
Education Level (X.6)	The length of education of beef cattle breeders.	According to Indrayani and Andri [8], with a high level of education, it is hoped that breeders will be able to carry out their livestock business activities better because they are supported by wider knowledge and insight.
Number of Family Members (X.7)	The number of members who are dependent on the farmer and involved in raising beef cattle.	According to Ananta et al. [5], that the number of family members involved in the workforce affects the beef cattle business. The more workers there are, the more the livestock business will grow and develop.
Breeder Experience (X.8)	The length of time for farmers to raise beef cattle	According to Indrayani and Andri [8], the experience of farmers in the livestock business can affect the ability to manage livestock businesses, with long experience, farmers have a better understanding of the livestock business they run.
Farmer Motivation (X.9)	Own desire to raise beef cattle or motivated by other parties	According to Riszqina [9], that the motivation of farmers, the scale of business affects the productivity of beef cattle business the more or the higher the motivation of a person, the more desire to do business increases.
Perception of Farming Business (X.10)	The importance of beef cattle business with other businesses.	According to Ansari Didik [10], that in determining whether or not the farmer's perception of this livestock business program is good, a measurement of the monthly income of farmers is used.
Extension Intensity (X.11)	How many farmers receive counseling	According to Saswita et al. [11], that the perception of farmers about the role of extension workers in increasing knowledge and management of cattle farming is closely related to the management of beef cattle farms.
Livestock Ownership Status (X12)	Owned or noisy system in addition to containing elements of cooperation for the results	According to Ahmadi [6], self-owned livestock is livestock wholly owned by farmers. Fighting cattle is usually applied to farms with a profit-sharing mechanism between the breeder and the owner of the capital.

Empirical Research Model

Based on the hypothesis developed in this study, the empirical research model can be designed as follows: With the mathematical model as follows:

$$Y = a + b1X1 + b2X2 + b3X3 + e \quad (1)$$

Information:

Y = Dependent variable (predicted value)

X_1 and X_2 = Independent variable

A = Constant (the value of Y' if X_1, X_2 ..... $X_n = 0$)

B = Regression coefficient (increase or decrease value)

RESULTS AND DISCUSSION

To develop the scale of beef cattle farming in Itterung Village, Tellusiattinge District, Bone Regency, efforts were made to increase the scale of the beef cattle business, namely knowing the obstacles and factors that influence developing and increasing the scale of the beef cattle business. The results of the complete multiple linear regression analysis using SPSS software (IBM Statistics 23) can be seen in Table 2. The results of the ANOVA in Table 2 show that the independent variable (X) affects the dependent variable (Y), namely the increase in the scale of the beef cattle business.

TABLE 2. Results of data processing using SPSS software (IBM Statistics 23).

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.944[a]	0.890	0.864	0.34

Table 2 showed that the multiple linear regression analysis obtained a coefficient of determination, namely the R square value of 0.944. It means that the independent variable (x) affects increasing the scale of the beef cattle business (Y) by 94.4%. while the remaining 5.6% is influenced by other variables.

TABLE 3. the effect of the independent variable on the dependent variable.

Regression Model	Coefficient of regression direction	t-test	sig.
(Constant)	-1.75**	-4.16	0.00
Capital (x1)	0.31**	2.96	0.00
Cattle Seed (x2)	0.05 tn	0.43	0.67
Land (X3)	0.34**	5.78	0.00
Feed Availability (x4)	-0.66**	-4.26	0.00
Age (X5)	0.10 tn	1.07	0.29
Education level (X6)	0.15**	3.62	0.00
Number of family members (X7)	0.12*	2.05	0.04
Farmer experience (X8)	0.25**	4.92	0.00
Farmer motivation (X9)	0.18*	2.10	0.04
Perception of farming (X10)	0.13 tn	1.40	0.17
Extension intensity (X11)	0.11 tn	0.91	0.37
beef cattle ownership status (X12)	0.13 tn	1.41	0.16

Information: If sig <0.001: very significant effect (**)
If sig <0.005: significant effect (*)
If sig >0.005: no significant effect (tn)

To determine the effect of the independent variable on the dependent variable partially, it is presented in Table 3. The results of the T-test are presented in Table 3. A partial test with T-test was carried out to determine the magnitude of the influence of the variables in Table 3 showing that the values of the regression direction coefficients between capital (X1), livestock breeds (X2), land availability (X3), availability of feed (X4, age (X5), education (X6), number of family members (X7), the experience of farmers (X8), motivation of farmers (X9), perception of farming business (X10), the intensity of extension (X11) and ownership status beef cattle (X12) to increase the scale of beef cattle business (Y). The results of the t-test on multiple linear regression analysis showed significance on

each factor if sig <0.05 means the influence of the independent variable has a significant effect. produces the following answers:

1. The modal variable (X1) has a significant value of 0.000 < from 0.05 so it can be interpreted that it has a significant effect. The availability of capital is accepted partially and has a significant effect on increasing the scale of the beef cattle business. The results of this study are supported by researchers, namely Andrenie [3] that capital is everything in the form of money or all goods that are still in the production process and are used for business costs. The more business capital increases, the greater the opportunity to increase the scale of the beef cattle business.
2. The livestock seed variable (X2) has a significant value of 0.67 < from 0.05 so it can be interpreted that it has no significant effect. Livestock seeds are not accepted partially, meaning that they do not affect increasing the scale of the beef cattle business. From the research results of breeders who have difficulty in capital to buy or carry out IB by natural mating, one of the success factors for raising livestock is the availability of livestock seeds and skills in choosing livestock seeds. The results of this study are supported by researchers, namely Sugeng [4] in terms of the availability of seeds using selection and removal of cows that are not good from the group of cows that are kept, it is necessary to develop beef cattle.
3. The variable (X3) land availability has a significant value of 0.000 < from 0.05 so it can be interpreted that it has a significant effect on increasing the scale of the beef cattle business. The results of this study are supported by researchers, namely Ananta et al [5] that the area of land owned by farmers will have an effect in determining the type of business. Farmers who have relatively large land are very important capital in the cattle business, especially in developing livestock as shepherds' land, planting forage for livestock, and increasing farmers' income.
4. The variable (X4) of feed availability has a significant value of 0.000 < from 0.05 so that it can be interpreted as having a significant effect. The availability of feed is partially accepted and influences increasing the scale of the beef cattle business. The results of this study are supported by researchers, Ahmadi [6] that farmers who use additional feed, namely bran, gamblong, and concentrate in the use of additional feed will support the growth and breeding of beef cattle.
5. The variable (X5) age has a significant value of sig 0.29 < from 0.05, meaning that it has no significant effect. Age is not accepted partially, meaning that it does not affect increasing the scale of the beef cattle business. The results of this study are supported by researchers, Maryam et al [7] that the age of the breeder is not a determinant of the scale of the beef cattle business. However, this decrease does not affect the income of farmers. This could be due to the age criteria of breeders not encouraging the performance of farmers in the beef cattle business, both productive and unproductive age, which did not affect the scale of the beef cattle business.
6. The variable (X6) education level has a significant value of 0.00 < from 0.05, which means it has a significant effect. The level of education is partially accepted and affects increasing the scale of the beef cattle business. The results of this study are supported by researchers, namely Indrayani and Andri [8] that the level of education has an influence on the beef cattle business both technically, management and livestock business management in the absorption of new technology, with a high level of education it is hoped that farmers will be able to carry out their livestock business activities more efficiently. good, because it is supported by wider knowledge and insight.
7. The variable (X7) the number of family members has a significant value (sig) of 0.04 < from 0.05, which means that it has a significant effect. The number of family members is accepted partially and affects increasing the scale of the beef cattle business. The results of this study are supported by researchers, Ananta et al [5] that the number of family members involved in labor affects the beef cattle farming business. The more workers there are, the more the livestock business will grow and develop.
8. The variable (X8) of the experience of farmers has a significant value (sig) of 0.00 < from 0.05, which means that it has a significant effect. The experience of farmers is partially accepted and influences increasing the scale of the beef cattle business. The results of this study are supported by researchers, Indrayani and Andri [8] that the experience of farmers in the livestock business can affect the ability to manage livestock businesses, with long experience farmers have a better understanding of the livestock business they run.
9. The variable (X9) of livestock motivation has a significant value (sig) of 0.04 < from 0.05, which means that it has a significant effect. The motivation of farmers is partially accepted and influences increasing the scale of the beef cattle business. The results of this study are supported by researchers, namely Riszqina et al [9] that the motivation of farmers, the scale of the business has a very real effect on the productivity of beef cattle business the more or the higher the motivation of a person, the desire to do business increases.
10. The variable (X10) perception of farming has a significant value (sig) 0.17 < from 0.05, which means that it does not have a significant effect and is not partially accepted to increase the scale of the beef cattle business. The

results of this study are supported by researchers, namely Ansari [10] that is determined whether or not the farmers' perceptions of this livestock business program are used to measure the income of farmers received per month. The increase in income received by farmers will affect the better perception of farmers on the program and vice versa.

11. The variable (X11) intensity of extension on farming has a significant value of 0.37 < from 0.05, which means that it has no significant effect. The perception of farming is not partially accepted, meaning that it does not affect increasing the scale of the beef cattle business. The results of this study are supported by researchers, namely Ahmadi [6], that the perception of farmers about the role of extension workers in increasing knowledge and management of cattle farming is closely related to beef cattle management. From the results of the research, the role of extension workers to farmers/breeders has not been maximized and is rarely done so that the intensity of an extension does not affect the scale of their livestock business, breeders only rely on experience gained from generation to generation (traditional) and the duration of raising livestock.
12. The variable (X12) of beef cattle ownership status has a significant value (sig) of 0.16 < from 0.05, which means that it has no significant effect. Beef cattle ownership status is not accepted partially, meaning that it does not affect increasing the scale of the beef cattle business. The results of this study are supported by researchers, namely Ahmadi [6] that own livestock is livestock wholly owned by farmers. Fighting cattle is usually applied to farms with a profit-sharing mechanism between the breeder and the owner of the capital. This tussle mechanism has proven to be mutually beneficial for both parties. The livestock ownership status does not affect the development of the beef cattle business because farmers who have sufficient capital will directly buy their livestock compared to making noise.

CONCLUSION

Based on the results of the study, it can be concluded that the variables that have a significant effect on the scale in Tellusiattinge District in Itterung Village are the variables of capital, land, feed, education level, several family members, the experience of farmers, and farmer motivation affect the scale of beef cattle business while livestock breeds, age, perception of farming, the intensity of extension and status of livestock owners have no significant effect on the scale of the beef cattle business.

REFERENCES

1. Statistics Indonesia, “Badan Pusat Statistik Kabupaten Bone,” (2019), available at *https://bonekab.bps.go.id/*
2. Livestock Service Office of Bone Regency, “Dinas Peternakan Kabupaten Bone,” (2019), available at *https://disnak.bone.go.id/2019/*, 2019
3. V. Andrenie, “Entrepreneurial Business Capital,” (2013), available at *http://education.blogspot.com./013/entrepreneurshipcapital*.
4. Y. B. Sugeng, *Sapi Potong* (Penebar Swadaya, Jakarta, 2003).
5. A. Ananta, H. Hafid, and L. O. A. Sani, “Faktor-faktor yang mempengaruhi produktivitas usaha ternak sapi bali pada peternak transmigran dan non transmigran di Pulau Kabaena Kabupaten Bombana,” *J. Ilmu dan Teknol. Peternak. Trop.* **2**, 52–67 (2015).
6. Y. N. Ahmadi, “Karakteristik Peternak Sapi Potong di Kecamatan Badas Kabupaten Kediri,” Undergraduate Thesis, Universitas Nusantara PGRI, 2017.
7. M. Maryam, M. B. Paly, and A. Astati, “Analisis faktor-faktor yang mempengaruhi penentu pendapatan usaha peternakan sapi potong (studi kasus Desa Otting Kab. Bone),” *J. Ilmu dan Ind. Peternak.* **3**, 79–101 (2016).
8. I. Indrayani and A. Andri, “Faktor-faktor yang mempengaruhi pendapatan usaha ternak sapi potong di Kecamatan Sitiung, Kabupaten Dharmasraya,” *J. Peternak. Indones.* **20**, 151–159 (2018).
9. R. Riszqina, I. Isbandi, E. Rianto, and S. I. Santoso, “The analysis of factors affecting the performance and benefit of karapan (racing) cattle business in Madura Island, East Java, Indonesia,” *J. Indones. Trop. Anim. Agric.* **39**, 65–72 (2014).
10. D. Ansari, “Persepsi Peternak Terhadap Program Pemberdayaan,” Magister Thesis, Hasanuddin University, Makassar, 2017.
11. U. M. I. Saswita, N. I. Suparta, and G. I. Suarta, “Persepsi peternak tentang peranan penyuluh dalam meningkatkan pengetahuan dan manajemen peternakan sapi Sekar Sari Desa Pangsan, Kecamatan Petang, Bandung,” *J. Trop. Anim. Sciene* **1**, 34–44 (2013).