

Socialization of Goat and Sheep Reproduction Management in Bulu Cina Village, Indonesia

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ABSTRACT

The purpose of this community service is to train the local community in Bulu Cina Village, Indonesia, on how to analyze the profits of sheep farming businesses. This will help farmers determine their profits at different levels of ownership. By implementing this community service, the knowledge and abilities of the community can be enhanced. The University of Pembangunan Panca Budi and Gugah Nurani Indonesia use a combination of lectures, discussions, and hands-on training to help farmers improve their sheep farming businesses. The program has been successful in helping farmers understand how to analyze profits and calculate their earnings, leading to more streamlined production and increased revenue for the farmers. As a result, several farmers have reported significant improvements in their income.

INTRODUCTION

Bulu Cina Village, Deli Serdang Regency is a village area assisted by Gugah Nurani Indonesia. To increase their income, many people raise livestock in their homes. One of the livestock kept is goats and sheep. Farmers consider the livestock business a sideline; the labor comes from family members. Sheep farmers in Bulu Cina Village, Deli Serdang Regency, carry out goat and sheep farming. However, farmers' need for more knowledge regarding the science of livestock reproduction has resulted in ineffective and inefficient maintenance management related to the procurement of livestock seeds. It impacts the reproductive efficiency of goats and sheep, which could be higher due to a lack of observation and appropriate handling when carrying out maintenance. If this continues, the goat and sheep farming business owned by the people of Bulu Cina Village, Deli Serdang Regency, will find it challenging to develop, and the farmer's income will be low.

IMPLEMENTATION AND METHODS

The approach offered to solve farmer problems is to provide community service by providing:

1. Lecture and training materials are provided to participants. After completing the lecture and training, the session continued with a discussion (question and answer). The lecture material is:
 - a. Counseling on livestock reproduction
 - b. Counseling regarding the reproductive efficiency of sheep.
 - c. Providing Counseling and training on how to increase the reproductive efficiency of sheep so that income increases.
2. After receiving outreach and training, the Chinese Bulu Community is expected to be enthusiastic about participating in the program implemented by the University of Pembangunan Panca Budi and Gugah Nurani Indonesia.

Work procedures

The first step in supporting solution realization is to conduct field observations, approach through interviews, and identify problem phenomena. After observing and analyzing the problem, a solution is found, and priorities are set for implementation. Counseling is then provided as a service. The last step is to assess the outcomes by revisiting the sheep farming enterprise, ensuring its success.

Description of Evaluation of the Implementation of the Community Service Program

Evaluation of the implementation and sustainability of the service program will be assessed by observing the knowledge and business of beef and sheep farming after completing service activities in the field.

RESULTS AND DISCUSSION

Table 1. Results and outcomes of community service that have been achieved

No.	Results	Research output
1.	We conducted a survey of the locations offering community service in Bulu Cina Village, Indonesia, in order to gather information and better understand the available resources.	We found a location for community service.
2.	Studying problems and finding solutions that will be offered	<p>Sheep farmers in Bulu Cina Village, Deli Serdang Regency, carry out goat and sheep farming. However, farmers' lack of knowledge regarding the science of livestock reproduction has resulted in ineffective and inefficient maintenance management related to the procurement of livestock seeds. It impacts the reproductive efficiency of goats and sheep, which is relatively low due to lack of observation and inappropriate handling when carrying out maintenance. If this continues, the goat and sheep farming business owned by the people of Bulu Cina Village, Deli Serdang Regency, will find it challenging to develop, and the farmer's income will be low.</p> <p>Solution: Provide socialization in the form of knowledge about reproductive management in livestock. After farmers understand reproductive management, they will apply the knowledge gained to their goat and sheep farming businesses.</p>
3.	Implementation of a community service program with the theme: "Socialization of Goat and Sheep Reproduction Management in Bulu Cina Village, Indonesia"	Community service activities with the theme "Socialization of Goat and Sheep Reproduction Management in Bulu Cina Village, Indonesia" were conducted.
4.	Providing outreach and training on: a. Counseling on livestock reproduction	Farmers get understanding and knowledge about: a. Counseling on livestock reproduction

	<ul style="list-style-type: none"> b. Counseling regarding the reproductive efficiency of sheep. c. Providing Counseling and training on how to increase the reproductive efficiency of sheep so that income increases. 	<ul style="list-style-type: none"> b. Counseling regarding the reproductive efficiency of sheep. c. Providing Counseling and training on how to increase the reproductive efficiency of sheep so that income increases.
5.	Conduct evaluations after implementing community service.	Farmers understand how to increase the reproductive efficiency of sheep so that income increases.

From the results of the program that was carried out in community service in Bulu Cina Village, Deli Serdang Regency, in November 2023. After re-observation, there have been several impacts of change for the better. According to the explanation of the results. The results of community service are as follows:

1. Analysis of changes in public understanding and knowledge regarding the management of sheep reproduction.

Sheep farmers in Bulu Cina Village, Deli Serdang Regency, carry out livestock business by purchasing feed from outside and carrying out breeding independently. However, the problem is the success of mating programs, such as the Artificial Insemination program, characterized by a low pregnancy percentage (Conception Rate). At first, sheep farmers did not know why the pregnancy percentage in their sheep was low. However, after providing community service by giving lectures and holding discussions, breeders have learned about several reasons why the success rate of implementing artificial insemination is low. Inseminators who are less skilled will cause injuries to the cow's reproductive parts, resulting in infection (Ismaya, 2017), as well as skills in the deposition of semen so that pregnancy does not occur (Feradis, 2014). Eating and detecting heat also determine the success of the Artificial Insemination program (Afiati et al., 2013).

The quality of liquid semen determines the success of Artificial Insemination. The longer liquid cement is stored, the more the quality will decrease, even when it becomes damaged and cannot be used (Toelihere, 1993). The process of making liquid cement and the composition of the diluent must be correct. The liquid semen diluent used must have several requirements, namely containing buffer components to maintain pH, a source of nutrition for spermatozoa, and bacteriostatic or antibacterial to stop the growth and activity of bacteria that disturb spermatozoa (Partodihardjo, 1987). Once beef cattle breeders know and understand the causes of low pregnancy percentages, breeders are expected to be able to anticipate pregnancy failures and apply the knowledge gained in livestock rearing management in the Artificial Insemination program to increase the percentage of success.

2. Analysis of understanding of sheep farmers in carrying out reproductive management in sheep farming businesses.

Sheep breeders already know what factors cause the low percentage of success of Artificial Insemination, mainly due to the influence of bacteria in the semen. Breeders know that if the bacteria contained in liquid semen is too high, the semen quality will be poor. To inhibit the growth of bacteria in liquid cow semen, we can add ingredients containing antibacterials to the semen diluent.

Breeders have known that adding antibiotics such as streptomycin can suppress the growth of bacteria in liquid semen. The antibiotic streptomycin is active against gram-negative bacteria (Nattadiputra & Munaf, 2009). Aside from the antibiotic streptomycin, sweet orange essential oil can also be added to the liquid semen diluent because it contains flavonoids, limonene, and linalol, which function as antibacterials (Fisher & Philips, 2006). Sweet orange essential oil is active against gram-positive and harmful bacteria (Dwidjoseputro, 2005). The results of research by Sitepu et al. (2018) show that the combination of sweet orange essential oil and antibiotics can improve the quality of liquid semen. Research on the combination of sweet orange essential oil with streptomycin in egg yolk Tris diluent has been carried out, and the results obtained are that microscopic tests, including observations of motility, viability, and abnormalities, show that there is an increase in the quality of liquid semen compared to without treatment.

CONCLUSIONS AND RECOMMENDATIONS

The program has been successful in helping farmers understand how to increase the reproductive efficiency of sheep so that income increases. After the service program finishes, farmers will apply the knowledge gained to their goat and sheep farming businesses. The community already understands how to carry out reproductive management in sheep farming. It would be better if research and community service activities related to livestock reproduction in Bulu Cina Village continued until farmers could produce sheep seeds and stock with increasing quality and quantity.

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