Tarjih: Agribusiness Development Journal. Volume 04 Number 02 December (2024) Page: 82-88
DOI: https://doi.org/10.47030/tadj.v4i02.820

e-ISSN: 2798 - 0782
Tarjih: Agribusiness Development Journal
Journal Homepage: https://jurnal-umsi.ac.id/index.php/agribisnis

The Dynamics of Farmer Motivation in Cattle Breeding: A Case Study of Mario Marennu Cattle Group, Kulo District

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Received : September 6, 2024
Revised : December 15, 2024
Published: December 23, 2024

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ABSTRACT

Farmer motivation is critical in increasing the productivity and sustainability of livestock businesses, especially in rural areas. This study aims to identify the level of farmer motivation in Mario Village, Kuro District, and Sidenreng Rappang Regency and analyze the factors that influence it. With a quantitative descriptive approach and multiple regression analysis using SPSS 16.0 software, this study provides an in-depth description of the relationship between age, education, and livestock farming experience factors on farmer motivation locally. This study aimed to determine the level of farmer motivation in Mario Village, Kulo District, Sidenreng Rappang Regency, and the factors that influence this motivation. The method used was quantitative descriptive, and the sample consisted of 63 respondents. Data were collected through questionnaires and analyzed using multiple regression using SPSS 16.0 software. The results showed that two main factors significantly influenced farmer motivation: age and livestock farming experience. This can be seen from the regression coefficient of age (X1) reaching 0.500 and farming experience (X2) reaching 0.320. These values show a significant value of less than 0.05, indicating that they significantly influence farmer motivation. On the other hand, the level of education (X3) does not have a significant effect, with a negative regression coefficient of -0.172 and a significance value of 0.05 or more, indicating that education does not directly affect farmer motivation in this situation. In addition, the results of the simultaneous test (F) show that overall, the factors of age, education, and livestock farming experience significantly influence the motivation of farmers to run livestock farming in their villages. This shows that although schooling has no stand-alone influence, combining these factors is still essential in motivating farmers.

Keywords: *Livestock, Age, Experience, Education*

INTRODUCTION

Livestock development in Indonesia is an integral part of agricultural sector development and has a strategic role in supporting national food security and improving community welfare, especially in rural areas. Along with population growth and improving living standards, the demand for livestock products, especially beef, continues to increase significantly. In the context of sustainable agricultural development, the cattle farming sector is a significant concern because of its multifunctional role: in addition to providing meat as a source of animal protein, cattle farming also contributes to the village economy by providing employment and additional income for small farmers (Aiba et al., 2018).

Most livestock breeders in Indonesia are small farmers who run livestock businesses as a side activity besides farming. However, challenges such as low productivity and lack of good business management are still the main obstacles to the development of this sector. Therefore, developing the cattle farming sector requires collaboration across parties, including the government, the private sector, and the community. Support can

provide production facilities, training, access to broader markets, and modern technology to increase efficiency and production results. With this comprehensive approach, the great potential of cattle farming can be optimized, especially in rural areas that are highly dependent on this sector for their livelihoods (Aiba et al., 2018).

In addition to its contribution to meat production, cattle also have additional benefits, such as producing manure that can be processed into organic fertilizer and labor to help with agricultural activities. These benefits make the development of cattle farming one of the important pillars in increasing overall agricultural productivity. With good management, this sector not only improves the welfare of farmers but also strengthens the stability of beef supply at the local and national levels, thereby helping to maintain sustainable food security (Utama, 2020).

The success of cattle farming development not only depends on the availability of facilities and infrastructure but is also greatly influenced by the motivation of the farmers. Motivation is an internal factor that determines the extent to which farmers strive to increase the productivity of their livestock. Highly motivated farmers are more likely to innovate, adopt new technologies, and find ways to improve the efficiency of their businesses. Conversely, lack of motivation often results in productivity stagnation, where livestock businesses are managed traditionally without real effort to improve. This motivational factor is usually influenced by economic, social, and psychological drives, which interact with each other to determine the level of commitment of farmers in managing their businesses (Hendrayani & Febrina, 2019).

In Mario Village, Kulo District, Sidenreng Rappang Regency, the motivation of livestock farmers is one of the main challenges in developing the livestock sector. This village has excellent potential for cattle farming, but several obstacles, such as low motivation of farmers, hamper productivity. During periods outside the rice planting season, for example, some farmers release their cattle without optimal management, indicating a low motivation to maintain livestock intensively. This impacts productivity and the physical condition of livestock, which is often poorly maintained (Alam et al., 2013).

Farmer motivation is greatly influenced by internal factors such as age, education level, and farming experience. Farmer age is often an indicator of their physical and mental capacity to run a livestock business. Younger farmers are generally more energetic and open to change, while older farmers usually have more experience, although sometimes less flexible in accepting innovations. Education level also plays an important role, as more educated farmers are more likely to understand and adopt more efficient farming technologies and methods. Farming experience provides practical skills that help farmers overcome technical challenges like feed management and livestock health. However, this experience alone is not always enough if not balanced with new knowledge (Utama, 2020).

In addition to internal factors, farmer motivation is influenced by external factors, such as government support, access to capital, availability of quality feed, and livestock health conditions. This external support, such as training programs, subsidies, or access to broader markets, can encourage farmers to develop their businesses. The social environment is also important; a farmer community network can encourage motivation through sharing experiences and moral support. Meanwhile, physical conditions such as access to clean water resources and adequate feed infrastructure also affect farmer productivity (Nugraha et al., 2021).

The research conducted in Mario Village aims to identify factors that influence the motivation of cattle farmers, including age, education, and livestock farming experience. The study also examines how external factors such as government support and access to technology affect motivation. Younger and more educated farmers are generally more adaptive to change. In contrast, experienced farmers tend to be more skilled in managing their livestock, although they often need additional encouragement to adopt innovations. These findings will help formulate more effective policies to improve farmer motivation and productivity. (Haumahu et *al* ., 2020).

Overall, the development of cattle farming in Mario Village requires a holistic approach, including improving infrastructure, providing modern technology, and increasing the motivation of farmers. With synergy between the internal motivation of farmers and external support from the government and the private sector, the livestock sector can become Indonesia's main driver of rural economic development. This approach contributes to improving farmers' welfare and supports national food security in a sustainable manner (Utama, 2020).

RESEARCH METHODS

Location and Time of Research

This research was conducted in Mario Village, Kulo District, Sidenreng Rappang Regency, South Sulawesi. The research implementation period lasted two months, from May to June 2024. Mario Village was chosen because it has enormous cattle farming potential. However, it still faces challenges in increasing the motivation of farmers, which is one of the key factors for the success of livestock farming.

Research Approach

This study uses a quantitative approach, which allows researchers to measure the relationship between variables objectively and systematically. This approach was chosen because the study's objective is to identify and analyze the factors that influence the motivation of cattle farmers in Mario Village. The data used in this study consists of:

1. Primary Data**:** Collected through direct interviews using structured questionnaires. The information collected includes respondents' identities and responses to the research variables.
2. Secondary Data**:** Obtained from official documents and reports from related agencies, such as information on the cattle breeders' population and their motivation level in Sidenreng Rappang Regency.

Population

The population in this study included all cattle breeders domiciled in Mario Village, Kulo District, Sidenreng Rappang Regency, with a total of 63 people. This limited population was chosen because it has criteria relevant to the research objectives, namely breeders who are Mario Marennu Livestock Group members.

Sample

Samples were taken using the **saturated sampling method**, where all population members were sampled. This method was chosen because the population is relatively small, allowing researchers to obtain comprehensive data without partial sampling (Haumahu et al., 2020). Thus, this study involved all 63 cattle breeders as respondents.

Data collection technique

This study uses a combination of methods to ensure the data obtained has high validity and reliability:

1. **Structured Interview**: Involves respondents filling out questionnaires through direct question and answer. This method facilitates the collection of standardized and relevant data.
2. **Observation**: Researchers conducted direct observations in the field to obtain an objective picture of livestock conditions and breeder behavior.
3. **Documentation**: Supporting data is collected from literature, official reports, and previous research results relevant to the topic.

Data Analysis Techniques

Data analysis was conducted using **multiple linear regression** to identify the relationship between independent and dependent variables. According to Yuliara (2016), this method is used to predict dependent variables (Y) based on several independent variables (X). The multiple linear regression equation is written as follows:

$$Y=a+b1X1+b2X2+ .... +bnXn$$

Information:

Y	= Factors that motivate farmers
a	= Constant
X1	= Age
X2	= Education level
X3	= Livestock farming experience
b1, b2, b3	= Regression coefficients

Data was processed using SPSS software to ensure the accuracy of calculations and interpretation of results.

RESULTS AND DISCUSSION

Mario Village is located in Kulo District, Sidenreng Rappang Regency, South Sulawesi Province. This village is approximately 6,292.94 km² divided into four hamlets: Mario Hamlet, Poka Hamlet, Puncak Harapan Hamlet, and Boddi Hamlet. Geographically, this village is located at the northern tip of Sidenreng Rappang Regency and is approximately 12 km from the district capital, Sidrap. This strategic geographical condition makes it easy for villagers to interact with other surrounding areas. Mario Village is directly adjacent to several other sub-districts, namely Patondon Salu Village in the north, Lalebata Village in the south, Rijang Panua Village in the

west, and Bulo Wattang Village in the east. Easy access to these surrounding areas allows residents to develop various economic activities, including livestock farming, one of the village's primary sectors. Based on the latest data in 2024, the population of Mario Village reached 4,008 people, with 2,021 men and 1,987 women. Although there is a slight difference in the number of men and women, the gender structure in this village is quite balanced. This almost equal gender ratio allows the active participation of both genders in various social and economic activities in the village.

Characteristics of Research Respondents

This study involved livestock farmers in Mario Village, with respondent characteristics that include gender, age, education level, livestock experience, and type of work. Based on the data results, it is known that all respondents in this study were male. This reflects the dominance of men in livestock activities in this village, while women are more involved in domestic work and household activities. This phenomenon is based on Erlina's research (2022), which shows that in cattle farming families, the husband's role is more dominant in matters outside the home, while the wife takes care of household matters.

Breeder Age

Regarding age, most respondents are in the 43–50 age group, around 49.20%. This age group is included in the productive age category, which has the potential to provide optimal contributions to livestock businesses in terms of both physical strength and experience. This productive age is according to the views of Putra et al. (2015), which state that individuals aged between 15 and 60 years are considered a productive workforce. This is also reinforced by research by Halim (2017), which states that livestock breeders of a productive age tend to find it easier to develop their livestock businesses because they have sufficient energy and experience.

Level of education

The majority of respondents' education level only reached elementary school level, which is around 61.90%. As many as 33.33% of respondents have a junior high school education, and only 4.76% have a high school education. This shows that the majority of livestock farmers in Mario Village come from a relatively low educational background. However, although low levels of education can limit theoretical knowledge, this does not necessarily reduce their motivation to run a livestock business. Based on Anwar's research et al . (2021), although higher education can provide more dynamic thinking and openness to innovation, practical experience plays a more significant role in the success of cattle farming in this village. This shows that farmers in Mario Village rely more on their practical experience in managing their cattle farming business.

Livestock Experience

As many as 47.61% of respondents have livestock farming experience between 7 and 11 years. This figure shows that they have been involved in the livestock business for quite a long time. This long experience allows farmers to master practical skills in raising cattle, which is the primary key to running a livestock business. This is in line with the opinion of Haumahu et al. (2020), which explains that the longer a person is involved in the livestock sector, the more knowledge and skills they have. Experience also allows them to adopt technological innovations more quickly, which can increase the efficiency and results of their livestock business, as stated by Soekartawi (2015).

Type of work

Most Mario Village's respondents have a job as farmers, around 68.25% of the total respondents. Raising livestock itself is considered more as a side job or part-time. As many as 23.80% of respondents work as full-time livestock farmers, while the rest work as Civil Servants (PNS) or village officials. According to research by Afifah et al. (2023), many rural farmers consider livestock farming as a form of savings or investment for the future, so raising livestock is often not the primary job but more of an additional business.

The Influence of Factors on Farmer Motivation

Factors that influence the motivation of livestock farmers in Mario Village, including age, education level, and livestock farming experience, all play an important role in the development of livestock businesses. The results of multiple regression analysis show that age and livestock farming experience have a significant influence on livestock farmers' motivation, while education level does not have a significant influence.

Table 1. Results of multiple linear regression analysis of the influence of variables X_1, X_2, and X_3 on Y.

Independent Variable	Regression Coefficient	TCount	Sig.	Information
Constants	0.045	0.173	0.863	
Age (X_1)	0.500	5.127	0.000	Influential
Education Level (X_2)	0.172	1.325	0.190	No effect
Livestock Experience (X_3)	0.320	2,792	0.00	Influential

Source: Processed primary data, 2024

Table 1 shows the regression coefficient values of each independent variable. It can be seen that the constant value (α) is 0.045, while for the age variable (X_1), it is 0.500, education level (X_2) is -0.172, and livestock experience (X_3) is 0.320. From here, the multiple linear regression equation obtained is:

$$Y = 0.045 + 0.500X_1 - 0.172X_2 + 0.320X_3$$

Which mean:

- The constant value of Y is 0.045, which means that if all variables X_1, X_2, and X_3 are zero (age, education level, and livestock farming experience), then Y has a value of 0.045.
- The X_1 coefficient of 0.500 indicates that every 1% increase in X_1 will cause an increase in Y of 0.500 (50.0%), and conversely, a 1% decrease in X_1 will decrease Y by 0.500.
- The X_2 coefficient of -0.172 means that every 1% increase in X_2 causes a decrease in Y of -0.172 (17.2%), and if X_2 decreases by 1%, Y will decrease by -0.172 as well.
- The X_3 coefficient of 0.320 indicates that every 1% increase in X_3 will increase Y by 0.320 (32.0%), and a 1% decrease in X_3 will cause a decrease in Y by 0.320.

From this explanation, it can be concluded that the variables age (X_1) and livestock farming experience (X_3) have a positive influence on livestock farmer motivation (Y). In contrast, education level (X_2) has a negative influence.

The Influence of Age on Farmer Motivation

Age is an important factor that affects the productivity and motivation of farmers. Based on the regression analysis, age has a significant positive effect on the motivation of farmers in Mario Village. The regression coefficient for the age variable of 0.500 indicates that every 1% increase in age can increase farmer motivation by 50%. This is consistent with the opinion of Salam et al . (2021), which states that age is a factor that affects a person's work productivity. Farmers of productive age have better physical and mental abilities to adapt to the challenges of farming and are more active in developing their businesses.

The Influence of Education Level on Farmer Motivation

Education level did not significantly affect livestock farming motivation, although higher education could affect farmers' knowledge and technical skills. The coefficient for the education variable was -0.172, indicating a negative effect on livestock farming motivation, although this result was not statistically significant. This finding supports the research (Alam et al., 2014), which shows that farmers with low education levels are slower to adopt new technologies, but this does not reduce their interest in running a livestock business. Higher education may not always be a significant factor in the livestock sector, as many farmers rely more on their practical experience than on the theory learned in school.

The Influence of Livestock Experience on Farmer Motivation

Livestock experience is the most influential factor in increasing farmer motivation. Based on the regression analysis results, livestock experience has a positive coefficient of 0.320, which means that every 1% increase in experience will increase farmer motivation by 32%. This is in line with the opinion of Soekarwati (2021), who stated that more experienced farmers absorb technological innovations faster and are more efficient in managing their livestock businesses. Practical experience allows farmers to learn directly from previous mistakes and successes so they are better prepared to face challenges in livestock farming.

F Test

The results of the F test show that independent variables such as age, education level, and livestock farming experience significantly influence farmer motivation.

Table 2. F Test

ANOVA [b]					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Regression	5,833	3	1,944	2,930	.041[a]
Residual	39.151	59	.664		
Total	44,984	62			

a: Predictor: (Constant), Livestock farming experience, Age, Education level

b: Dependent Variable: factors that motivate farmers

Source: Primary Data Processing, 2024

Table 2 shows that results with a calculated F value of 2.930 and a significance value of 0.041 (which is smaller than 0.05), it can be concluded that the alternative hypothesis (H_1) is accepted. The null hypothesis (H_0) is rejected. This shows that the three variables—age, education, and livestock farming experience—simultaneously influence farmer motivation in developing their livestock business.

CONCLUSION

The research results show that the dominance of male breeders in Mario Village, as well as age and experience factors, have a more significant influence on motivation to raise livestock than the level of education. Most of the breeders are of productive age (43-50 years) and have a long farming experience (7-11 years), enhancing their practical skills and knowledge. Regression analysis shows that age and work experience positively affect motivation, while education level tends to be insignificant.

ACKNOWLEDGEMENT

We want to thank the Mario Village, Kulo District, and South Sulawesi Province producers who took the time to share their valuable experiences and insights during data collection. We hope that the results of this research will be helpful in the development of animal husbandry in Mario Village and provide valuable insights for all stakeholders, both academically and practically.

REFERENCES

.

Afifah N., Nugraha A , Mansur M. (2023). Potential for Developing Buffalo Livestock Business, Especially in Pattan Ulusalu Village, Salu Putti District, Tana Toraja Regency. *Agriovet Journal*, *6* (1), 35–46.

Alam, A., Dwijatmiko, S., Magister, M., Ternak, I., Diponegoro, U., Faculty, D., & University, P. (2013). *Farmers' Motivation To Activities of Beef Cattle Livestock*. 75–89.

Anwar, MA, Nursapriani, N., Nugraha, A., L, S., & Syamsunir, S. (2021). The Effect of Livestock Productivity on the Income of Laying Hen Farmers in Kulo District, Sidenreng Rappang Regency. *Journal of Animal Science and Technology Industry*, *1* (2), 1–5. https://doi.org/10.55678/jstip.v1i2.463

Anwar, MI, Nugraha, A., & Mansyur, M. (2023). *Analysis Of Inhibiting Factors Of Beef Cattle Farming Business in Bulo Village, Panca Rijang District, Sidenreng Rappang Regency*. *19*, 47–52.

Azizah, MR (2023). *Motivation for Beef Cattle Breeding of Sakra Timur Residents, East Lombok Regency, NTB*. 1–13.

Erlina, R. (2022). *Motivation Of Farmers In Beef Cattle Farming Business In Kalobba Village, Tellu Limpoe District, Sinjai Regency*. *8.5.2017*, 2003–2005.

Haile G, AM and EA (2023). *Beef Cattle Farmers' Perception Towards The Outbreak Of Foot And Mouth Disease In Jambua Hall, Bontomarannu Village, Monongloe District, Maros Regency* . *4* (1), 88–100.

Halim, S. (2017). *The Influence Of Farmers' Characteristics On The Motivation Of Beef Cattle Farming In*

Bangkala Village, Maiwa District. Faculty Of Animal Husbandry, Hasanuddin University. Makassar. *4*, 9–15.

Hartati, S., Choiruddin, Winarko, H., & Martini, R. (2020). Public Accountability from the Aspects of Bookkeeping, Inventory, and Reporting of Fixed Assets. *Existence*, *9* (1), 1240–1249.

Haumahu, N., Tomatala, G., & Ririmase, P. (2020). Motivation of Cattle Breeders Towards Beef Cattle Farming Business on Moa Island, Southwest Maluku Regency. *Jpk*, *4* (2), 56–69.

Hidayat, AN, Saleh, K., & Saragih, FH (2019). Analysis of Factors Influencing Interest in Developing Beef Cattle. *Jurnal Agrica* , *12* (1), 41. https://doi.org/10.31289/agrica.v12i1.2312

Ibrahim, Supamri, & Zainal. (2020). Analysis of the Influencing Factors of Small Beef Cattle Farmers' Income in Lampasio District, Tolitoli Regency, Central Sulawesi Province. *Journal of Agricultural Socioeconomics*, *13* (3), 307–315.

Makatita, J. (2021). The Influence of Breeder Characteristics on Behavior in Beef Cattle Farming Business in Buru Regency. *JAGO TOLIS: Jurnal Agrokompleks Tolis* , *1* (2), 51. https://doi.org/10.56630/jago.v1i2.149

Nugraha, A., Armayani, Razak, MRR, & Rifa'i. (2021). Level of Farmer Motivation in Fulfilling Family Living Needs (Case Study of Jaya Bersama Livestock Group, Massepe Village, Tellu Limpoe District, Sidenreng Rappang Regency). *AGRIOVET Journal*, *3* (2), 180–188.

Putra, GP, Yunasaf, U., & Sulistyati, M. (2015). The Relationship Between Group Dynamics Farmers Dairy Cattle And The Level Of Biogas Innovation Adoption (Survey In The Wargi Saluyu Farmers Group, Haurngombong Village, Pamulihan District, Sumedang Regency) Correlation Between Group Dynamics Farmers Dairy Cattle And The. *Students E-Journal*, *4* (2), 1–13.

Rani. (2022). *Journal Of Science And Technology Of Animal Husbandry Motivation Level Of Farmers In Cattle Breeding (Case Study Of Batu Mesa Cattle Group In Letta Village, Lembang District, Pinrang Regency) Motivation Level of Beef Cattle Breeders (Case Study of Batu Mesa Liv* . *2*, 41–44.

Salam, NFS, Manap Rifai, A., & Ali, H. (2021). Factors of Work Discipline Implementation: Self-Awareness, Motivation, Environment (A Study of Educational Management and Social Science Literature Studies). *Journal of Educational Management and Social Sciences*, *2* (1), 487–508. https://doi.org/10.38035/jmpis.v2i1.503

Utami, ETW, Nuraeni, N., Ashar Wahid Sofyan, & Faelasuf Imam. (2023). The Influence of Breeder Characteristics on Goat Farming Motivation in Kuwarasan Village, Kuwarasan District, Kebumen Regency. *Journal of Science and Technology*, *5* (1), 305–309.

Yuliara, I.M. (2016). Multiple linear regression. Journal Article, 1–6. http://www.mendeley.com/research/regresi-linier-berganda-1/