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Study of Characteristics and Behavior of Beef Cattle Farmers in Badas Subdistrict, Kediri Regency

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Abstract. *The objective of this study was to examine the characteristics and behavior of beef cattle farmers in Badas Subdistrict, Kediri Regency, based on demographic factors. The research was conducted in the Badas Subdistrict area. This study utilized a qualitative descriptive approach using survey methods. The variables investigated were the characteristics and behavior of beef cattle farmers based on demographics, including gender, age, years of farming experience, education level, primary occupation, number of family dependents, livestock ownership, livestock ownership status, animal feed, timing of cattle sales, and location of cattle sales. The findings revealed that in Badas Subdistrict, Kediri Regency, all cattle farmers were male (100%). Most farmers were aged 46–55 years (57.76%), and 38.09% had more than 10 years of farming experience. The majority had completed junior or senior high school. The main occupation of 69.04% of farmers was farming. Most farmers had 1–2 dependents (50%) and owned more than 3 cattle. Livestock ownership was predominantly personal (64.28%). All farmers used agricultural waste as animal feed. Cattle were sold based on urgent needs, and 61.90% of farmers sold their cattle through intermediaries (blantik).*

Keywords: *Beef cattle, Behavior, Characteristics, Farmer, Study*

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INTRODUCTION

Beef cattle are one of the most popular types of large ruminant livestock among Indonesian farmers. Beef cattle are well-known for their hardiness and are widely distributed; they are typically raised as a form of savings, for meat production, and as a source of manure. In Indonesia, beef cattle are large-bodied animals that are resilient to various conditions and can adapt well to diverse local environments. Based on statistical data from Livestock and Animal Health Statistics, the population of beef cattle in Indonesia was 17.467 million head in 2020 (PKH, 2020).

Beef cattle farming in Badas Subdistrict is predominantly a small-scale, traditional household enterprise with low levels of livestock ownership. This limited ownership is primarily due to the traditional nature of the farming system. In managing smallholder livestock enterprises, limited human resource capacity often poses challenges and affects productivity (Lainsamputty, 2021).

For development and improvement of livestock farming, farmers must strive to change their mindset and develop characteristics by acquiring practical knowledge related to animal husbandry. This can be achieved through non-formal education, self-directed learning, seeking various sources of information, utilizing different media, expanding experience, being creative and innovative, and learning to make informed decisions. Farmers, as the key to the success of their business, must be able to absorb available information. Information is a critical factor in enriching farmers' knowledge (Tomatala, 2004).

A person's characteristics influence different ways and abilities in terms of perception, what information is desired, and how to interpret that information (Umar & Sunarsi, 2019).

LITERATURE REVIEW

According to Ayun et al. (2019), the speed at which farmers adopt innovations greatly depends on their social and economic factors. Social factors include age, education level, and farming experience. Economic factors include income level, number of dependents, land ownership, and whether the farmer engages in livestock production. These socio-economic factors play a significant role in managing livestock farming.

Beef cattle farming in Badas Subdistrict is generally well-received by the local community, with a total cattle population of 3,183. However, common problems faced

by farmers include inconsistent feed availability, especially during the dry season, and a lack of innovation in producing supplementary feed (BPS Kabupaten Kediri, 2020).

Farmer characteristics are among the most important factors. These characteristics are built upon demographic, behavioral, psychographic, and geographic components. Demographics are often used to assess an individual's communication ability and media preferences. Demographic characteristics relate to information sources and include factors such as age, income, education, experience, and cosmopolitanism (Juwaher Makatita, 2013).

RESEARCH METHODS

This study was conducted in the Badas Subdistrict, Kediri Regency. The type of research used was qualitative descriptive research aimed at identifying the characteristics of beef cattle farmers in the villages of Krecek, Sekoto, Bringin, Blaru, and Badas. This qualitative descriptive study involved interviews, comprehensive observations, and literature review related to farmer characteristics (age, education level, livestock farming experience, number of dependents).

The sample was obtained by distributing questionnaires across 5 out of the 8 villages in Badas Subdistrict, namely Krecek, Sekoto, Bringin, Blaru, and Badas. The respondents selected were beef cattle farmers who owned at least three cattle. To determine the eligible sample for the study, the Location Quotient (LQ) formula was used to assess specialization levels and identify base or leading sectors (those with potential for research) (R. Jumiyanti, 2018).

$$LQ = Si / Ni$$

Where:

Si: Ratio of beef cattle population to total population in a specific village

Ni: Ratio of beef cattle population to total population in the entire subdistrict

Note:

LQ > 1 indicates a base area for beef cattle

LQ < 1 indicates a non-base area for beef cattle

Data were gathered through detailed observations, including in-depth interviews, document analysis, and field notes. The data analysis method used was descriptive qualitative with percentage analysis.

RESULTS AND DISCUSSION

General Overview of Badas Subdistrict

Badas Subdistrict in Kediri Regency is located to the north of the regency capital, covering an area of 39.33 km² and comprising 8 villages. All villages lie in lowland areas. The subdistrict is bordered by: West–Kunjang and Plemahan Subdistricts, North–Jombang Regency, East–Kandangan Subdistrict, and South–Pare Subdistrict

Among the 8 villages, there are 49 hamlets, 152 neighborhood associations (RW), and 382 community units (RT), with a total of 115 village officials. In 2020, the population of Badas Subdistrict was 62,534 people, consisting of 31,558 males and 30,976 females. There were 16,996 households, with a population density of 1,590 people/km².

The area had 123 educational institutions, the majority being kindergartens with 46 facilities. Health personnel totaled 55, predominantly health assistants/nurses (45 individuals). The number of women of childbearing age (WUS) across the subdistrict was 9,595 couples. The population was predominantly Muslim, accounting for 59,159 individuals or 99.37% of the total. In 2020, 676 marriages were officially recorded by the Office of Religious Affairs (KUA).

Agricultural activities are dominated by rice and secondary crops, with rice production in 2020 reaching 45,831 tons and corn 7,604 tons. The total number of large and small livestock was 8,248, and poultry in 2020 amounted to 647,773 birds.

Table 1. Location Quotient of Beef Cattle in Badas

No.	Village	Number of Beef Cattle	Si	Ni	LQ
1.	Sekoto	331	0.0529	0,0504	1,0496
2.	Bringin	382	0,0648	0,0504	1,285
3.	Lamong	156	0.0334	0,0504	0,662
4.	Canggu	523	0,0504	0,0504	1,000
5.	Krecek	537	0,0521	0,0504	1,033
6.	Tunglur	371	0,0372	0,0504	0,738
7.	Badas	430	0,0601	0,0504	1,192
8.	Blaru	453	0,0527	0,0504	1,045
Total			3.18		

Source: Processed Data 2020.

Gender

Gender plays a significant role in decision-making among beef cattle farmers. It also reflects the extent of physical work they are capable of handling. Gender differences with their respective characteristics provide an overview of the level of difficulty

associated with their tasks. The classification of respondents by gender in Badas Subdistrict, Kediri Regency, is shown in Table 2.

Table 2. Respondents by Gender

Gender	Number of People	Percentage (%)
Male	42	100
Female	0	0
Total	42	100

Source: Processed Data 2020.

This reflects the dominance of men in the cattle farming sector in this region.

Age

Age represents a person's level of maturity in making decisions and also affects their experience. The older a person is, the more experience they typically have, and vice versa. The data on the age characteristics of respondents in Badas Subdistrict is shown in Table 3.

Table 3. Respondents by Age Group

Age Group (years)	Number of People	Percentage (%)
35 - 45	19	45,24
46 - 55	23	54,76
Total	42	100

Source: Processed Data 2020.

This suggests that beef cattle farming is dominated by individuals in their productive years, which is significant because they generally have the physical capability and mature thinking needed to manage their farming enterprises effectively. This supports Jumiyanti (2018), who stated that productive age is crucial for effective farming operations.

Age also determines one's level of work participation. As age increases, participation may also increase, but it tends to decline after a certain point due to reduced physical strength. Therefore, age significantly influences work performance, especially in labor-intensive occupations (Akmal, 2006).

Livestock Farming Experience

Livestock farming experience is measured by the duration of engagement in this field. The classification of respondents based on farming experience in Badas Subdistrict, Kediri Regency is presented in Table 4.

Table 4. Duration of Livestock Farming in Badas Subdistrict, Kediri

Farming Experience (Years)	Number of People	Percentage (%)
1-5	11	26,19
6-10	15	35,71
>10	16	38,09
Total	42	100

Source: Processed Data 2020.

Experience is a highly determining factor in the success of a business. With their experience, farmers gain valuable guidance to achieve future business success. Age and farming experience influence a farmer's ability to manage their business; farmers with more experience tend to be more cautious in their actions due to past negative experiences (Nuskhi, 2017).

The longer a farmer's experience in livestock farming, the easier it will be for them to overcome difficulties (Hidayah et al., 2019). Sufficiently long experience in livestock farming indicates that farmers' knowledge and skills in livestock farming and livestock management are increasingly better.

Respondent Education Level

Education plays a vital role in livestock farming, enhancing production capacity and management skills. Educational attainment also influences farmers' cognitive approaches to beef cattle farming. Respondent education levels in Badas Subdistrict are detailed in Table 5.

Table 5. Respondent Education Level

Highest Education	Number of People	Percentage (%)
Elementary School	16	38,09
Junior High School	13	30,95
Senior High School	13	30,95
Total	42	100

Source: Processed Data 2020.

Overall, it can be said that the education level of farmers is quite good, and this greatly supports their efforts in accessing information and innovations related to the cattle farming business they undertake.

According to Abdullah & Ibrahim (2014), the educational level of farmers is an indicator of population quality and a key variable in human resource development. In livestock farming, education is expected to assist communities in efforts to increase production and productivity of the livestock they raise. Adequate educational levels will

impact the performance and management capabilities of the livestock farming operations being conducted.

Primary Occupation

Primary occupation is defined as either the sole occupation or, when multiple jobs exist, the most time-consuming one. If time allocation is equal, the highest-income occupation is designated as primary.

Table 6. Primary Occupation

Primary Occupation	Number of People	Percentage (%)
Farmer/Fish Farmer	29	69,04
Livestock Farmer	4	9,52
Trader	9	21,42
Total	42	100

Source: Processed Data 2020.

Number of Family Dependents

Family dependents are an economic burden that must be met. Farmers who have large families will also have a large economic burden to meet the needs of their families. To find out the number of farmers with dependents in Badas Subdistrict, see Table 7.

Table 7. Number of Family Dependents

Dependents	Number of People	Percentage (%)
1-2	21	50
3-4	20	47,61
5	1	2,38
Total	42	100

Source: Processed Data 2020.

Thus, it can be concluded that the number of family dependents among farmers in Badas Subdistrict is relatively small, so the living expenses they must bear are not too burdensome. According to Sumbayak (2006), the number of family members influences farmers' decision-making. The more family dependents there are, the greater the living expenses a farmer must bear. The number of dependents is one of the economic factors that must be considered in determining income to meet needs. Dependents can also become a financial burden for the family if they are not working. The failure of farmers to succeed in their efforts significantly impacts the fulfillment of family needs. While a larger number of family members can be a burden on one hand, on the other hand, they can also serve as a source of family labor (Ayun et al., 2019).

Livestock Ownership

The number of livestock owned by farmers affects the yield or profit obtained by farmers. To find out the number of livestock owned by respondents, see Table 8.

Tabel 8. Livestock Ownership

Livestock Ownership	Number of People	Percentage (%)
3	20	47,61
4-6	16	38,09
>6	6	11,9
Total	42	100

Source: Processed Data 2020.

Thus, it can be concluded that the number of livestock owned by beef cattle farmers in Badas Subdistrict is relatively low. Consequently, the profits obtained are still minimal. This aligns with the statement by Hastuti et al. (2018), who noted that livestock ownership has a positive impact on agricultural and livestock business income. The more livestock kept, the higher the income from agricultural and livestock businesses.

Ownership status

The respondents' answers regarding the ownership status of beef cattle by farmers in Badas Subdistrict can be seen in Table 9.

Tabel 9. Ownership status

Status	Number of People	Percentage (%)
Own property	27	64,28
Own and joint property	15	35,71
Total	42	100

Source: Processed Data 2020.

Owned cattle are cattle that are wholly owned by the farmer. Shared ownership is usually applied to farms with a profit-sharing mechanism between the farmer and the capital owner. This shared ownership mechanism has proven to be mutually beneficial for both parties. Individuals with more stable economic conditions provide capital assistance in the form of livestock or entrust their livestock to farmers/farmers for care. The proceeds from the business are divided according to the agreement between the capital provider and the farmer/livestock farmer. Typically, there is no written contract regarding the business cooperation. The joint venture cooperation is only verbal and based on mutual trust, and the recipient of the joint venture is usually someone who is well-known to the joint venture provider or introduced by the joint venture provider's relatives.

Feed Ingredients Used

Feed ingredients are anything given to livestock that can be partially or fully digested without harming the health of the livestock. Some examples of green feed (grass, leaves), agricultural waste (rice straw, corn straw, soybean straw, sugarcane tops), legumes (Lamtoro leaves, Gliricidia, Kaliandra, Turi, and beans) agricultural industrial waste (bran, rice husks, pollard, rice hulls, oil cake), and others (Muchlis et al., 2023). The responses of beef cattle farmers in Badas subdistrict regarding feed provision for their livestock can be seen in Table 10.

Table 10. Feeding Livestock

Feed	Yes (%)	No (%)
a. Agricultural waste	96,96	3,03
b. Elephant grass	100	0
c. Dry straw	75,75	24,25
Supplementary Feed		
a. Rice bran	75,75	24,25
b. Gamblong	81,82	18,18
c. Concentrate	27,27	72,73
Using fermented feed	42,42	57,58
Homemade	60,61	39,39

Source: Processed Data 2020.

Based on Table 10, it can be seen that almost all respondents use agricultural waste, elephant grass, and dry straw. This is because all of these feeds are widely available throughout the Badas subdistrict, where the majority of the population works as farmers. In addition, these feeds are the main feed for beef cattle.

In essence, cattle feed sources can be provided in the form of forage and concentrates, and the most important aspect is that the feed meets the requirements for protein, carbohydrates, fats, vitamins, and minerals (Wahyuni & Amin, 2020).

As shown in Table 10, most respondents use supplementary feed such as rice bran, corn bran, and concentrates. This is because the use of supplementary feed supports the growth and reproduction of beef cattle. As stated by Wahjuni et al. (2020), the provision of supplementary feed is intended to meet the cattle's basic needs while also supporting growth and reproduction. Generally, each cattle requires feed in the form of forage and supplementary feed such as concentrates. Cattle in the growth phase, lactating, or used as labor require adequate feed in terms of both quality and quantity. Of all respondents, 57.58% answered that they do not use fermented feed. This is because the process of making fermented feed requires time and effort, while the respondents have other jobs as

farmers or traders. Although 60.69% of respondents answered that they are able to make fermented feed themselves, more respondents do not use fermented feed.

Time of Selling Cattle

The respondents' answers regarding when farmers will sell their cattle can be seen in Table 11.

Tabel 11. Time of Selling Cattle

Description	Number of People	Percentage (%)
When there is a need	29	69,04
When cattle prices rise	10	23,08
Others	3	7,14
Total	42	100

Source: Processed Data 2020.

Based on Table 11, it can be seen that respondents tend to answer that they sell their livestock when they have a need. This is because cattle are a long-term investment or savings for farmers. Investment is the linking of resources in the long term to generate profits in the future (Appulembang, 2021). Thus, the cattle they raise serve as savings that they will sell when they need money. For example, at the start of the school year. They will sell their cattle at a lower price because they need to pay for their children's school fees. This is different from when they buy cattle, which they purchase at a higher price because farmers need livestock to reinvest as savings or investments. The purchase process is carried out once the school fees have been fully paid. This is supported by the statement (Hartono, 2011) that in small-scale livestock farming, the timing of cattle sales is more determined by the economic conditions of the farmer's household. Price does not drive an increase in supply by farmers, or in other words, a rise in prices does not always encourage farmers to sell their cattle.

Cattle Sales Locations

Marketing beef cattle will be a significant problem if farmers are unable to estimate or assess the weight of their cattle. The immediate consequence is considerable loss, as cattle sales are generally conducted without the use of scales (Suganda et al., 2013). The responses from farmers in Badas Subdistrict regarding cattle sales locations can be seen in Table 12.

Tabel 12. Cattle Sales Locations

Description	Number of People	Percentage (%)
Livestock broker	26	61,90
Wholesaler	-	-
Butcher	-	-
Animal market	16	38,09
Total	42	100

Source: Processed Data 2020.

Based on Table 12, it can be seen that farmers in Badas subdistrict sell more of their cattle to or through middlemen. This is because farmers are unaware of market price standards. As stated by (Setiadi, 2010), for products such as slaughter-ready cattle, market quality standards have not yet been established. Sales/marketing are primarily conducted through intermediaries/brokers, as farmers generally do not know the prices at the time of transaction. Intermediaries/brokers have greater control.

CONCLUSION

The results of the study on the characteristics of beef cattle farmers in Badas Subdistrict, Kediri Regency, can be summarized as follows: 100% of the farmers are male; majority (57.76%) aged between 46 and 55 years old; the average length of time spent farming is 38.09% over 10 years; 61.9% of farmers have an education level of junior high school and high school; 69.04% of cattleman's primary occupation is farming; the number of livestock owned exceeds three heads; 64.28% of livestock ownership is self-owned; and 61.9% of farmers sell their livestock through middlemen, while 38.09% sell at animal markets.

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