



Perceptions and Influential Factors of Beef Consumers During Foot and Mouth Disease in West Sulawesi Province

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• Submitted: April 30, 2024 • Revised: July 11, 2024 • Accepted: September 29, 2024

ABSTRACT. This study aims to determine the response of customer perceptions and factors that influence consumer decisions to buy and consume beef during the foot and mouth disease epidemic that affected cattle in 2022. The variables used in this study consist of several aspects that are thought to influence consumer perceptions, such as product aspects, nutrition and health aspects, knowledge aspects, and product handling aspects, as well as sociodemographic conditions of housewife such as education level, employment status, and location of the area of household, which are used as variables to determine consumer determinants, and 100 housewife data was collected as a sample for this research. The study's findings revealed a significant relationship between housewife education and consumers' perceptions of meat consumption during the FMD pandemics, but no significant correlation between housewife occupations ($P>0.005$) or household location ($P>0.005$). During FMD pandemics, housewife education has the most influential factor ($P<0.005$) on consumer perceptions of beef consumption.

Keywords: Perceptions, beef, foot and mouth disease

INTRODUCTION

Cattle is one of the commodities in the livestock sector that is expected to be a superior commodity in the country. In the past, the Government of the Republic of Indonesia, especially through the Ministry of Agriculture, has launched many rules to increase the domestic cattle population, starting from the *Percepatan Swasembada Daging Sapi dan Kerbau* (PSDSK) which began in 2010 to the most recent program launched by the *Upaya Khusus Sapi Wajib Bunting* (UPSUS SIWAB). The programme was implemented as an effort to meet the demand for domestic beef consumption and also as a way to increase domestic beef consumption, which is still low at 1,868.77 kcal and 54.16 grams, still below the standards set by the WNPG (*Widyakarya Nasional Pangan dan Gizi*) of 2,100 kcal and 57 grams per capita per day (Ermanda *et al.*, 2019).

As the population increases and the standard of living improves, consumption will increase, including beef consumption. The increase in beef consumption is not balanced by the increase in beef production, so the Government of the Republic of Indonesia needs to issue a policy to meet demand by importing beef from abroad (Rusdiana *et al.*, 2018). In importing both live cattle and processed meat, there are several problems, one of which is the emergence of Foot and Mouth Disease because Indonesia still imports cattle from India and Brazil, which are declared FMD-free. The emergence of FMD causes tremendous losses for farmers because it can lead to new costs for surveillance, treatment, quarantine measures, vaccinations and other costs, while for consumers it can cause a shortage of beef stocks in the market due to decreased market activity and significant changes in meat prices due to

the weakening of the beef supply chain (Fathurrohman *et al.* 2023).

For consumers themselves, the decision to buy beef during the FMD pandemic case will be a separate consideration, because consumer decisions to buy a product will go through several stages until they finally decide whether or not to buy the product. Consumer decisions to buy a product will be influenced by several factors, such as consumer perceptions, consumer characteristics, and characteristics of the product, such as price, brand and origin of the product. Consumer perception is the result of information processing, which is the initial view of consumers towards a product. A good perception will lead consumers to consume or buy a product.

Therefore, an analysis of consumer perceptions in consuming beef during the FMD pandemic is very useful to determine what factors influence consumer decisions, especially in West Sulawesi Province. The reason this research is centered on the West Sulawesi region is because West Sulawesi Province is one of the provinces in Indonesia that is fast in achieving zero reported case status during the FMD outbreak. In addition, the demographic conditions in West Sulawesi Province, which is still classified as a province with a low Human Development Index, which has a point of 66.92, West Sulawesi Province position in the bottom 4 of 34 provinces in Indonesia (BPS, 2022), can be one of the factors that influence consumer decisions, namely related to the level of education that is thought to influence consumer perceptions of consuming FMD-infected beef.

Based on some of the data and facts presented, it is necessary to conduct a study that is expected to identify and analyzed perceptions, decision making and factors that influence consumers to purchase beef during the FMD pandemic in West Sulawesi Province

MATERIALS AND METHODS

Research Time and Location

This research was conducted from December 2022 to January 2023 in West Sulawesi Province.

Research Materials

This study uses tools to collect data in the form of questionnaires distributed to respondents. The questionnaire used to answer consumer perceptions uses a Likert scale to measure respondents' perceptions with a 4-scale which is categorized into SD = Strongly Disagree, D = Disagree, A = Agree and SA = Strongly Agree. To answer the determinants of demand using a questionnaire containing questions about the sociodemographic of housewife.

Sample Determination

Respondents selected in this study were selected by *non-probability sampling* using *purposive sampling* technique, namely respondents were selected based on certain considerations. The determination of the respondents used was through a sociodemographic approach from housewife because housewife are the decision makers of food consumed in one day in a household (Ermanda *et al.* 2020).

The determination of the number of samples used uses the approach of data on the number of households from BPS West Sulawesi Province, which is 310,473 households (BPS West Sulawesi Province 2022). To determine the respondents used, it was determined using the Slovin formula with the calculations as below.

$$n = N / (1 + (N \times e^2))$$

Explanation:

n= the number of research samples; N= household population from BPS; e²= *margin of error*.

Based on this formula, the determination of the research sample is explained in the calculations below.

$$n = 310,473 / (1 + (310,473 \times 10\%))$$

$$n = 99,96$$

So the number of samples used in this study was 100 respondents because the rounding lifted 99.96 and with the proportion of distribution in each district in West Sulawesi Province, which is explained in the Table 1 as follows.

Data Analysis

The data that has been collected is then sorted and described using descriptive analysis

to describe the perceptions and factors that influence consumers in making beef purchasing decisions during the FMD pandemic. The purchasing decision-making process is based on need recognition, information search, evaluation of alternatives, purchase decisions, and post- purchase behaviour. (Ogundijo *et al.* 2022) sociodemographic factors that influence purchases. The data that has been analyzed is then presented in the form of frequency, average, percentage and average score so that it can explain and answer all research results in detail. The relationship between perception and demand determinants was analyzed using the *Spearman Rank* correlation test.

Table 1. Distribution of Respondents in West Sulawesi Province

District	Number of respondents
Majene	13
Polewali Mandar	32
Mamasa	12
Mamuju	21
Pasangkayu	13
Mamuju Tengah	10
Total	100

Source: BPS Secondary Data for West Sulawesi Province, 2022

Interpretation of Perception Score

The calculation of the final perception score is done by averaging the scores of each aspect of perception, namely aspects of product quality, aspects of nutrition and health, and

aspects of product handling and safety. Each aspect is given a score with a scale for each answer given, for details explained in the following Table 2.

Table 2. Scale of Respondents' Perception Level

Value	Perception Level
1.00-1.75	Strongly Disagree
1.76-2.50	Disagree
2.51-3.25	Agree
3.26-4.00	Strongly Agree

Interpretation of Demand Determinants

The sociodemographic variables of the households measured to answer the determinants of meat demand are represented by dummy variables which are explained as follows.

1. Mother's education level
 - a. Point 1 for mothers who completed at least 12 years of compulsory education,
 - b. Point 0 for mothers who did not complete at least 12 years of compulsory education.

2. Mother's occupation
 - a. Point 1 for mothers who have a job other than taking care of the household,
 - b. Point 0 for mothers who have no job other than taking care of the household.
3. Household Location
 - a. Point 1 for households located in urban areas,
 - b. Point 0 for households located in rural areas.

Spearman Rank Correlation Test

The Rank Spearman correlation test is used to measure the relationship between variables that have an ordinal scale. The variables to be measured in the study are perceptions with demand determinants. The following is the *Rank Spearman* correlation test formula.

$$r_s = 1 - \frac{6 \sum d^2}{n(n^2-1)}$$

Explanation:

r_s = Spearman correlation coefficient value; d = Margin between the two sets of variables; n = Number of variables.

All data collected in accordance with the research needs will then be tested using a computer application tool, namely SPSS with

version 20.0 to find out the correlation between research variables with the Spearman Rank test.

RESULT AND DISCUSSION

Consumer Behaviour

Consumer behaviour is the behaviour that in this study is housewife about showing how to make decisions to consume beef during the foot and mouth disease pandemic in West Sulawesi Province. The decision-making process is divided into 5 stages, namely need recognition, information search, alternative evaluation, purchase decision, and post-purchase behaviour.

Introduction of needs

During the foot and mouth disease pandemic in West Sulawesi Province, the need for beef consumption continues to occur with the discovery of eating places that provide processed beef products such as meatballs, palubasa, coto and so on still providing processed products and the buying and selling process with consumers continues. From this, it can be indicated that even during the foot and mouth disease pandemic, consumers continue to consume beef and to find out how consumers' reasons for consuming beef are described in the following Table 2.

Table 3. Introduction to beef conditions during the FMD pandemic

Attributes	Percentage (%)
Aware about FMD pandemic	56
Not aware of FMD pandemic	44

Source: Data Analysis (2023).

Based on the data contained in the Table, it can be concluded that the majority of respondents, 56%, demonstrated knowledge of the ongoing foot and mouth disease pandemic. This shows a relatively high level of awareness among respondents towards these health conditions. However, from the results obtained, there were 44% of respondents who were not aware of the pandemic. This phenomenon may

be attributed to factors such as lack of information or inadequate understanding of the disease among these respondents.

According to research conducted by (Govindaraj *et al.* 2021), the majority of respondents have known the spread of foot-and-mouth disease since the beginning of the appearance of visible characteristics, especially respondents who are close to the initial source

of the spread of foot-and-mouth disease, especially respondents who work as farmers or breeders. With the higher level of public awareness of the foot and mouth disease pandemic, the level of spread can also be further suppressed and stop the rate of spread of foot and mouth disease in cattle.

Information search

With the current era of information openness, the flow of information is unstoppable and information dissemination has occurred massively due to the widespread use of smartphones. Information about the spread of the foot and mouth disease pandemic in West Sulawesi Province in the community is explained in the following Table.

Table 4. Sources of beef information during the FMD pandemic

Attributes	Percentage (%)
Search by her self for information about FMD	24
Getting information about FMD from others	29
Getting information about FMD from social media or internet	33
Not getting any information about FMD	14

Source: Data Analysis (2023).

The variable search for information sources in the current era of information openness has led to the massive dissemination of information about the foot and mouth disease pandemic in West Sulawesi Province. This was triggered by the increasingly widespread use of smartphones in the community. Based on the information listed in Table 4, there are several sources of information used by the community. A total of 24 per cent of respondents personally sought information about FMD, while 29 per cent obtained information from other people. In addition, 33% got information from the media and 14% did not get any information about FMD. The dissemination of information about the foot and mouth disease pandemic has a significant impact on public awareness and knowledge regarding preventive measures that need to be taken.

The results of (Akaichi *et al.*, 2019) research on consumer information sources in consuming beef show that information dissemination is an important instrument that will influence a person's decision to buy and consume beef, especially processed beef. Effective information dissemination can provide consumers with a better understanding of the benefits and risks associated with consuming beef during the foot and mouth disease pandemic.

Evaluation of alternatives

In order to evaluate meat consumption alternatives during an animal health disease pandemic crisis or pandemic, people must consider various factors such as quality, safety, availability, and other health factors to choose the best alternative for beef consumers in West Sulawesi Province. The evaluation of these alternatives is outlined in the Table below.

Table 5. Alternative considerations in consuming beef during the FMD pandemic

Attributes	Percentage (%)
Continue to consume beef	11
Substituted animal protein sources with other meats	57
Stop consume beef	32

Source: Data Analysis (2023).

Based on the data in the Table, it can be concluded that in the face of an animal health

disease pandemic crisis or pandemic, people in West Sulawesi Province have several

alternatives to beef consumption that can be considered. The least chosen alternative answer is that respondents choose to continue consuming beef, with a percentage of 11%. Meanwhile, the majority of people, 57%, chose to replace their source of animal protein with other meats. Furthermore, 32% of people chose to stop consuming beef during the pandemic crisis. In choosing alternatives to beef consumption, people must consider factors such as quality, safety, availability, and other health factors. This evaluation is important to ensure that people can choose the best alternative for beef consumers in the current situation.

This study has similar results to those conducted by (Nugroho *et al.*, 2021) where consumer decisions in consuming meat that has a change in color and the influence of different packaging will not affect consumer decisions to consume meat, especially beef and its

preparations because consumer confidence in beef is maintained because consumers already understand the benefits of consuming animal protein that can provide benefits for healthy reason.

Purchasing process

During the foot-and-mouth disease pandemic, the place where beef is purchased can also influence consumer behaviour in purchasing beef. Consumers tend to pay more attention to where they purchase beef and its source during the pandemic, as they consider the risk of the disease spreading. During the foot and mouth disease pandemic in West Sulawesi Province, people must shop wisely and choose food sources that are guaranteed quality and safety. An explanation of the location of beef purchases is outlined in the following Table 6.

Table 6. Where to buy beef during the FMD pandemic

Attributes	Percentage (%)
Traditional market	51
Modern market	49

Source: Data Analysis (2023).

Based on the data in Table 6, it can be concluded that during the foot-and-mouth disease pandemic in West Sulawesi Province, people have a tendency to buy beef in both traditional and modern markets. The percentage difference between traditional and modern markets is not very significant, with traditional markets dominating with a percentage of 51% while modern markets have a percentage of 49%. This shows that despite the pandemic, most people still choose to shop at traditional markets, which may be better known and more familiar to them. However, modern markets are also still a significant option for some people who are more concerned about the quality and safety aspects of the beef source that respondents purchase. The data collected from this study also shows that concern for the risk of

disease spread is very important for consumers in choosing where to buy beef. Consumers are more likely to choose a place of purchase that is guaranteed quality and safety, whether it is a traditional market or a modern market.

Previous research on the purchasing process conducted by (Rombach *et al.* 2022) indicates that the choice to consume processed beef products that are more modern treatments and must be purchased in modern markets and so on does not discourage consumers from buying and consuming beef and its preparations, especially with increasing public concern, especially in the midst of environmental conditions that are starting to deteriorate and are feared to have an adverse effect on consumer health.

Post-purchase behaviour

After carrying out the decision-making stages, especially during the foot-and-mouth disease pandemic, consumers have the right to decide whether to buy the beef or not. If consumers continue to believe in the safety and

health of beef, it will motivate them to repurchase beef. Consumer decisions to reconsume beef during the foot-and-mouth disease pandemic in West Sulawesi Province are described in the following Table 7.

Table 7. Decision to consume cattle again after learning about FMD pandemic

Attributes	Percentage (%)
Re-consuming	59
Stop consume	41

Source: Data Analysis (2023).

Based on the Table7, it can be concluded that most consumers in West Sulawesi Province still trust the safety and health of beef despite the foot and mouth disease (FMD) pandemic. A total of 59% of respondents decided to consume beef again, while 41% of respondents decided not to consume it again. This shows that the majority of consumers still believe that beef is safe to consume despite the FMD pandemic.

Similar research conducted by (Li *et al.*, 2016) provides an important overview of consumer perceptions and attitudes towards food ingredients that will strengthen consumer decisions to purchase and re-consume, especially beef and its products, providing valuable insights for the livestock industry and the government regarding food policy.

Demand Determinants

In determining the demand for a commodity, there are several variables that influence consumer decisions in taking a stance to buy beef, especially during the foot and mouth disease pandemic that plagued West Sulawesi Province. Housewife, in this case, who play a role as a regulator who determines what

food will be consumed in a household, become the benchmark in this study through the approach of several sociodemographic variables inherent in housewife such as the mother's level of education, the mother's employment status and the location of the area where the household lives.

Mother's education level

Housewife education is an important factor that is one of the research variables because as housewife knowledge increases, it will affect their decision to buy meat during the foot and mouth disease pandemic. Knowledge about the disease can influence consumers' perceptions of the risk of disease transmission, and can influence decisions to purchase and consume beef. Mothers who have good knowledge about the disease and how it spreads tend to be more cautious in buying and consuming beef during the animal health crisis and how to handle beef properly. An explanation of the relationship between mother's education level and meat consumption decision-making is provided in the following Table 8.

Table 8. Relationship between education and meat consumption decisions during the FMD pandemic

Attributes	Percentage (%)
High (completed 12 years of primary education)	61
Low (did not complete 12 years of primary education)	39

Source: Data Analysis (2023).

Based on the Table above, it can be concluded that most respondents, 61% of housewife, have a high level of education, having completed 12 years of primary education. Meanwhile, the remaining 39% of respondents had a low level of education or mothers who did not complete 12 years of primary education. The education variable of housewife is an important factor that can influence the decision to consume meat during the FMD pandemic. Respondents with a high level of education tend to be more cautious and understand how the disease spreads and how to deal with it, while respondents with a low level of education may need further information and education on this matter.

The results of a similar study conducted by (Kerth *et al.* 2015) showed that respondents with a better level of knowledge indicated a better understanding of the spread of diseases and how to prevent them, so they are more

selective in choosing the meat they consume. On the other hand, respondents with lower education levels tend to need more information and education about the dangers of disease transmission through meat and how to prevent it.

Housewife occupation

Job correlations affect consumer needs and preferences for beef during the foot and mouth disease pandemic, several types of housewife jobs can influence beef purchasing decisions during the foot and mouth disease pandemic such as jobs that are directly related to the world of health such as doctors, nurses or even livestock extension officers who are more familiar with how to handle post-harvest beef during the foot and mouth disease pandemic and for more clarity between the relationship between employment status and beef consumption decisions are described in the following Table 9.

Table 9. Relationship between employment status and the decision to consume meat during the FMD pandemic

Attributes	Percentage (%)
Working	57
Non-working	43

Source: Data Analysis (2023).

Based on the Table, it can be concluded that of the 100 housewife respondents who were sampled for this study, 57% were employed and the percentage of housewife who were not employed was 43%. This Table reflects the temporary relationship between employment status and beef consumption decisions and other factors such as personal preferences, financial factors, and beef availability in the market can also influence consumer decisions.

This suggests that a housewife's occupation can influence her decision to purchase beef during the foot-and-mouth

disease pandemic. Working housewife are more exposed to information on post-harvest handling of beef and have better knowledge on how to deal with the disease pandemic.

Household location

Consumer access to a product is one of the variables that influence purchasing decisions, including food products to be consumed. Price differences and ease of access to food products are considerations for housewife in buying beef during the foot and mouth disease outbreak in West Sulawesi Province.

Urban areas in this study are characterized by areas where the majority of the population's activities have an economic pattern in the service and service sectors so that the presence of modern markets to ready-to-process beef outlets is available in urban areas and vice versa in rural areas is characterized by farming activities in mountainous areas or fishing activities in coastal areas as the main source of

income for the community so that efforts to meet animal protein needs in the form of beef are still accessed by going directly to traditional slaughterhouses and traditional markets. An explanation of the relationship between location of residence and the decision to consume beef during the foot and mouth disease pandemic in West Sulawesi Province is outlined in the following Table 10.

Table 10. Relationship between location of residence and decision to consume meat during FMD pandemic

Attributes	Percentage (%)
Urban	38
Rural	62

Source: Data Analysis (2023).

Based on the Table, it can be concluded that the majority of housewife in West Sulawesi Province, 62%, live in rural areas and the remaining 38% of housewife respondents live in urban areas. This suggests that location of residence, access to and availability of beef are important factors in beef purchasing and consumption decisions, especially during unfavourable situations such as the foot and mouth disease pandemic.

Rural areas generally have limited access to different types of food, traders or markets in rural areas do not have a large selection so housewife have limited choices on what is available so when food supply is disrupted, housewife in rural areas are more limited in their food choices and rely more on available animal protein sources such as eggs and fish and even replace them with tofu or tempeh. The limited transport facilities in rural areas compared to urban areas may make it difficult for housewife to gain access to markets that provide fresh beef, especially if food delivery and distribution is hampered during the pandemic.

Consumer Perception

Consumer perceptions during the foot and mouth disease pandemic that hit West

Sulawesi Province were measured using variables that had been previously compiled according to research needs. Perception plays an important role in determining consumer decisions to buy and consume beef because the occurrence of foot and mouth disease pandemic will affect consumer decisions.

Based on the average score of respondents' perceptions of beef consumption decisions during the FMD pandemic in West Sulawesi Province, it can be concluded that overall consumer perceptions of product quality, nutritional content and health, as well as product handling and safety are still at a fairly high level. In the aspect of product quality, consumers who were registered as respondents of this study stated that beef still has normal elasticity, texture, taste, smell, color, and appearance even during the FMD pandemic. This indicates that consumers' perception of the physical and organoleptic quality of beef is good.

Similar research conducted by (García *et al.*, 2016) also showed an effective response between the growth of the meat market and careful attention to the sensory attributes (taste, appearance, texture, and odor) that shape the search process and consumer experience, thus

providing a strong reason for consumers to decide to consume beef and its preparations despite problems such as public perception of

the existence of meat that has undergone modified treatment in cattle.

Table 11. Mean scores of respondents' perceptions of beef consumption decisions during the FMD pandemic

Aspect	Sub-aspect	Variables	Mean
Product quality	Physical quality	Beef retains normal tenderness even during FMD pandemic	2.79
		Beef continues to have a normal texture even during the FMD pandemic	2.81
	Organoleptic	Beef continues to taste normal even during the FMD pandemic	2.82
		Beef continues to have a normal odor even during the FMD pandemic	2.78
		Beef remains normal in color even during the FMD pandemic	2.81
		Beef continues to have a normal appearance even during the FMD pandemic	2.83
Average score of product quality aspects			2.80
Nutrition and health content	Nutritional content	Beef still has good nutritional content even during the FMD pandemic	2.71
		Health	Beef is still good and safe to eat even during FMD pandemic
		Eating beef and being safe during the FMD pandemic is harmless	2.64
Average score of nutritional content and health aspects			2.67
Product handling and safety	Handling	Beef is processed cleanly and hygienically, making it safe to consume even during the FMD pandemic.	2.57
	Security	Beef buying locations have good sanitation and hygiene so that it is safe to consume even during the FMD pandemic.	2.59
Average score of product handling and safety aspects			2.58

Source: Data Analysis (2023).

Meanwhile, in terms of nutrition and health, consumers believe that beef is still nutritious and safe to consume during the FMD pandemic. Foot and mouth disease is not considered a threat to beef consumption by consumers. In terms of product handling and safety, consumers believe that beef is processed cleanly and hygienically so that it remains safe to consume during the FMD pandemic. The choice of beef purchase location is also considered to have good sanitation and hygiene.

Overall, consumer perceptions of beef consumption decisions during the FMD pandemic in West Sulawesi Province tend to be

positive. Although the foot and mouth disease pandemic may affect consumers' decisions, they still have confidence that beef is still of good quality, has good nutritional content, and remains safe to consume as long as it is well processed and the purchase location has maintained security.

Relationship between perceptions and determinants of beef consumers during FMD Pandemic

In this study, all of sociodemographic variables were measured to see the correlation with consumer perceptions, namely education of housewife, employment status of housewife and location of household residence. The

relationship between perceptions and determinants of meat consumers during the foot and mouth disease pandemic analyzed

using Rank Spearman can be seen in the following Table 12.

Table 12. Relationship between sociodemographic variables and consumer perception variables status

Sociodemographic Variable	Coefficient corelation	Significant	Explain
Housewife education	0.81	0.002	reject Ho, accept Ha
Housewife occupation	0.73	0.136	reject Ha, accept Ho
Household location	0.32	0.256	reject Ha, accept Ho

Source: Data Analysis (2023).

There is a significant relationship between housewife education and consumers' perceptions of meat consumption during the foot and mouth disease pandemic. The correlation coefficient of 0.81 indicates a strong relationship between the two variables. This result shows that the higher the housewife's education, the more positive the consumer's perception of meat consumption during the pandemic.

There is no significant relationship between housewife employment status and consumers' perceptions of meat consumption during the foot and mouth disease pandemic. Although the correlation coefficient of 0.73 indicates a relationship, the significance of 0.136 indicates that this relationship cannot be considered statistically significant. Thus, the occupational status of housewife does not significantly affect consumers' perception of meat consumption.

There is no significant relationship between household location and consumer perceptions of meat consumption during the foot and mouth disease pandemic. The correlation coefficient of 0.32 indicates a weak relationship between the two variables. The significance of 0.256 indicates that this relationship cannot be considered statistically significant. Thus, household location also does not significantly influence consumers' perception of meat consumption.

From the above, it can be concluded that housewife education is the most influential factor on consumer perceptions of meat consumption during the pandemic, while housewife employment status and household location do not have a significant influence.

The results of this study are similar to previous research conducted by (Teixeira & Rodrigues 2021) which shows that other factors such as socio-demographic characteristics such as the location where a household lives and also the employment status of consumers are not significant predictors of consumers' intention to buy and consume meat, especially processed meat.

CONCLUSION

From the results of observations of each research variable on consumer behaviour, factors that determine stimulation and consumer perceptions of the decision to consume beef during the foot and mouth disease pandemic that occurred in West Sulawesi Province, it shows the fact that significant relationship between housewife education and consumers' perceptions of meat consumption during the FMD pandemics, but no significant correlation between housewife occupations ($P > 0.005$) or household location ($P > 0.005$). During FMD pandemics, housewife education has the most influential factor

($P < 0.005$) on consumer perceptions of beef consumption.

CONFLICT OF INTEREST

The data used in this research has received consent from respondents without any coercion and all respondents' identities in this research are anonymous or unknown without asking for any identifying characteristics except the location of the district where the household lives.

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