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Motivation of Farmers in Implementing Good Dairy Farming Practice in Sae Pujon Cooperative Working Area, Malang District

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Abstract:
Indonesian milk consumption was dominated by imported milk, domestic milk production was only capable of supplyed 20 percent of national milk needs, so improved the economic, environmental and social sustainability of farms requires a high level of efficiency in the production process for livestock welfare that was closely related to the health and GDFP aspects. The objective of this study was to identify the motivation of pear cattle farmers in the SAE Cooperation Working Area, Pujon district Malang in the implementation of GDFP. The research uses survey methods that are analyzed used descriptive correlation. Data was collected through a questionnaire that was distributed to 108 respondents who are joined as members of SAE cooperation in Malang district. Data analysed used double linear regression analysed. The results of the research showed that farmers in the area of SAE Pujon county district of Malang were dominated by the productive age, the level of SD education, have a family dependence between 2-3 people, breeding experience >20 years, have livestock between 3-4 sheep, access to information on the farmer belongs average 6-10 times. The level of intrinsic motivation of farmers is in the medium category with an average score of 2.77 and extrinsic motivation is in the medium category with an average score of 3.03. The level of motivation in implementing GDFP as seen from reproduction, animal health, milking hygiene, nutrition, animal welfare, environment and socio-economic management, is in the medium category with an average score of 2.93.

Keywords **—Motivation, GDFP, Dairy Farmer**

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I. INTRODUCTION

The Central Statistics Agency (2020) stated that milk consumption in Indonesia ranges from 6 billion litres per year. According to data from the Directorate-General of the Headquarters of the Ministry of Agriculture, the total milk requirements in 2020 in Indonesia amounted to 4.385.73 tons, while milk production in 2020 was 997.35 tons. The government fulfils 78% of national milk needs through imports. Indonesian milk consumption was still dominated by imported milk, domestic milk production being able to supply only 20 percent of national milk needs. The problem with dairy production was that the number of farming companies was still minimal, with domestic supply of milk dominated in the country by the farmers of pear cattle with a scale of ownership of cattle around 2-4 hectares.

The cooperative has a strategic role in supporting the development of Indonesian breastfeeding as an institution that manages and channels milk from farmers to the Milk Processing Industry (IPS) and as an agency that represents farmers for their aspirations. The development of the milk cooperative depends on the mechanisms that occur in the cooperative. East Java was the largest national milk supplier with a total of 558.758 tons by 2021 (Kementan, 2022). The achievement of East Java as a province with the amount of milk production in Indonesia was not without the support of several parties one of which was the Milk Corporation.

The welfare of livestock was closely linked to health, which is also an aspect of good dairy farming practices. (gdfp). one way companies can improve progress was by implementing gdfp in milk quality controls and enabling to make appropriate management decisions, improving resource efficiency. increased economic, environmental and social sustainability of farms requires a high level of efficiency in the production process. the method used to evaluate the application of the gdfp was the assessment of the suitability of the gdfp of cattle perah according to the modification of the method by mardhatilla and amini [1]. Motivation plays a role in determining the development and success of an enterprise by yulia, baga and tinaprilla [2] the research aims to know and provide a better understanding of the knowledge and motivations of farmers forming assessments for social and economic desires that can influence decisions and strategies applied to manage cows in farms can be beneficial to the health and productivity of peras through the application of good dairy farming practice (gdfp). the research was expected to make a scientific contribution to the development of milk cooperatives in indonesia.

II. MATERIAL AND METHOD

The research was carried out in the SAE Cooperative Area of Pujon district of Malang in March-May 2023. The election of the SAE Pujon coalition in Malang district was carried out deliberately, because the Pujons Coalition was one of the largest dairy coalitions in East Java which has been in existence since October 30, 1962, and has a number of members of about 9054 farmers who actively deposit milk every day. The data was collected using a questionnaire and interviewed directly to the respondents. The research methods used are surveys and data obtained are analyzed using descriptive correlation which aims to see the relationship between research variables and test the hypotheses that have been formulated. This research began with the collection of secondary data obtained from the SAE Pujon Corporation as the coordinating party of the perah cattle farmers. In the next phase is to collect the primary data carried out through interviews with the cow farmers of SAE pujon, Malang district, East Java.

This research has two types of data taken, namely primary data and secondary data. The primary data includes quantitative data, data relating to internal characteristics, external characteristics of respondents, motivation and application of Good Dairy Farming Practice (GDFP). Addition, data obtained from indepth interviews of several respondents and informants using questionnaires and assisted with recording tools are collected, as well as field observations to obtain an overview of the area, situation and conditions of the study site. The data was obtained from a staff member of the SAE Pujon Corporation, a pear cattle farmer and includes data collected from a literature study. The operational definitions in this study are: Motivation (Y1), Application of good dairy farming practice (Y2), Personal characteristics (X) The personal characteristics in the research consist of internal and external factors. Data analysis uses double linear regression analysis, which was processed with the help of the SPSS program.

III.RESULT AND DISCUSSION

A. Respondent Characteristics

Characteristics are traits that are inherent in an individual so that they become a characteristic in

the life of breeders by Huda, Likah and Siwoyo [3]. The characteristics of respondents observed in this study were age, formal education, non-formal education, farming experience, number of family dependents, livestock units, and access to information. Further description is presented in Table 1.

TABLE I
RESPONDENT CHARACTERISTICS

Internal factors	Category	Amount (person)	Percentage (%)
	Young(15-25yearsold)	8	7,4
Age	Medium(26-45yearsold)	55	50,9
	Old(>45yearsold)	45	41,7
	Other	0	0
	Elementary School	56	51,9
Formal education	Junior High School	35	32,4
	Senior High School	14	13,0
	College/ Other	3	2,8
	A little(1 time)	39	36,1
Non-formal education	Medium(2 time)	56	51,9
	Lots(3time)	8	7,4
	A huge amount (>3)	5	4,6
	Low(1-10year)	24	22,2
Breeding Experience	Medium(11-20year)	37	34,3
	High(>20year)	47	43,5
	Other	0	0
	A little(0-1people)	1	0,9
Number of family dependents	Medium(2-3people)	39	36,1
	Lots(4-5people)	61	56,5
	Other (>5)	7	6,5
	A little(1-2dairy cattle)	19	17,6
Livestock Unit	Medium(3-4 dairy cattle)	44	40,7
	Lots(>5)	37	34.3
	Other	8	7,4
	Low(1-5time)	20	18,5
Access information	Medium (6-10time)	38	35,2
	Hight(11-15time)	33	30,6
	Other	17	15,7
Notes:n=108			

Source: Primary Data Analysis (2023)

Based on the data presented in Table 1 the average age of dairy farmers was 45 years with the largest proportion (50.9 percent) of the farmers aged between 26-45 years. This means that the breeder's age was classified as medium. Age classification was based on the categories of the Central Statistics Agency (BPS), so the age of breeders is included in the productive age category of the workforce, namely between 26 and 45 years by Fahamsyah [4]. This condition shows that many breeders are still in a physical condition that supports livestock activities. Farmers of productive age have a higher ability to work or carry out activities compared to breeders who are no longer productive. Thos based on management skills in managing the farming business by Siradjuddin[5]. The formal education provided, it can be seen that more than half of the respondents (51.9 percent) had formal education, including elementary school graduates. The level of formal education was very important for breeders because it will help breeders to more easily adopt innovations, apply technology in raising livestock and solve the problems they face. The more a person's education increases, the quality of work also increases by Safira and Nurdiawati[6]. This means that the higher the breeder's education, the more insightful his thinking will develop and the better his decisions will be in raising more productive livestock.

From non-formal education, it can be seen that as many as 51.9 percent of respondents have

attended livestock training or courses twice, so they are in the medium category. The training covers important aspects of raising cattle such as seed selection, seed propagation, stall preparation, cow nutrition and feed, maintenance of cow health, and reproductive management. By combining this knowledge with their expertise in cattle breeding, farmers strive to increase livestock productivity. them and ensure the welfare of their livestock, . This is in line with the opinion of by Ariefet al [7]that the knowledge and experience gained in this process are factors that influence a person's motivation to develop and gain maximum benefits.

Breeding experience shows that the average number of years of farming experience was 36 years with the majority (43.5 percent) of the breeders involved in this research having more than 20 years of farming experience, which is considered high. This shows that breeders have been in the profession for quite a long time, so the high level of breeder experience shows that breeders have had the knowledge and skills during that time. Through their experience, breeders will compare GDFP with their current experience in breeding and improve their skills. Thos in accordance with the opinion of by Makatita[8]that the experience gained by farmers can improve their knowledge and skills in raising livestock because it was a routine.

The number of family dependents that can be seen is that more than half (56.5 percent) of farmers have a number of family dependents that are classified as high (4-5 people). The number of dependents shows the amount of burden that must be borne in terms of daily financing. The greater the number of family dependents borne by farmers, the greater the costs that must be incurred to meet their daily needs, but on the other hand, it will save the amount of labor in managing livestock outside the family, if these dependents can help manage the livestock. This is in accordance with the opinion of by Nurdiyansah et al[9]that the greater the number of family dependents, the greater the burden of life that a farmer must bear.

The average number of livestock units was 3 cows served, 40.7 percent of farmers have 3-4 cows which are included in the medium category. The number of livestock units was a determinant of the amount of milk that can be produced by farmers, because the more livestock units there are, the more milk can be produced from each livestock unit owned by the farmer. This is made clear by the opinion of by Makatita.that the greater the number of livestock owned, the more it will encourage farmers to immediately apply technology in rearing management.Access to information shows that 35.2 percent of respondent farmers have access to information which is in the medium category (6-10 times). Access to information for farmers in supporting dairy cattle management in the form of print and online interpersonal, messages via SMS and WA is quite high by Yusmaili and Irfan[10].

B. Farmers' Motivation in Implementing GDFP (Good Dairy Farming Practice)

The emergence of an encouragement for individual dairy farmers, both from within themselves and from outside themselves, to implement Good Dairy Farming Practice was Motivation. The distribution of respondent farmers based on the level of motivation in implementing GDFP is presented in Table 2. The motivation of dairy farmers in implementing GDFP is in the medium category, both intrinsic motivation and extrinsic motivation. Thos shows that the breeder's motivation comes from within the breeder as well as from outside the breeder himself.

Table II
Distribution of Respondent Farmers based on Level of Motivation in implementing Good Dairy Farming Practice

	Motivation		Average Score *
Intrinsic			2,77
Make ends meet	Medium	3,02	
Enthusiastic	Very low	1,07	
Pleasant	Medium	3,06	
Work Effectively	Medium	3,09	
Profitable	Medium	3,07	
Easier	Medium	3,06	
Own will	Medium	3,05	
Extrinsic			3,03
Establishing Relationships	Medium	3,01	
Feel appreciated	Medium	3,06	
Prioritizing Quality	Medium	3,08	
Market Conditions	Medium	3,04	
Other Breeders Advise	Medium	3,01	
Officer Recommends	Medium	2,94	
Family/Relatives Suggest	Medium	3,04	
Success of Other Breeders	Medium	3,03	
Total Average Score			2,90

Notes:*Average Score 1,00-1,66=low,1,67-2,33=medium,2,34-3,00=high

Table 2 shows that the (intrinsic) motivation of farmers in implementing GDFP includes fulfilling the needs of farmers, farmers being enthusiastic about working, having fun working, working more effectively, more profitably, making livestock farming easier, as well as their own encouragement to implement GDFP. The results of the analysis of 54 studies show that intrinsic motivation is categorized as moderate with an average value of 2.77. All indicators of motivation are classified as moderate with a value of fulfilling the needs of farmers (3.02), working with pleasure (3.06), working more effectively (3.09), more profitable (3.07), easier in farming (3 .06), as well as encouragement within oneself (3.05). This is different from the enthusiasm for work indicator showing very low results with a value of (1.07).

Intrinsic motivation in breeders has a lower average than extrinsic motivation. Extrinsic motivation has several indicators including making friends (3.01), feeling appreciated by other breeders.

Extrinstic motivation has several indicators including making friends (3.01), feeling appreciated by other breeders (3.06), prioritizing product quality (3.08), market opportunity conditions (3.04), recommendations from other breeders (3, 01), recommendations from extension workers or officers (2.94), recommendations from close people or relatives (3.04) and the success of other breeders (3.03). Based on the results of the analysis in this study, it shows that the extrinsic motivation of breeders is in the medium category with an average value of 3.03. This is higher than the intrinsic motivation of breeders. Farmers feel that

implementing GDFP makes dairy cows' milk yields more feasible both in terms of increased milk quantity and better milk quality, so that from the sales they get a higher price and farmers feel they have enough to meet their basic needs. Through the implementation of GDFP, breeders also find it very easy to build relationships in the community, because breeders who implement GDFP become a place to ask questions for other breeders who have not implemented it, so that these breeders are better known in the community and become easier to get along with by Maryani, Ahda and Jatmika[11] stated that a person's enthusiasm for work will increase if he is accepted as a member of a group. The activity begins with an explanation of the importance of group mentoring, timely scheduling, selecting strategies that suit the characteristics of the livestock group, using varied strategies. , provides good social interaction, there is self-respect, facilitates sharing, and is sustainable.

Farmers who serve as a place to ask questions for other breeders who have not implemented GDFP make breeders feel valued in society, apart from that, the quantity and quality of livestock products obtained through implementing GDFP becomes a topic of discussion among breeders and other breeders give praise regarding the harvest results. The treatment received from the community makes breeders feel valued in society. Breeders feel that the implementation of GDFP makes it fun for breeders to work. 55 The indicator of self-will in intrinsic motivation is enough to encourage farmers to implement GDFP. Farmers realize the importance of implementing GDFP in improving their livestock business. This is in accordance with the opinion of by Connolly [12] that the focus of humanistic learning is communication, self-concept, attitude and personal character. The treatment received from society makes breeders feel valued in their community and makes breeders quite enthusiastic about their work. Breeders feel that the implementation of GDFP makes it fun for breeders to work.

Farmers' motivation to prioritize product quality is enough to encourage them to implement GDFP. One of the ways in which the quality of the product resulting from the implementation of GDFP can be seen is through the quality of the milk, in this case the results of the lab test when deposited at the KUD show that the value meets the standard, and the quantity also increases. This is in accordance with the opinion of by Afriani, Idris and Fatati[13].that the highest component of interest is the encouragement, desire and willingness of farmers to raise dairy cattle. High quality milk results also provide encouragement to farmers to implement GDFP, because it provides an idea of the profits that will be obtained from the milk produced. Breeders feel that implementing GDFP is quite profitable. The benefits felt by farmers are not only in the form of financial benefits, but also in the form of non-financial benefits by increasing the knowledge and skills of breeders through the implementation of the GDFP. Apart from that, the existence of a sequence of activities in implementing GDFP is considered by breeders to make them work effectively. Other activities are carried out by breeders based on their own wishes, apart from that, the motivation of breeders to implement GDFP is also driven by the presence of other parties, such as advice from extension workers, encouragement from family/relatives, as well as seeing other breeders who are successful in raising their livestock.

C. Good Dairy Farming Practice (GDFP)

Good Dairy Farming Practice implemented by farmers includes reproductive activities, animal health, milking hygiene, nutrition (feed and drink), animal welfare, environment and socio-economic management. The total average score for the level of implementation of the GDFP by breeders was 2.93. This shows that the application of technology by breeders was in the medium category, which means that in general breeders intensively implement GDFP.

Table III.
Level of Implementation of Good Dairy Farming Practice at Farmer Level

GDFP	Average Score *
Reproduction	2,98
Animal Health	3,01
Milking Hygiene	3,02
Nutrition (Feed and Water)	2,95
Livestock Welfare	2,98
Environment	2,57
Socioeconomic Management	2,97
Total Average Score	2,93

Notes:*Average Score 1,00-2,00=low,2,00-3,00=medium,3,00-4,00=high

Reproductive activities in their implementation at the livestock level are included in the high category. Mardhatilla and Aministate that breeders generally know the objectives, technicalities and benefits of livestock reproduction activities, breeding and reproduction breeders have managed well, so that the reproduction and seeds used for the sustainability of livestock business activities ware well maintained in terms of the quality of the seeds. Thos will also have an impact on the quality of the milk produced later.

Livestock health applied by breeders was in the high category. Thos in line with efforts to increase production efficiency which can be done by preventing disease, while treatment was seen as a form of saving livestock from a disease that reduces production by Lestari [14] as well as cleaning cages and cows with management activities. Milked hygiene carried out by breeders is in the high category. Milked activities do not injure livestock and prevent contamination of milk, the milking environment is in a clean condition, and handling of milk after the milking process has been carried out by farmers, but some activities are not continued.

The nutritional management activities in feed and water carried out by breeders are in the high category. Feeding management (nutrition) influences milk production and quality (Lestari, 2015). Management of nutrients in feed and water in this case consists of ensuring the availability of feed and water, the need for feed and water in quantity and quality, controlling the feed warehouse, and guaranteeing the quality of feed coming from suppliers. In general, breeders have implemented thos.

The scope of livestock welfare activities was freedom from hunger and thirst, freedom from environmental discomfort, pain, injury, disease, stress and pressure, as well as freedom to move and behave normally. Aspects of livestock welfare have an impact on livestock stress levels, the more prosperous the livestock, the lower the stress level. Stress will affect milk productivity. Therefore, livestock welfare aspects must always be maintained by Mardhatilla and Amini Environmental management and socio-economic management ware often ignored by livestock breeders, causing environmental conditions such as waste handling and its impact on the surrounding environment to be poor, and human resource management to manage their livestock business is deemed to be poor. Mardhatilla and Amini (2022) this certainly requires good handling as recording business and manure management has not yet become an important priority for breeders. Efforts are made to increase the implementation of GDFP at the farmer level through more intensive implementation of activities, especially in the GDFP component where implementation is still

low.

IV. CONCLUSION

The results of the research show that breeders in the SAE Pujon Cooperative area, Malang Regency, are dominated by productive age, elementary education level, have family dependents of between 2-3 people, farming experience >20 years, have livestock between 3-4 heads, access to information for breeders was classified as medium 6-10 times. The level of intrinsic motivation of farmers is in the medium category with an average score of 2.77 and extrinsic motivation is in the medium category with an average score of 3.03. The level of motivation in implementing GDFP as seen from reproduction, animal health, milking hygiene, nutrition, animal welfare, environment and socio-economic management, is in the medium category with an average score of 2.93.

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