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# Community perception on dairy cattle existence in Korong Padang Mantuang Nagari Kayutanam

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**Abstract.** This study was aimed to assess the community perception on dairy farm existence in Korong Padang Mantuang Nagari Kayu Tanam, 2x11 Kayutanam District, Padang Pariaman Regency, West Sumatera Indonesia. It could be used as a reference to develop and the continuity of dairy cattle activities in Korong Padang Mantuang Nagari Kayutanam, 2x11 Kayutanam District. This study was conducted using survey method and the respondents were determined with purposive sampling, which is 160 respondents who live nearby dairy cattle farm sampled with Slovin's Formula, determined 32 respondents to assess their perceptions about dairy cattle existence and the data that obtain was analyse descriptively. The result showed that community perception of negative impact on dairy cattle existence especially faeces of cattle in Korong Padang Mantuang, Nagari Kayutanam was in low category (46.35%) or it could be described as the existence of dairy cattle was not disturbing daily life in Korong Padang Mantuang Nagari Kayutanam. In another side, 79.68% community perception on dairy cattle existence was in high category feel the benefit on dairy cattle existence.

## 1. Introduction

Indonesia produces 852 thousand tons of milk a year and it only fulfils 18-20% of national needs. The rest of Indonesian milk needs are still covering by imports [1], [2]. Based on that circumstance, Indonesia has to develop a dairy farming business to be ably fulfilling national milk needs without imports.

The development of dairy farming business has an impact as a place to create jobs and as additional income, it also has prospective opportunities and something that has future benefits. Nagari Korong Padang Mantuang is one of the villages which is used as a centre for dairy farming in 2x11 Kayutanam District, Padang Pariaman Regency, West Sumatera, Indonesia. The dairy farming business in Korong Padang Mantuang was established by the Talago Sakato Farmer Group which established on November 10, 2013, with 11 members. This group have received the aids from the Animal Husbandry Office of West Sumatra (Dinas Peternakan Provinsi Sumatra Barat) in 2013 with 25 dairy cows Holstein Friesian cattle. In 2019 the population of dairy cows increased to 40 so that the dairy farming business keeps growing. But, in other hands, the location of the Talago Sakato dairy farm is close to community settlements which are only 10 meters away.

This is not in accordance with the Dirjenak Decree (Director General of Animal Husbandry) No.776/KPTS/DGT/Deptan/1982 Article 1 which states that if the dairy business is opened, dairy cattle

entrepreneurs must pay attention to distances that may not be close to the house at least 250 meters from the residential area. Lestari *et al.* [3] argued that the distance of enclosures should be far enough from the distance of residential areas in order to avoid noise or disturbance, air and water for residents living in houses, buildings or other centres of activity.

Perception is a process of evaluating a particular object. Suharto [4] stated that perception is a process that involves sensory activities, transferring, integrating and giving judgments to physical objects and social objects. The sensory process depends on stimuli (physical stimuli and social stimuli) that exist in the environment. Stimuli that arise from the environment are processed together with something that has been studied before such as values, attitudes, memories and others. Slamet [5] adds that perception is a process that involves the entry of messages or information into the human brain, which continuously engages in interaction with the environment. This interaction is carried out through the senses, called the sense of sight, listener, touch, feeling, and smell.

Humans as social beings who are also individual beings at the same time have different perceptions between individuals with one another. This difference is the reason why someone likes an object and other people are not happy about an object. In this case, the research of an object depends on how the individual's perception responds to the object because in reality most attitudes, behaviour and adjustments are determined by perception. The existence of a perception process from someone's personality is then required to provide an assessment of an object. These assessments can be either positive or negative, like or dislike, happy or unhappy and so on. Based on the description above, it is necessary to conduct a study that examines the Community Perception of the Existence of Dairy Farming in Korong Padang Mantuang Nagari Kayutanam.

## 2. Material and methods

### 2.1 Population and samples

The population involved in this study was the people who lived adjacent to the dairy farming business in Korong Padang Mantuang, Nagari Kayutanam, 2x11 Kayutanam district. The total population of the people in Korong Padang Mantuang is 357 people (Based on recapitulation of family in 2015), but the number of populations adjacent to the dairy farm is 0–250 m as many as 160 people, to find the total number of respondents who live adjacent to the location of dairy farms is used the Slovin Formula [6]. The results of Slovin Formulas obtained 32 respondents. The selection of 32 respondents was carried out by convenience sampling based on cardinal direction: north, south, east, and west from the position of the farm. The distance indicators are also a consideration in taking respondents including close distance (0-100 meters) selected 17 respondents, medium distance (101-200 meters) selected 9 respondents and long-distance (201-250 meters) selected 6 respondents.

### 2.2 Place and time

This research was conducted in Korong Padang Mantuang, Nagari Kayutanam District 2x11 Kayutanam in March-November 2018.

### 2.3 Variable

The variable of this research is the public perception of the disturbing aspects and the usefulness of the existence of a dairy farm in Korong Padang Mantuang. The disturbance aspect is measured by two indicators, odour indicators (odour that is not easily lost, stinging odour, and fishy odour) and water pollution indicators (polluted water, cloudy and smelly watercolour, and non-current drains). The benefits aspect is measured by providing employment indicators (employment opportunities and additional income) and social assistance indicators (social assistance in event activities, social assistance to the community).

### 2.4 Methods

*General.* The method of this study is survey method and data collection were obtained by questionnaires, observations, interviews and data documents to solve problems [7]. The answers from the questionnaire then clustered into three classes (low, medium, and high) with the following equation:

$$\text{Categories Interval} = \frac{\text{Maximum Score} - \text{Minimum Score}}{\text{Number of Categories}} \quad [8]$$

Based on equation above  $\leq 52\%$  was categorised as Low (do not disturbing, not beneficial) 53%-76% were categorised medium (quite disturbing, quite beneficial), and  $>76\%$  were categorised High (disturbing, beneficial).

*Data analysis.* The data were analysis uses descriptive analysis, and uses a grouping, simplification, and presentation models such as frequency distribution tables and measurements using the Likert scale.

### 3. Results and discussion

Talago Sakato Farmer Group is a farmer group engaged in dairy farming which established on November 10, 2013, by Mr Afriadi as the head of a farmer group with 11 members. This group have received an aids from the Animal Husbandry Office of West Sumatra (Dinas Peternakan Provinsi Sumatra Barat) in 2013 with 25 dairy cows Holstein Friesian cattle also funding for the cost of maintenance, grass chopping machines, vehicles, freezers. The land used was Mr Afriadi's parents with a 2-year contract system.

**Tabel 1.** The Percentage of respondents' answers

Odour	55.90%	Quite Disturbing
Water Pollution	36.80%	Did not Disturbing
<b>Average Disturbing</b>	<b>46.35%</b>	<b>Did not Disturbing</b>
Employment	86.45%	Usefull
Social Assistances	72.91%	Quite Usefull
<b>Average Usefulness</b>	<b>79.68%</b>	<b>Usefull</b>

Community perceptions of the odour aspect that arises from dairy farming activities can be seen from 55.90% of respondents indicating that the odour generated by farm waste is in the medium category. This medium category is categorised as quite disturbing. This has happened to the smell that arises when the wind blows, and the distance of the pen was close to the residents' houses. According to Labodu [9], the odour would not easily be lost when the rain falls, the wind blows hard. It was not really disturbing because the people who have occupied their homes close to the farm can adapt to the smell. The location of the pen should at 250 meters from the residential [3].

This business activity can provide an opportunity for pollution in the event of irregular waste treatment which will cause various problems such as air and water pollution. According to Ardhana [10] water pollution is a change in the properties of water and a lack of normal water content. Polluted water is caused by anaerobic waste so that clean water becomes smelly and unhealthy again for the growth of microorganisms in the flora and fauna of the water.

The results showed that 36.80% of water pollution produced by dairy farm waste was in a low category, it means that the waste did not interfere with community water sources. The community feels that the water sources that usually used were not polluted, because the farmers can organize the waste with the treatment such as the drain the wastewater to the rice paddy field around the farm so that the fields around the farms are directly fertilized. Mukhtar [11] states that if manure were properly processed that would not cause problems and it could be used for various needs such as organic fertilizers, compost, energy and etc.

Based on the explanation above, it can be concluded that 46.35% of community perceptions were at a low level or did not disturbing categories. This means that respondents feel that the waste produced by dairy cattle is not disturbing because the dairy farm waste can be processed and used as fertilizer, only the people who live really close to the pen of dairy cows (100 meters) feel the direct impact of dairy farm waste mostly the odour. According to the people who live around the farm, they accept the existence of a dairy cattle farming, because they have good relations between the owners and the community, despite the odour produced but the community, can adapt and get used to the smell, so they feel it uninterrupted.

The perceptions of respondents in terms of providing a job aspect by dairy farming existence were in the high level or useful category (86.45%). This is because respondents who live around dairy farms get the benefit from the opportunity to work and get income from dairy farming. The existence of a business in an area on a large scale business or small business will have an impact and bring changes to the socio-economic conditions of the surrounding community. The job vacancies in business in large or small scale can provide new opportunities, both those directly caused by the business itself (new employment opportunities, for the surrounding community) and other direct consequences such as opportunities in new businesses [12].

Based on the data obtained community perceptions on social assistance indicator which provided to the community at 72.91%. It means it categorized in a medium level or quite useful. The community got the benefits of the existence of a dairy farm that provides social assistance in the form of financial donations for the activities located in the community area. The assistance also provided goods delivered to the community as a form of care and contribution from the community in improving the quality and quantity of the business, as well as the sustainability of their business.

Based on the explanation above, community perceptions in terms of usefulness aspects are in the high or useful category (79.68%). Anwar [13] states that actually dairy farming has so many benefits especially in increasing income when they are able to process them well and the utilization of manure as a source of long-distance is very supportive of agricultural business.

#### 4. Conclusion

It can be concluded that the public perception of the existence of a dairy farm in Korong Padang Mantuang received a good response. This certainly affects the sustainability of livestock business in an effort to increase milk consumption in the area which can continue to be developed. However, it should be considered that the location of the dairy farm should be at least 250 meters from the residential area to avoid negative impacts on the surrounding community.

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