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**IMPLEMENTATION OF ANIMAL WELFARE IN CATTLE AT THE ANIMAL  
MARKET IN BATUNYALA VILLAGE, PRAYA TENGAH DISTRICT, CENTRAL  
LOMBOK REGENCY, WEST NUSA TENGGARA**

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### **Abstract**

Bali cattle are one of the indigenous Indonesian cattle breeds that can survive solely by utilizing green fodder and have a high digestibility for fibrous food in recent years, public concern regarding the ethical treatment of livestock has increased alongside the growing pressure on the domestic beef supply in Indonesia. While the national demand for beef continues to rise, local production often struggles to meet consumption levels, creating economic and animal welfare challenges. These concerns are particularly relevant in traditional livestock markets, where infrastructure and handling practices may not always align with established welfare guidelines. This study aims to investigate the practical application of animal welfare principles at the Animal Market in Batunyala Village, located in the Praya Tengah District, Central Lombok Regency. Using observational methods, data were collected through direct interviews with 95 cattle traders actively involved in the daily activities of the market. Based on the data, 76.80% of respondents believe that the treatment and handling of animals in the market are appropriate, while 23.20% feel that the welfare conditions are still lacking. These findings are consistent with the observations, who noted that perceptions of animal welfare often vary depending on individual experiences and awareness. Although the majority of traders expressed satisfaction with current practices, critical feedback from nearly a quarter of participants indicates that some aspects of welfare require further attention and intervention. This is particularly urgent in market systems that have not yet fully integrated standardized animal welfare protocols. Future research should investigate specific barriers to implementation, including cultural, economic, and infrastructural limitations commonly found in traditional livestock markets.

**Keywords:** Animal welfare implementation, cattle, animal market, Batunyala Village, livestock trade.

### **INTRODUCTION**

As Indonesia undergoes rapid demographic and economic growth, the nation faces increasing pressure to fulfill its population's nutritional requirements, particularly in terms of animal-based protein (Ministry of Agriculture, 2010). Among various animal protein sources, beef plays a pivotal role in the Indonesian diet due to its cultural and nutritional significance. Despite this growing demand, domestic beef production remains insufficient, compelling the government to rely on imports to stabilize national supply (Ministry of Agriculture, 2010).

Most of the country's beef supply is produced by smallholder farmers who operate under traditional systems, often lacking the capital and management capacity required for efficient and scalable production (Atmakusuma & Winandi, 2014). These limitations have a direct impact on both the quality and quantity of beef produced, which in turn hinders efforts to meet national consumption levels through local sources.

The increasing awareness of ethical treatment in farming has led to greater attention to the living conditions and handling of livestock throughout their life cycle. Animal welfare in general by fulfilling the Five Freedoms, which are freedom from hunger and thirst, freedom from discomfort, freedom from pain, freedom to express normal behavior, and freedom from fear (Suardana, 2024). This means ensuring that basic needs such as food and water are met, and that they are free from pain, stress, and discomfort. They should also be given the opportunity to behave naturally (Fraser, 2008). When these conditions are not met especially during critical stages such as maintenance, transportation, slaughter, and market transactions animals can experience significant stress, which negatively impacts their physical well-being and behavioral health (Wahyu, 2010). In addition to ethical considerations, inadequate welfare practices also compromise overall productivity and the quality of livestock meat, making it a concern not only for animal rights but also for the efficiency of the livestock industry. This reinforces the urgency of implementing animal welfare principles, especially in traditional livestock markets that serve as crucial nodes in the distribution and sale of livestock (Duarsa, Putra, & Sutama, 2020).

Given the growing concern for ethical livestock management, it becomes essential to evaluate how animal welfare standards are implemented at various points in the livestock trade chain. One such critical point is the Batunyala Village Animal Market, located in Praya Tengah District, Central Lombok Regency, which serves as a key hub for livestock transactions in the region. The market plays a significant role in supplying animals for both meat consumption and religious ceremonies, making it a strategic area for assessing animal welfare practices (Sulistiawati, Heryanto, & Lestari, 2022). This study seeks to assess the real conditions and treatment of animals at this traditional market. Through this assessment, the research aims to capture a comprehensive picture of how far animal welfare principles have been put into practice, while also identifying areas where improvements are necessary to enhance livestock handling at the market level (Sulistiawati et al., 2022).

## **MATERIALS AND METHODS**

### **Research Subjects**

This research focuses on cattle and cattle traders operating at the Batunyala Village Animal Market, located in the Praya Tengah District, Central Lombok Regency, West Nusa Tenggara. The research location was chosen due to its active role in livestock trade and its representation of the traditional market system in the region (Sulistiawati et al., 2022). Data collection was conducted using a structured and integrated questionnaire instrument (see appendix), designed to explore traders' perceptions, practices, and compliance with basic animal welfare standards. At least 19 respondents were selected as the observation sample, in accordance with the methodological approach of exploratory field studies as recommended by Wahyu (2010), in the assessment of welfare conditions in traditional markets.

### **Research Methods**

This study uses a non-experimental (observational) or descriptive analytical design with a cross-sectional method. The sampling technique was conducted based on purposive sampling. The data collection for the research was conducted by directly interviewing the cattle traders

at the Batunyala Village Animal Market, Praya Tengah District, Central Lombok Regency, West Nusa Tenggara, using a questionnaire guide. To determine the sample size, this study will use the Lemeshow formula. According to Riyanto & Hatmawan (2020), sample calculation using the Lemeshow formula approach can be used to calculate the sample size with an unreported population size. The Lemeshow formula used to calculate the sample size is as follows:

$$n = \frac{z^2 \cdot p \cdot (1 - p)}{d^2}$$

Explanation:

n = Sample Size (observations)

z = Z-score at 95% confidence = 1.96

p = Maximum estimate = 0.05

d = Precision or confidence level of 10% = (0.1)

Based on the calculation results above, the number of samples obtained is 18.24. According to Sugiyono, (2017), in calculations that result in fractions (with decimals), it is advisable to round up, so the sample to be taken in this study is at least 19 observations.

### Data Analysis

Data is analyzed descriptively qualitatively and presented in the form of tables. Data obtained from interviews regarding the implementation of animal welfare at the Batunyala Village Animal Market, Praya Tengah District, Central Lombok Regency, West Nusa Tenggara. tabulated using the Ms. Excel program. Then, to calculate the question scores on the questionnaire using the Guttman scale. And using the Chi-square test to conduct hypothesis testing regarding the comparison between the actual frequency/observations and the expected frequency. In this study, a comparison of animal welfare implementation on cattle in the Batunyala Village animal market was conducted.

## RESULTS AND DISCUSSION

### Results

Tables 1 and 2 present the characteristics of the respondents and the research data on the implementation of animal welfare at the Batunyala Village Animal Market, including respondents' demographic profiles and their responses to the Five Freedoms indicators along with the overall welfare classification.

**Table 1.** Characteristics of Research Subjects

Respondent Characteristics	Amount	Percentage (%)
<b>1. Age</b>		
<50 Years	48	50.5
>50 Years	47	49.5
<b>2. Number of Animals Sold</b>		
1-5 Animals	42	44.20
6-10 Animals	53	55.80
<b>3. Work</b>		
Seller	68	71.60

Respondent Characteristics	Amount	Percentage (%)
Buyer	27	28.40
<b>4. Start Transaction</b>		
<5 Years	36	37.90
>-5 Years	59	62.10
<b>5. Animal Transportation</b>		
Truck	72	75.80
Pick Up	23	24.20
<b>6. Animal Welfare</b>		
Good	72	76.80
Bad	22	23.20
<b>7. Education</b>	14	29.80
Completed elementary school or equivalent	9	19.11
Completed junior high school/equivalent	16	34.00
S1	8	17.00
<b>8. Work</b>		
Not Working	4	8.50
Private Employee	11	23.40
Entrepreneur	7	14.90
Worker	7	14.90
Civil Servants/Indonesian National Armed Forces/Indonesian National Police	3	6.40
Others	15	31.90
<b>Total</b>	<b>95</b>	<b>100</b>

**Table 2.** Research Data on the Implementation of Animal Welfare

Aspect	Questionnaire	Yes (n)	Yes (%)	No (n)	No (%)
Free from Hunger and Thirst	Providing sufficient food from transportation to the market	90	94.74	5	5.26
	Provide enough water for animals to be sold	88	92.63	7	7.37
	Adequate dining and drinking places	5	5.26	90	94.74
Free from Discomfort	The shelter facilities have met the animal welfare standards	47	49.47	48	50.53
	Spacious animal shelter	67	70.53	28	43.07

Aspect	Questionnaire	Yes (n)	Yes (%)	No (n)	No (%)
Free from Pain, Wounds, and Illness	Animals can rest comfortably	39	41.05	56	58.95
	Animals are not tied up tightly	78	82.11	17	17.89
	The physical condition of the animal is free from injury or disease	92	96.84	3	3.16
	Providing care to injured animals	93	96.84	3	3.16
	Transportation facilities do not cause pain	47	49.47	48	50.53
	Providing assistance to animals affected by disease	92	96.84	3	3.16
	Free from Fear	Livestock are treated humanely from transportation to the market	90	94.74	5
Animals are treated with full attention (not shouted at or treated roughly)		95	100.00	0	0.00
Ensuring animals do not get trapped to disturb each other		92	96.84	3	3.16
Free to Express Natural Behavior	In animal transportation, they can move freely	47	49.47	48	50.53
	Animals are tightly bound during transport and at the market	46	48.42	49	51.58

Aspect	Questionnaire	Yes (n)	Yes (%)	No (n)	No (%)
Implementation of Animal Welfare	Separation of male and female livestock	93	97.89	2	2.11
	Good (n)	Good (%)	Poor (n)	Poor (%)	Good (n)
	73	76.80	22	23.20	73

## Discussion

Overall, based on the respondents' data, they already have a clear basic understanding of the application of animal welfare aspects. On the other hand, the respondents' responses were very good and enthusiastic about this research, as reported by Retnam, Santosa, & Widodo (2016), where generally the awareness and understanding of the Indonesian public regarding animal welfare have started to increase. In Indonesia, regulations regarding animal welfare are established in Law (UU) number 6 of 1967, and expanded in Law number 18 of 2009, which defines "animals" as "vertebrates and invertebrates that can perceive pain," including regulations on the capture, handling, transportation, housing, and maintenance of animals categorized as animal welfare. Then, it was amended again with an emphasis on its enforcement aspects in Law No. 41 of 2014 (Retnam et al., 2016).

Based on the data obtained from respondents according to age groups, out of 95 respondents, 48 respondents or 50.5% are under 50 years old, and 47 respondents or 49.5% are 50 years old or older. This aligns with the research by Pateda, Manoppo, & Mandey (2023), which states that the age distribution of those engaged in beef cattle marketing ranges from 27 to 59 years old, with 30 respondents categorized as productive. Observing these facts, it can be concluded that all respondents are in the productive age period, and of course, this has a positive impact on the development of the beef cattle buying and selling business and the marketing they will undertake. This is in line with the opinion of Artaman et al (2015), who stated that a person's work productivity level will increase with age and then decline again as they approach old age. Both those under 50 years old and those over 50 years old have almost equal levels of involvement in livestock trading activities at the Batunyala Village Animal Market, Praya Tengah District, Central Lombok Regency.

The data obtained from respondents based on the number of animals sold shows that out of 95 respondents, 42 respondents or 44.20% sold 1-5 animals, and 53 respondents or 55.80% sold 6-10 animals. This indicates that the majority of respondents sell animals in quantities greater than five, which suggests that most traders in the Batunyala village animal market are classified as medium to large-scale business operators. This indicates that the animal market in Batunyala Village, Praya Tengah District, Central Lombok Regency, is a fairly active economic center, with a high turnover of livestock in a single market transaction. The number of animals sold by traders can reflect the intensity of their business operations, as well as serve as an indicator of their attention to animal welfare. According to Prayogi & Fadillah (2021), the larger the number of livestock handled by a business operator, the more complex the challenges in fulfilling animal welfare principles, such as the needs for feed, water, space, and treatment free from stress and pain.

Based on the data obtained from the respondents in terms of occupation, out of the 95 respondents, 68 respondents or 71.60% work as Sellers and 27 respondents or 28.40% work as Buyers. This indicates that the majority of the respondents are livestock sellers. considering that the Batunyala Village Animal Market is a location that routinely becomes the center of

livestock trade activities, where sellers generally attend more frequently and have consistent involvement in market activities. Meanwhile, buyers usually come from various regions with a more situational or irregular frequency, depending on their livestock purchasing needs. According to Astuti & Nugroho (2020), sellers play a strategic role in ensuring the welfare of the livestock being traded, as they are the ones most involved in the care process before the animals reach the market. If animal welfare is neglected, it not only affects the physical and psychological condition of the animals but also can decrease their market value and pose a risk of disease transmission.

Meanwhile, based on the respondents' data regarding the start of transactions by the merchants, out of 95 respondents, 36 respondents or 37.90% started transactions in less than 5 years, and 59 respondents or 62.10% started transactions in 5 years or more. Meanwhile, in the study by Pateda et al (2023), it was explained that the duration of trading beef cattle among respondents in the Pulubala District, Gorontalo Regency, varied from 1 to 34 years. This indicates that most traders in the Batunyala Village Animal Market are individuals who have engaged in livestock trading activities for a long period, which reflects their level of sustainability and consistency in this endeavor. According to Sutaryo & Lestari (2022), livestock traders who have long been involved in the livestock trade tend to have a better understanding of the importance of paying attention to the physical and mental conditions of the animals, both to maintain their market value and to meet health and ethical standards.

Based on the respondent data regarding the use of animal transportation for transporting cattle to the market, out of 95 respondents, 72 respondents or 75.80% used trucks for animal transportation, while 23 respondents or 24.20% used Pick Up vehicles. This indicates that respondents prefer trucks as the mode of transportation due to their larger capacity, allowing for the transportation of a large number of animals at once. The use of trucks indicates that the livestock trade activities in that market are quite large-scale and require effective transportation means to efficiently and quickly transport livestock. According to Rahmawati and Santoso (2020), the selection of appropriate transportation means greatly affects the welfare of animals during transport, as adequate vehicles can minimize stress and injuries to livestock. According to Hidayat (2015), the number of cattle transported sometimes exceeds the ideal capacity, causing the cattle to be cramped/squeezed, and the slippery floor of the truck/car makes the cattle slip. Although methods and approaches have been implemented as best as possible, some cows still show fear/stress.

The location of the market also needs to be considered in relation to animal welfare, where the presence of holding pens along the roadside seems to provide convenience in buying and selling cattle, which is beneficial for both buyers and sellers to facilitate transactions. According to Hidayat (2015), the motive for economic gain should not neglect other rights and interests, such as the fulfillment of animal welfare rights, the rights and interests of the surrounding community near the shelter (e.g., cleanliness, health, and traffic), and the rights to a clean environment.

Another indicator considered to influence the success of a business is the level of education. Differences in education levels can also lead to variations in the ways and mindsets of respondents in adopting various technologies and innovations that can enhance business productivity and efficiency. Based on data obtained from 47 respondents, 14 respondents or 29.80% had completed elementary school or equivalent, 9 respondents or 19.11% had completed junior high school or equivalent, 16 respondents or 34.00% had completed senior high school or equivalent, and 8 respondents or 17.00% had completed a bachelor's degree. Compared to the research results of Pateda et al (2023), which found the highest number of respondents with an elementary school education level, totaling 12 people (40%), and the

lowest with a senior high school education level, totaling 7 people (24%). This level of education has important implications for respondents' understanding and awareness of technical issues, including the implementation of animal welfare. Individuals with higher education levels tend to have broader access to information and are more likely to accept and apply new principles related to the handling and treatment of livestock. However, in the context of traditional animal markets, practical experience often becomes the main factor in decision-making and the execution of trading activities. Therefore, even though the levels of formal education vary, technical knowledge can still be acquired through experience and social interactions in the market environment. Research by Zurahmah & Masriani (2023), shows that although the level of education does not have a significant relationship with the welfare level of the animals kept, other factors such as the age of the farmers and the scale of the farming have a greater influence on the application of animal welfare principles. This indicates that experience and the scale of the business also play an important role in the application of animal welfare at the farmer level.

Next, the data results in the aspect of employment show that out of 47 respondents, 4 respondents or 8.5% are Unemployed, 11 respondents or 23.4% work as Private Employees, 7 respondents or 14.9% work as Entrepreneurs, 7 respondents or 14.9% work as Laborers, 3 respondents or 6.4% work as Civil Servants/Police/Military, and 15 respondents or 31.9% have Other Professions. Indicates that the animal market serves as an inclusive economic platform, capable of reaching various layers of society. Moreover, this reflects that livestock trading activities in Batunyala Village hold significant economic value and involve various social groups. According to Wardani & Nugroho (2021), the diversity of occupations among livestock traders and visitors at the animal market reflects that traditional markets have strategic value in supporting the local economy and serve as a place for social and economic interactions across professions.

Based on data obtained from 95 respondents, 73 respondents or 76.80% met the criteria for Good Animal Welfare, and 22 respondents or 23.20% met the criteria for Poor Animal Welfare. Indicates that the majority of respondents have a positive view of the animal welfare conditions in that animal market. This can be interpreted that the majority of traders in the animal market in Batunyala Village, Praya Tengah District, Central Lombok Regency, both sellers and buyers, believe that the livestock being traded have been treated according to the basic principles of animal welfare, such as providing sufficient food and water, shelter, and not experiencing physical violence. Although the overall perception of the implementation of Animal Welfare is considered good, serious attention is still needed for aspects that are deemed lacking by some respondents. This aims to improve the overall and sustainable quality of animal welfare in traditional markets, in line with the principles of responsible and ethical farming. As expressed by Hartung (2013), animal welfare encompasses five main freedoms, namely freedom from hunger and thirst, freedom from discomfort, freedom from pain and disease, freedom to express natural behavior, and freedom from fear and distress.

In this study, good results were obtained, but from the perspective of welfare, it is still lacking. One of them is the aspect of animal transportation, which is more dominantly using trucks, where the trucks/cars used are not specially designed, there is insufficient drinking water, and the trucks/cars are dirty. Transporting animals using dirty trucks or cars can lead to bacterial contamination in cattle, especially if the cattle consume dirty grass. This situation can increase the likelihood of disease transmission and negatively impact the health of the cattle. The cleanliness of cows is one of the factors that also affects the risk of *E. coli* O157:H7 infection. Sumiarto (2014), research results show that dirty cows are 3.22 times more likely to be infected with *E. coli* O157:H7 compared to clean cows. According to the research by Amin, Syamsul, & Sumiarto (2015), dirty cows have an Odds ratio value of 1.0, which means they have the

same chance as clean cows of being infected with E. coli O157:H7. This result is reinforced by the Chi-square test, which showed no significant difference ( $P > 0.05$ ). Therefore, it is very important to maintain the cleanliness of animal transport vehicles and ensure that the cattle feed is clean and safe to eat. In this way, the risk of bacterial contamination can be reduced and the health of the cows can be ensured.

## CONCLUSIONS AND SUGGESTIONS

### Conclusions

The implementation of animal welfare principles at the Batunyala Village Animal Market is perceived positively by the majority of respondents, with 76.80% affirming satisfactory conditions. Nevertheless, the concerns raised by 23.20% of participants emphasize that certain welfare standards still require attention.

### Suggestions

It is recommended that traders and farmers enhance their understanding and application of animal welfare practices. Moreover, institutional and governmental support through awareness campaigns and education is essential to improve market-level compliance and elevate welfare standards across traditional trading environments.

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