Implementation of Livestock Empowerment Through Silage Feed, Completed Feed, Ammonia, Hay and Livestock Vitamin Innovation

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Abstract- ***The Keban Jamu Livestock Farmers Group in Poto Village faces challenges in providing quality and sustainable livestock feed. This condition has an impact on livestock productivity and livestock welfare. This community service program aims to improve the welfare and independence of livestock farmers through training in making livestock feed (silage, complete feed, ammonia, hay) and innovation of livestock vitamins based on the green economy. The methods used include theoretical training and direct practice, demonstrations, discussions, and mentoring. Training materials include feed making techniques, utilization of local resources, and the concept of the green economy in livestock farming. The results achieved are (1) partners understand and there is an increase in livestock productivity capacity, nutritional value and processing of fermented feed, adding variants of fermented feed products and cattle quality, (2). Partners apply and are able to manage businesses, make fermented feed, increase cattle production and commitment to increasing community-based businesses, as well as commitment to the sustainability of natural resources, the environment and sustainability of partnerships in community-based community service programs (PBM) in the future. This program has succeeded in empowering cattle farmers in Poto Village by increasing capacity in managing livestock feed independently and sustainably..***

Indexed Terms- ***Livestock Feed, Plastic, Green Economy, Silage, Complete Feed, Ammonia, Hay***

I. INTRODUCTION

Poto Village, located in Moyo Hilir District, Sumbawa Regency, has great potential in the livestock sector, especially cattle. With thousands of cattle, both from small and large breeders, Sumbawa cattle are one of the pillars of the local economy. Not only as a source of income, Sumbawa cattle are also a tourist attraction, adding economic and cultural value to this village. However, behind this great potential, there are challenges that need to be overcome. Traditional livestock practices, such as releasing cattle, have an impact on the quality of feed and cattle productivity. Unbalanced feed availability, especially during the dry season, is a major obstacle. Breeders also do not fully understand the importance of providing proper feed and nutrition, so that the quality of cattle and their selling price are not optimal. The problem of low quantity and quality of cattle feed in Indonesia continues from year to year, according to Purwantari et al. (2014) the cause is the relatively low income of cattle breeders so that they are unable to buy high-quality feed. Limited sources of green fodder for cattle can also reduce the ability of breeders to work on a more efficient economic scale. Salendu and Elly (2012) explained that only about 30 percent of natural pasture vegetation is edible for livestock. Tuturoong et al (2020) stated that in almost all cattle production areas there is no system that guarantees the provision of effective and available green fodder sources throughout the year.

Figure 1. Traditional feeding stages make cows thin

This condition is exacerbated by the lack of knowledge of farmers about modern feed processing technology. The processing and feeding process that is not optimal makes cattle susceptible to disease, their growth is not optimal, and their selling price is low. This has an impact on the welfare of farmers which is still fluctuating, even creating the risk of extreme poverty.

The importance of innovation in animal feed processing is becoming increasingly urgent. Fermented feed, such as silage and complete feed, offers a solution to overcome the problem of feed availability, especially during the dry season. Fermented feed also improves nutritional quality, makes it easier for livestock to digest, and reduces environmental impacts.

In addition, the application of modern feed technology, such as ammoniation and the use of hay feed, can increase the economic value of feed and livestock efficiency. The use of agricultural waste, such as rice and corn straw, as raw materials for feed is also in line with the principles of the green economy, which focuses on sustainability and resource efficiency.

The challenges do not stop at innovation in feed technology. Cattle farmer groups in Poto Village also face problems in group management that is not yet efficient and effective. Lack of understanding of financial management, determining selling prices, and digital marketing are obstacles in developing their livestock business.

Therefore, empowerment and training of cattle farming groups are the key to overcoming these problems. Through training and mentoring, farmers will be given knowledge and skills about modern feed technology, group management, finance, and digital marketing. Thus, it is hoped that farmers can increase livestock productivity and quality, manage livestock businesses more efficiently, and market their products more widely.

With this empowerment and training, it is hoped that cattle farming groups in Poto Village can improve their welfare and independence. Improving the quality and productivity of livestock, business efficiency, and expanding the market will have a positive impact on farmers' income. In addition, the application of modern feed technology and the utilization of agricultural waste will support the principles of a green economy, creating sustainable and environmentally friendly livestock farming.

Ultimately, this empowerment will not only improve the welfare of farmers, but also contribute to the economic and social development of the Poto Village community. With an advanced and sustainable livestock farm, it is hoped that this village can be an example for other areas in developing livestock potential optimally and environmentally friendly.

II. METHODOLOGY

Community Service in Poto Village, Moyo Hilir District, Sumbawa Regency was carried out in September 2024 using exploratory methods and active community participation with the techniques used being interviews, focus group discussions (FGD) and observation (Wahyono, 2018), in finding facts and crucial needs from the main problems that will be given solutions using the Team work method, fact finding, practicum, project based with abundant straw waste raw materials. According to (Suwitari et al., 2018), the exploration method is a method carried out by dialogue with actors/partners to obtain the problems faced and obtain basic needs that must be resolved or handled immediately. Meanwhile, dialogue and observation function to collect and identify problems experienced by the community. Community participation as the subject of service is carried out through counseling and training as well as direct practice, namely by utilizing agricultural and plantation waste based on silage, ammonia, hay, completed feed and livestock vitamins.

To implement community service activities, five methods are used, namely:

The presentation method is used to explain the program implementation method at each meeting so that participants can know the implementation rules of the activities that are included with the introduction of the activity implementation teams to participants. In addition, presentations are also needed to explain various things related to the practices that will be carried out at each meeting. In addition to presentations, the implementation method also uses the question and answer method (Amalia & Uswatun, 2019). The use of this method is carried out as a form of interaction or communication between the implementation team and participants. The question and answer method is not only carried out in the room, this is intended to respond to participants' curiosity about the practices being implemented. The question and answer method can develop into a practice method if the implementation team feels the need to show participants about the practices being carried out. This is so that participants can see and practice directly and get maximum information and application (Hernawati & Amin, 2017).

The practice method is carried out so that participants in the training can directly apply the knowledge gained from the use of presentation and question and answer methods. As one way to help participants deepen their knowledge, the instructor will also show several examples that have been applied. The practice method implemented will be accompanied by direct guidance to participants to be able to show the process of the practice being carried out (Muhsinin et al., 2019).

Penggunaan modul dalam pelatihan ini, dimaksudkan untuk dijadikan sebagai bahan acuan peserta untuk mengetahui bentuk pemanfaatan sampah plastik. Isi dari modul yang digunakan merupakan beberapa hasil rangkuman penulisan yang dianggap perlu oleh tim pelaksana (Paulinan & Purwanto, 2001).

The evaluation of the program is as follows:

1) Evaluation of the HR management program

The goal is to see the progress of HR management training that has been carried out to improve the management pattern of cattle farming group partners, HR who understand the manufacture and management of quality fermented feed.

2) Evaluation of the Marketing Management program

Measuring the progress of the Marketing management training that has been implemented to improve the management pattern of the Poto village cattle farmer group.

3) Evaluation of the Financial Management program

Assessing the progress of the financial management training that has been implemented to improve the management pattern of the Poto village cattle farmer group partners.

4) Evaluation of the Operational and Production Management program

Analyzing the progress of the Operational and Production management training that has been implemented to improve the management pattern of livestock feed, productivity and feed quality.

III. RESULT FINDING

The results that can be presented from community service activities in Poto Village can run smoothly. This can be proven from a series of stages of activities that can be carried out and followed with great enthusiasm. The community service activity stage on Wednesday, September 4, 2024 achieved the following results:

1. Through this activity, partners understand and there is an increase in livestock productivity capacity, nutritional value and fermented feed processing, adding variants of fermented feed products and cattle quality.
2. Partners apply and are able to manage businesses, make fermented feed, increase cattle production and commitment to increasing community-based businesses, as well as commitment to the sustainability of natural resources, the environment and sustainability of partnerships in community-based service programs (PBM) in the future.

A. Implementation stages

The activity was carried out in the Samiri Hamlet Hall, Poto Village, Moyo Hilir District on Wednesday (04/09/2024), attended by 21 participants from cattle breeders. This Training and Mentoring used the Fact Finding & Focus Group Discussion (FGD)-Team work, Project Based and Practicum

methods. The waste processing extension and training activities in Poto Village began with socialization and licensing to the Poto Village government. Socialization is an activity to understand each individual about their role and status as citizens through the culture and norms that apply in their group (Rochaniningsih, 2014). Socialization activities in community service activities are carried out with the village government and involve the head of the cattle breeders in Poto Village.

Figure 2 Socialization and licensing with the head of Poto Village regarding the implementation of community service activities

After getting feedback from the head of Poto Village and determining the time of the activity. This activity aims to provide theoretical understanding and knowledge about the importance of agricultural waste processing and management of cattle farmer groups and how to determine their selling prices and marketing.

This activity, which was held in the Samiri Hamlet Hall, Poto Village, Moyo Hilir District on Wednesday, September 4, 2024, was attended by 21 participants from cattle farmers starting at 09.20 WITA which began with an opening by the MC, namely one of the students of the UTS FEB Management Study Program, namely Dini Sofiani. Then a speech by the Deputy Village Head who stated that this activity was very beneficial for cattle farmers in Poto and asked the farmers who were present to take advantage of the momentum of the training and practice of making fermented feed to the maximum.

Figure 3 Opening of training and counseling for Empowerment and Training of Cattle Breeders Groups in an Effort to Improve the Welfare and Independence of Cattle Breeders Through Silage Feed, Complete Feed, Ammoniated Feed, Hay Feed and Innovation in Livestock Vitamins Based on the Green Economy

This theoretical material activity is carried out in stages. The first speaker was presented by Mr. Abdul Salam, M.M as the head of community service and also a lecturer in the FEB UTS management study program. Here Mr. Abdul Salam, M.M explained about livestock business management. In his presentation, Mr. Abdul Salam, M.M explained the six keys to success in running a livestock business, namely HR, Machinery and Equipment, Money, Methods, Raw Materials, Markets. In addition, Mr. Abdul Salam, M.M also explained how to evaluate livestock businesses with Constraints, Opportunities, Strengths and Threats and finally Mr. Abdul Salam S.E., M.M gave some surefire tips for accessing capital to banks and other financial institutions.

Figure 4 The speaker, Mr. Abdul Salam S.E., M.M., explained about Livestock Business Management.

Next, the second speaker was Mrs. Hartini, M.M. who brought to the cattle breeders about how to

determine the selling price of cattle. Here, Mrs. Hartini, M.M. explained that before determining the selling price of cattle, we need to know our purpose in selling the cattle. After that, we determine the selling price of the cattle with several Markup methods, Perceived value, prices according to the prevailing price, and finally provide an overview of how to determine the selling price of cattle through auctions.

The calculation of the selling price using the mark up pricing method takes into account the costs incurred in detail, both production costs and non-production costs, and takes into account the expected profit or benefit. According to Samryn (2012), Mark up is the difference between the selling price of a product and its cost price. This difference is usually expressed as a percentage of the costs that can be calculated.

Figure 4 Presenter Hartini S.E., M.M explained about Determining the Selling Price of Cattle

The last speaker was delivered by Mr. Husni, S.Pt, M.Si as a Lecturer in the Animal Husbandry Study Program at UTS. Here Mr. Husnis, S.Pt, M.Si opened his presentation by providing knowledge that the islands of Lombok and Sumbawa have been designated as one of the national cattle sources in Indonesia. Cattle have an important role in supporting the economy of farmers, but the productivity of Bali cattle in Nusa Tenggara including Sumbawa Island has so far been low due to the intensive maintenance system relying on nature as a source of feed. After that Mr. Husni gave an explanation of the innovation and processing of animal feed in the form of Silage, Hay, Complete Feed and UMB. Mr. Husni provided brief knowledge about Silage, Hay, Complete Feed and UMB to the participants who attended that day.

Figure 5 Mr. Husni gives an explanation to cattle breeders regarding innovation and processing of animal feed.

The results of the socialization of the Thematic Kubermas PKM program activities showed that the enthusiasm of the community, especially livestock groups, was very high, because basically livestock farmers still have very minimal knowledge in animal feed processing techniques that can be stored as feed during the dry season. This socialization activity opened the insight and knowledge of livestock farmers about the importance of providing quality feed and its availability can be met throughout the year. In addition, with this socialization activity, farmers can find out the types of green fodder that can be processed into silage, complete feed, ammonia, and hay as well as green economy-based livestock vitamins so that farmers can make them independently or in groups. The results of the evaluation of this extension activity showed that the number of participants who could participate in full was 21 people consisting of 16 people or 76% of livestock groups who did not understand the protein needs of livestock and did not understand the process of making silage obtained from various mixtures of agricultural waste (corn straw) and plantation waste (banana leaves, water hyacinth, grass); 5 people or 24% did not understand the importance of a healthy environment by reducing waste in the surrounding environment.

A. Training and Practice of Fermented Animal Feed Processing

This green economy-based fermented feed training and mentoring aims to maximize the added value of corn waste, rice straw waste to become highly nutritious fermented feed for cattle, empowerment and training of Keban Jamu livestock farmer groups

independently to be able to make, mix and periodically make fermented livestock feed such as Silage Feed, Complete Feed, Ammoniated Feed, Hay Feed and Green Economy-based Livestock Vitamin Innovation delivered by Husni, S.Pt, M.Sc. This is carried out as a provision to increase the knowledge and practical skills of participants regarding the basic ingredients of a product and especially products produced from used materials (Sholihah et al, 2019).

Figure 6 Practice of making fermented animal feed

Of the five types of fermented feed (Silage feed, Complete Feed, Ammonia Feed, Hay Feed and Animal Vitamin Innovation), all of these fermented feeds are very suitable and answer the current needs of livestock feed. Based on the results of direct interviews with participants, the favorite fermented feed for the dry season is silage feed, ammonia because the availability of rice-corn straw waste is very abundant, it can be understood that the potential for fermented feed is quite abundant.

"We will continue to try this fermented feed, we want to become modern farmers," said Mr. H. Hasyim (as the Head of Samiri Hamlet and Member of the Keban Jamu Livestock Farmers Group). Then the UTS PMP Team "will continue to provide free consultation support related to the management and leadership of modern livestock and fermented feed businesses after this activity", continued the head of the PMP Team (Abdul Salam, M.M), which was greeted with enthusiastic shouts from one of the millennial cattle breeders: "Samiri cattle breeders - ready to be prosperous and independent", and they hope and pray that our team will get a follow-up grant from the Directorate of Research, Technology, and Community Service, Ministry of Education, Culture, Research and Technology (DRTPM Kemendikbudristek) in the 2025 budget year.

IV. DISCUSSION

The activities of this community service program are in the form of training in making animal feed (silage, complete feed, ammonia, and hay) and innovation of animal vitamins based on the green economy. This activity is very relevant to the needs of farmers to improve their knowledge and skills in managing animal feed independently and sustainably.

This training aims to improve participants' knowledge regarding techniques for making various types of animal feed and innovation of environmentally friendly animal vitamins. This is in line with the communication carried out with partners (farmer groups) regarding the benefits that participants will receive. Farmers in Poto village welcomed this program because they realized the importance of improving the quality of animal feed to increase their productivity and welfare.

Based on interviews and direct observations, the implementation of this community service program provided several positive results, namely (1) Increased Knowledge and Skills: Farmers gain new knowledge and skills in making animal feed and animal vitamins. This can be seen from their enthusiasm in participating in the training from start to finish, as well as their ability to practice the techniques taught. (2) Utilization of Local Resources: Farmers become more aware of the potential of local resources, such as agricultural waste, to be processed into quality animal feed. This encourages the independence of farmers in providing feed. (3) Green Economy-Based Innovation: The concept of green economy is introduced to farmers, encouraging them to implement sustainable and environmentally friendly farming practices. In the implementation of this community service program, there are several factors that support the implementation of this community service activity, namely: (1) Partner Support: The Keban Jamu Livestock Farmers Group plays an active role in providing facilities and participants, as well as helping to smooth the implementation of the program. (2) Participant Interest and Enthusiasm: Farmers show high interest and enthusiasm in participating in the training, reflected in their consistent attendance and activeness in the question and answer session. (3) Support from

the Village Government: The existence of permission and support from the village head facilitates the implementation of the program and shows a shared commitment to improving the welfare of farmers.

CONCLUSION

This community service program aims to provide new skills and knowledge training to cattle farmers in Poto Village on the utilization of agricultural waste and local resources as materials to make high-quality animal feed such as silage, complete feed, ammoniated feed, and hay feed, as well as innovations in green economy-based livestock vitamins. The target to be achieved in this program is for farmers to be able to know and process these materials into more useful and sustainable animal feed. The implementation of this program involves training, mentoring, and evaluation. Equipment and supporting facilities, availability of raw materials, partner involvement, and community support are the main factors in the success of achieving the objectives of this program. The results achieved are 1) partners understand and there is an increase in livestock productivity capacity, nutritional value and processing of fermented feed, adding variants of fermented feed products and cattle quality, (2). Partners apply and are able to manage businesses, make fermented feed, increase cattle production and commitment to increasing community-based businesses, as well as commitment to the sustainability of natural resources, the environment and sustainability of partnerships in community-based service programs (PBM) in the future. There has been an increase in the number of cattle breeders in Poto Village of more than 1.5 to 2 times compared to before the training and empowerment and practice of making fermented feed was carried out on nutrition, feed quality, technical and theoretical skills as well as consulting support for future business development.

To improve the effectiveness of similar programs in the future, it is recommended to Conduct an initial assessment to determine the level of knowledge of participants and adjust the training materials. Provide a longer time for training so that the material can be discussed in more depth. Collaborate with related parties to provide more adequate training facilities. Conduct regular monitoring and evaluation to ensure the sustainability of the program and its impact on farmers. By overcoming challenges and continuing to make improvements, farmer empowerment programs like this can make a significant contribution to realizing farmer independence and welfare, as well as supporting sustainable livestock development.

Figure 9. Active participants as a supporting factor in activities

In the implementation of this community service program, there are several inhibiting factors that occur during the implementation of activities, namely: (1) Limited Initial Knowledge: Some farmers have limited initial knowledge regarding animal feed and vitamin production techniques, so they need extra explanation and guidance. (2) Limited Time: The limited time for implementing the program requires efficient time allocation and sometimes limits in-depth study of the material. (3) Limited Facilities: The facilities available at the training location may be inadequate for certain activities, such as making feed designs.

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Study Program Student Ilal Hamdi. Continue to be enthusiastic in innovating and giving the best value.

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