

The Influence Of Farmer Characteristics On Beef Cattle Cultivation Competence In Suwawa District, Bone bolango regency

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Abstract

The success of beef cattle farming is closely related to the characteristics of farmers, as good character makes it easier for farmers to solve problems related to beef cattle breeding competencies. The purpose of this study is to find out the characteristics of farmers, beef cattle cultivation competence and the influence of farmer characteristics on beef cattle cultivation competence. The research was carried out in Suwawa District, Bone Bolango Regency. The research method used is the survey method The sample determination was carried out by purposive sampling, the number of samples was 54 people spread across 11 villages that are members of the livestock group. The analysis used was a quantitative descriptive analysis, namely to describe the characteristics of farmers and the level of competence of beef cattle cultivation and multiple regression analysis to test the influence of characteristics including age, education, experience and livestock ownership, on beef cattle cultivation competence. The results of the study show that the characteristics of farmers have an average age of 51 years which is classified as productive, the average elementary education is 44.4%, the average livestock business experience is 21 years, the average livestock ownership is 4 heads,. The level of competence of cattle farmers in the aspect of seeds has a score of 144, feed 157 cages, 146 reproduction, and 159 diseases. All aspects are in the good category with an average score of 155. at intervals of 135-175.5 . Variables of education and experience have a positive and significant effect on the competence of beef cattle cultivation, age has a positive but not significant relationship, livestock ownership has a negative and insignificant relationship. Overall, the influence of farmer characteristics on beef cattle



cultivation contributed 38%.

Keyword: Characteristics of Farmers, Competence, Beef Cattle Cultivation.

INTRODUCTION

Livestock is one of the prospective business sectors so it is easy to encourage businesses for farmers and their families as a source of income. Cattle, especially beef cattle as meat producers, which are the main products of livestock products with high economic value and important meaning in people's lives, especially in meeting the needs of animal protein.

The success of the beef cattle business is very closely related to the characteristics of farmers because good nature makes it easier for farmers to solve livestock business problems. Characteristics of farmers include: age, level of education, farming experience, family dependents and capital. Farmer characteristics are one of the considerations in the most profitable cooperation between fellow farmers so that the competence of farmers provides the expected results.

Farmers who have different characteristics and competencies must always receive attention, especially in technical aspects such as knowing superior seeds, quality feed, vaccines/medicines, cages, and labor. Farmers as a community show their identity through different characteristics will always interact with the environment and learn new things in the hope of following developments. The characteristics and competencies of farmers are an illustration that will show success in managing their livestock business.

Suwawa District is one of the areas in Bone Bolango Regency that relies on a source of livelihood by managing a beef cattle business. The beef cattle population in Suwawa District is 4,717 heads (BPS Gorontalo. 2023), which is expected to make a great contribution to the community, especially farmers. The potential for the development and improvement of the livestock business must be done by changing the way of thinking and growing its characteristics by having a number of educational and experience provisions that support the success of the livestock business. Farmers have generally joined groups, although in groups problems often arise because they have different characteristic backgrounds, in addition to diverse characteristics of farmers as well as problems with limited competence in handling their livestock such as the problem of selecting superior seeds to marketing and the use of technology, this will directly affect the success of farmers in managing beef cattle businesses. .

The individual characteristics of farmers vary and are characteristic that show a difference in the range of ability to solve a problem. The difference in the characteristics of farmers shows



that the performance of one farmer is different from another and this is very related to the competence of farmers. Farmers in Suwawa District currently do not know how characteristics affect the competence of beef cattle cultivation, even though characteristics are factors that can determine the success or not of a beef cattle business. Therefore, it is necessary to know the influence of farmer characteristics on competence in beef cattle cultivation in Suwawa District.

METHOD

This research was carried out from November 2024 to January 2025 in Suwawa District, Bone Bolango Regency using a survey method. The determination of samples was carried out by *purposive sampling*, the number of samples was 54 people spread across 11 villages and members of livestock groups. The analysis used was quantitative descriptive analysis, namely to describe the characteristics of farmers and the level of competence of beef cattle cultivation, and multiple regression analysis to test the influence of characteristics including age, education, experience and livestock ownership, on the competence of beef cattle cultivation.

RESULTS AND DISCUSSION

Respondent Characteristics

Farmer characteristics are all characteristics found in farmers. Farmer characteristics are understood as a collection of demographic, economic, social and resource attributes (e.g., age, education, experience, land area, assets) that are used to classify and understand the heterogeneity of smallholder farmers (Nyambo *et al.* 2019). Characteristics in the study included age, education level, experience and livestock ownership.

Table 1. Respondent Characteristics

NO.	Respondent Characteristics	Category	Number of Respondents	Percentage (%)	Average
	Age	0-15 15-64 >64	0 49 5	0 90,6 9,2	51 Years (Productive)
	Education	SD JUNIOR SMA S1	24 15 16 1	44,4 24,0 29,7 1,9	68,4 % Basic Education
	Experience	< 10	9	16,7	21 Years

		10-20	20	37.0	
		>20	25	46,3	
	Livestock	1-5	49	90,8	4 Tails
	Breeding	6-20	5	3,7	
		> 2	0	5,5	

Source: Primary data processed. 2025

Table 1 shows that the characteristics of beef cattle farmers respondents in Suwawa District, Bonebolango Regency have quite diverse variations.

1. Age

Age is the length of a person's life time which is calculated from birth to a certain time, and is one of the socioeconomic factors that affect a person's ability to work, produce, and accept and apply innovation, especially in the fields of agriculture and livestock (Soekartawi, 2019). The largest number of respondents were in the productive age group, which was 49 people or 90.8%. and the average age of the respondents was 51 years old. At a productive age, farmers can optimize the performance of farmers better, are enthusiastic about raising livestock and have strong motivation. Prasetya *et al.* (2019), stated that the productive age of 15-64 years still has a high enthusiasm and is easy to adopt new things. In contrast to farmers who are elderly over 64 years old , they have experienced a decrease in their ability to work, so they are classified as non-productive age. This is in line with the opinion of Ibrahim *et al.* (2020), who stated that the older farmers are, the more productivity decreases.

2. Education

Breeder education is a facilitator of agricultural development because with education farmers get to know knowledge, skills and new ways of carrying out business activities. High levels of education have an effect on the speed to adopt innovation, understand the nature and function of innovation (Ibrahim *et al.* 2020). These results show that the majority of farmers still have a basic (low) educational background, so they experience limitations in accepting and understanding aspects of livestock cultivation and innovations offered to improve livestock businesses. Risqina (2011), the level of education has a significant influence on an individual's mindset. Education not only shapes a person's way of understanding a problem, but also affects the accuracy of decision-making and the ability to manage management, especially when managing a business to be more directed and sustainable.

3. Experience

Respondents have an average of 21 years of experience, which shows that the breeders

have experience with the old category, this is according to the statement. Manyamsri *et al.* (2014), categorized experience in farming into new experience, which is less than 10 years, medium experience, which is 10-20 years, and old experience, which is more than 20 years. On the other hand, novice farmers—with less experience—tend to still need extra assistance to understand new techniques and implement counseling recommendations.

Farmers with long experience are often more stable in their actions, but can be more selective about change. Takanjanji *et al.* (2022), revealed that the experience of raising livestock has a significant effect on technology adoption, meaning that the longer the experience of farmers, the greater their tendency to adopt innovative technology. Experience is often closely related to the age of the farmer. Farmers in Suwawa District are on average 51 years old with the old category still productive. Older farmers usually have longer experience in managing their livestock business, including in terms of handling diseases, feed, and livestock reproduction (Wulandari, 2021).

4. Total Livestock Ownership

Livestock ownership is the amount or ownership of livestock owned by farmers for production, saving, or investment purposes. According to Soekartawi (2019), livestock ownership reflects the level of economic ability of farmers and the scale of the livestock business being run. In Suwawa District, there is a small scale of beef cattle ownership, which is under 5 heads, this is according to the statement of Suherman *et al.* (2021), which states that traditional livestock businesses are generally run by farmers with limited land and livestock ownership of 1–5 heads. Irianto *et al.* (2020), also categorizes small-scale if the number of livestock owned ranges from 1 to 5 heads. The average livestock ownership is only 4 heads. This indicates that the beef cattle business in Suwawa District is still relatively small but beef cattle are still used as a source of income and savings that can be sold at any time, this is in line with the statement of Yusdja (2021), who explains that small-scale farmers where livestock function as life savings, long-term assets, as well as supporting the family economy.

Farmers' Competence in the Beef Cattle Business

According to Wibowo (2021), stating competence is a combination of knowledge, skills, and behaviors that can be used to increase the effectiveness of a person's performance. The results of a study conducted in Suwawa District, Bone Bolango Regency show that the success rate of beef cattle cultivation is in the good category. The results of farmers' competence level in beef cattle cultivation are presented in Table 2

Table 2. The Level of Competence of Farmers in the Technical Aspects of the Beef Cattle Business

No.	Cultivation	Score	Percentage (%)
1	Seed	144	18,6
2	Feed	157	20,3
3	Stable	146	18,9
4	Reproduction	168	21,7
5	Disease	158	20,5
	Sum	773	100
	Average	154	

Source : Primary data processed, 2025

In Table 2. The level of competence of farmers in the technical aspects of the beef cattle business in Suwawa District, Bone Bolango Regency obtained an average score of 154 or 71.75%, which means that it shows that the level of competence of farmers in the technical aspects of the beef cattle business in Suwawa District, Bone Bolango Regency is classified as good. However, it still needs to be upgraded in competence, especially in the aspect of ideal seeds and cages so as to ensure the overall health of livestock so that it can increase productivity. According to Sudono (2010), the level of knowledge and skills of farmers greatly affects the productivity of beef cattle and cattle welfare. If farmers' competence in beef cattle cultivation has shown results, it is expected to improve the welfare of farmers' lives. This hail is in accordance with the statement of Soekartawi (2019), that farmers who have high competence are able to increase productivity, expand market networks, and manage business risks better. Thus, improving competence through education, training, and business experience will have a positive impact on the welfare of beef cattle farmers.

The Influence of Characteristics on Farmer Competence in the Beef Cattle Business in Suwawa District, Bonebolango Regency

1. F Test (Simultaneous)

Based on the results of the regression analysis, an F value of 6.90 was obtained with a significance level (Sig. = 0.000). Because the significance value is less than 0.05, the regression model consisting of independent variables of age, education, livestock ownership, and livestock experience simultaneously has a significant effect on the dependent variables of farmer competence. This shows that the four characteristics of farmers are together able to explain the

variation in the competence of beef cattle breeders in Suwawa District, Bone Bolango Regency. The magnitude of the determination coefficient (Adjusted R Square = 0.38) indicates that about 38% of the variation in farmer competence can be explained by all four variables of farmer characteristics, while the rest (62%) is influenced by other factors outside the study model.

2. T test (Partial)

The results of the t-test in the Coefficients table show the influence of each independent variable on the competence of farmers, with the following interpretation:

a) X1 (Age) (Sig. = 0.093 > 0.05)

The age variable has a positive but insignificant relationship with the competence of farmers, with a coefficient value of $B = 0.12$. This means that the increasing age of farmers (especially those who are of productive age), does not guarantee that they can improve competence in managing beef cattle business, but age still affects the competence of beef cattle cultivation. This is in line with the results of Maryam et al's research, (2016) which states that age is one of the factors that can affect labor productivity, where age is related to work ability and mindset that plays a role in determining business improvement and development.

b) X2 (Education) (Sig. = 0.006 < 0.05)

The educational variable has a significant effect on competence with a coefficient of $B = 0.04$ indicating the direction of a positive relationship. This indicates that the level of formal education can be the basis of knowledge, becoming a direct determinant in improving the competence of farmers, which is supported by technical skills in livestock breeding, especially a lot of additional knowledge gained through experience.

c) X3 (Livestock Ownership) (Sig. = 0.015 > 0.05)

The ownership variable does not show a significant effect on the competence of farmers. With a coefficient of $B = -0.15$ with a negative value, the number of livestock owned is not strong enough to increase competence if it is not supported by adequate knowledge and skills.

d) X4 (Breeding Experience) (Sig. = 0.000 < 0.05)

The variable of breeding experience showed a positive and significant effect on the competence of farmers, with a coefficient value of $B = 0.42$. This means that the more experience in livestock farming one has, the higher the competence of farmers in managing beef cattle and shows that competence is more determined by practical experience factors than formal education or the number of livestock ownership.

The results of the test partially showed that education and experience of breeding had a

positive and significant effect on the competence of beef cattle cultivation, This did not apply to the age variable that had a positive relationship direction, but it was not proven to be significant. and indicates that increasing age does not necessarily increase the competence of farmers, because competence is more influenced by the way livestock is managed, not just the number of years or ownership of cattle.

The dominant factor that shapes the competence of beef cattle breeders in Suwawa District, Bone Bolango Regency is education and experience in livestock farming. These two variables illustrate the importance of maturity and practical skills built from the length of involvement in the livestock business. Therefore, the capacity building program for farmers should be focused on strengthening practical experience through continuous counseling, technical training, and field assistance, in order to improve the competence of farmers more evenly, especially for farmers with low levels of formal education and small scale of livestock ownership.

CONCLUSION

Based on the results of the discussion, it can be concluded that beef cattle farmers who are at a productive age (average 51 years), have basic education, have an average of 21 years of experience, and have a scale of small livestock ownership show good cultivation competence in the aspects of seeds, feed, cage, diseases, and reproduction, but still need to improve technical understanding to optimize productivity, while the characteristics of farmers have a significant effect on competence with contribution of 38%, the variables of education and experience of livestock had a significant positive effect, while age was positively related but not significant and livestock ownership was negatively related and insignificant.

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