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# Community Service at Suteru Farm, Tegal Waru Village, Ciampea District, Bogor Regency

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#### **Abstract**

Suteru Farm is a Holland fries (FH) dairy farm that was established in 2013, with 32 biological assets and a farm area of 11,000m2. The location of this farm is in the vicinity of the community housing of Tegal Waru Village, Ciampea District, Bogor Regency, where the average layout of the residences is still far from one another so that they still have vacant land to plant productive plants. Our goal in conducting community service activities at Suteru Farm is to help form a community forum for producing feed crops around the farm, optimizing vacant land to become productive for plant feed by providing knowledge and skills for the community in cultivating feed crops, providing knowledge and skills in making fermentation green plants from cultivation to marketing, providing skills in livestock financial management. Efforts made for Suteru Farm and other farms in the Tegal Waru Village area need to offer several solutions including: 1) Optimization of vacant land around the community's residential yards by cultivating forage in the form of grass and legumes; 2) Application of preservation technology including fermentation; 3) Centralized management in one container for the management of fermented cattle feed so that it goes directly to the hands of the farm; and 4) improve the financial management of livestock in order to increase profitability. The target that we set for this activity is to run within 8 (eight) months, through the field survey method of potential vacant land, Forum Group Discussion (FGD) with Suteru Farm management and representatives of the local community by discussing knowledge about forage crop cultivation, forage grass fermentation and marketing. , lectures and trainings, practices from the solutions offered to mentoring.

Keywords: Feed Crops, Fermentation, Governance.

# 1) Introduction

Suteru Farm was founded by Hasrul and his family in 2013 which is located in Tegal Waru Village, Ciampea District, Bogor Regency. The business potential of this farm is the production of pure milk and processed foods made from pure milk and fattening of cows. There are 5 employees owned by Suteru Farm. Biological assets in the form of cattle owned as many as 32 tails.

Cattle farming can be said to be successful if the processed products reach consumers quickly. With processed products that are preferred by customers, the potential for high profitability will be achieved. Therefore we need an appropriate marketing strategy, in the form of one marketing strategy that can be used is a marketing mix strategy with 4Ps consisting of Product (product), Price (price), Place (place/distribution), Promotion (promotion). It's a shame if the good marketing techniques that have been carried out so far are not supported by good financial governance as well. Meanwhile, Suteru Farm sells its products in the form of pure milk and processed foods made from pure milk, namely packaged flavored milk and yogurt. After seeing the initial observations and analysis with partners, a very significant expenditure is the cost of meeting the needs of cattle feed.

#### 2) Literature Review

For breeders, regardless of the type of livestock they keep, feeding is very vital. Dairy cows will produce or produce milk if given adequate feed input, both in terms of quantity and quality. If the input given is less and less good, then the output (milk) produced will also be less and of low quality. Therefore, feed becomes a crucial factor and takes about 60-70% share in the success of livestock business management (Sabbag & Costa, 2015).

According to Kass et al. (2012) stated that in the rainy season forage feed can be obtained easily, but in the dry season forage feed becomes scarce and difficult to obtain, and even if there is a high price. If farmers are forced to buy forage in the dry season, of course this will have an impact on decreasing income because they have to buy grass feed.

In this case, the empty existence of the surrounding community becomes very potential to be productive if it is planted with forage. Moreover, the natural potential in Tegal Waru Village is very good for tourist villages (Yulista, 2021) because it is still fresh to the eye, if it is supported by individual communities who can support their home land to be beautiful and beautiful. This is a challenge in itself by looking at the fact that it is recorded that poor households (RTM) in Tegal Waru until 2010/2011 reached 1005 RTM even though there are many entrepreneurs, their existence has not succeeded in reducing the poverty level to date (Dirgantara, 2022).



Figure 1: Photo of Potential Vacant Land around Suteru Farm

If the community is educated about reforestation around their homes, then the results from the forage can be productive as a source of feed for cows that are also around them. Forage plants can be preserved by fermentation so that the availability of feed can be maintained even though the seasons change.

According to Sheikh et al. (2018) the straw fermentation method is a method of processing that is relatively cheap, practical and the results are quite liked by livestock. The term fermentation itself is all kinds of metabolic processes with the help of enzymes from microbes to carry out oxidation, reduction, hydrolysis, and other chemical reactions. Grasses and legumes show a much higher crude protein content when compared to rice straw.

Taking into account the situation above, the PKM Team would like to assist in the Establishment and Management of Fermented Grass-Producing Community Containers and their Marketing Methods with good feed management as described by (Baco et al., 2020) which pays attention to the type of feed given, the amount of feed given as needed, the balance of forage and concentrates, as well as the frequency and method of feeding the right way supported by an adequate capital structure and livestock management. The existence of the container is expected to provide added economic value for livestock for the sake of mutual prosperity. From the previous literatur review, a formulation of the problems faced by Suteru Farm can be drawn including the following:

- a. The unavailability of dairy/beef cattle feed in a sustainable manner with good quality and quantity and at an economical price.
- b. Empty land around the community's residential yards still looks empty and unproductive, there are some lands planted with cassava trees, where the productive period can reach 6 months which is said to be too long if used with green grass plants that have a shorter harvest period. Considering the land area of Ciampea itself is the 6th largest out of 41 villages in Bogor Regency.
- c. The economic condition of the community around the partner (Suteru Farm) is still classified as an economy that is not yet encouraging, it can be seen that RTM is still not declining (Dirgantara, 2022). This can be proven from the condition of the houses of the people around Suteru Farm which can be seen in the picture.
- d. Not yet good management of livestock finances.



Figure 2: Partners in locations around Suteru Farm

## 3) Materials and Methods

The location of this farm is in the vicinity of the community housing of Tegal Waru Village, Ciampea District, Bogor Regency. Based on the solutions to the problems above,the method of implementing Community Service at Suteru Farm will be divided into 4 stages:

# 1. Data Collection Stage

At this stage the activities carried out are:

- 1) Forum Group Discussion (FGD) preparation for service implementers
- 2) Conduct a survey of the location of the service implementation
- 3) Make a SWOT analysis of the results of the FGD

# 2. Stages of Service Implementation, namely:

- 1) Establishment of a community container for fermenting grass
- 2) Feed crop cultivation training
- 3) Training on making fermented grass and marketing methods
- 4) Livestock financial management training

# 3. Data Analysis Stage

At this stage the activities carried out are:

- 1) Monitoring the implementation of service by processing data from observations and questionnaires on the implementation of service in stage 2
- 2) Conduct sample analysis of products from green plant cultivation, fermentation products and livestock financial reports

# 4. Reporting Stage

At this stage the activities carried out are:

- 1) Make a final report of service activities
- 2) Create scientific articles to be published in national journals with ISSN
- 3) Create articles to be published in electronic mass media
- 4) Make a video of the implementation of activities that will be published online
- 5) Make a progress report on improving the empowerment of Suteru Farm which describes the revenue generating Suteru Farm
- 6) Make modules from training in stage 2 of the implementation of service activities that will be published and get ISBN

#### 5. Assistance Stage

At this stage the activities carried out are by providing assistance to activities in stage 2 every month of the implementation of service activities, so it is hoped that the outputs at the reporting stage can run continuously.

#### 4) Results and Discussion

Economic and Social Impacts in the form of increases in partners are reported in the form of measurable data and can be presented in the form of tables or graphs so that improvements can be seen (the condition of partners before and after the activity is shown in the form of data/graphs/tables and photos). The economic and social impacts resulting from this community service activity can be seen from several aspects, namely:

#### 1. Establishment of a community container for fermenting grass

Benefits with the establishment of centralized management in one container for cattle feed management so that it goes directly into the hands of farms; The outcome of this solution is the formation of a forum as a bridge between the community and Suteru Farm and other breeders in the vicinity.

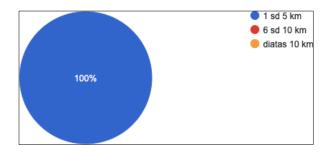
Prior to the establishment of a fermented grassproducing community container:

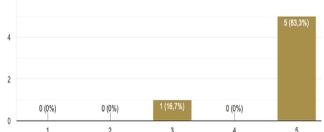
The economic situation of the people around Suteru Farm is still worrying, the residents' jobs are still odd. It can be seen from the condition of their house which is an indicator of the economic level of the local community, even though the existence of Suteru Farm requires the involvement of local residents in providing animal feed considering the potential of the community for their vacant land. If their vacant land is planted with forage grass, the harvest is managed by a container called a "feed bank" to be fermented, then marketed, this will directly improve the welfare of the surrounding community.



Figure 3: Economic conditions of residents around Suteru

When the team received information about the location of community housing and livestock, it could be seen from the distance between the farm land and the residences of the surrounding community that it was in the range of 1 to 5 km as shown in the image below:





**Figure 4**: The distance between the Suteru farm and the surrounding community

**Figure 5**: People's desire to join an association that can improve the family's ecnomoy

Seeing the potential from a supportive distance and the desire of the population to enter into a forum that can improve the family economy, this is the reason for the formation of a "feed bank" in Suteru. After the establishment of the fermented grass-producing community container:

Inviting local communities to change their mindset in improving their own welfare requires hard work and various ways. The abdimas team tries to mediate the surrounding community with Suteru management through joint mining activities in Suteru so that a pleasant atmosphere occurs so that the community is willing to unite in a "feed bank" container.



**Figure 6**: The formation of a "feed bank" began with the gatering of partners and residents with a group fishing event in Suteru

# 1. Feed crop cultivation training

The benefit obtained is the optimization of vacant land around the community's residential yard by cultivating green plants. The statement of the Head of Livestock at the DIY Agriculture Office that the use of marginal land or unproductive vacant land owned is for optimizing the best forage land at this time (Kenny et al., 2018). The output of this activity is reforestation in productive community residential areas with forage plants (grass and legumes) such as elephant grass, king grass, legumes in the form of gamal, lamtoro tarramba (resistant to attack by fleas), indofera, blending (specifically blending to increase cow's milk production). This will add value added for livestock and also the community itself which will support the creation of the tourism village program as a whole (Yulista, 2021).

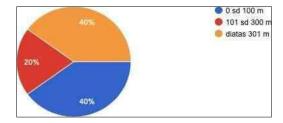
Prior to Education regarding Feed Crops Cultivation:



**Figure 9**: Average area of vacant land in the yard of residents around Suteru



**Figure 10**: Information from residents regarding sources of food supply for livestock at Suteru Farm







**Figure 11**: Planting forage grass in the community's yard



**Figure 12**: Submission of Indigofera plants from the abdimas team to community representatives for the cultivation of feed crops

#### 1. Training on making fermented grass and marketing methods

This community service activity provides economic benefits in terms of making fermented forage produced by the local community as a reserve when the dry season arrives along with marketing methods. To speed up fattening, apart from grass, it is also necessary to give reinforcing feed in the form of concentrate which is a mixture of various feed ingredients for tubers, agricultural residues, factory residues and others that have sufficient nutritional value and are easy to digest (Baco et al., 2020). The expected social benefits are increased productivity and creative power in the community in optimizing green plants in their yards.

Prior to training on the manufacture of fermented grass and its marketing methods:

The supply of animal feed to Suteru farms does not recognize the rainy or dry season, therefore the need for feed is expected to remain stable. The natural potential of the community around the farm for forage plants is very high, but because the community still does not understand the productivity of this forage plant, it can be used for fermentable animal feed, and there has not been a "feed bank" as a container for fermenting grass management, so that Forage is not available on a regular basis and the provision of fermented grass and marketing methods are still not available. The picture below shows the availability of animal feed in the form of forage grass that has not been processed into fermented grass. During the rainy season, there is still sufficient supply of grass obtained from the Suteru land. However, when the dry season arrives, forage grass is scarce.

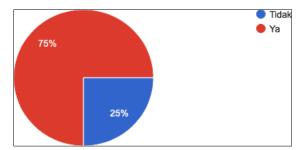


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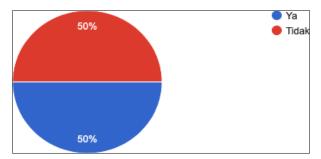
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Figure 13: Unfermented grass fodder

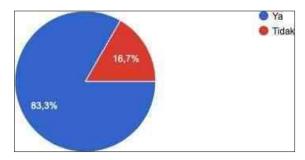
**Figure 14**: Obtaining animal feed for farmers in the Ciampea area



**Figure 15**: Fermentation needs of forage for farmers



**Figure 16**: The level of community knowledge regarding the term green grass fermentation for animal feed



**Figure 17**: The interest of the community around Suteru Farm in participating in the training on making fermented green grass for animal feed

Seeing the need for feed from farmers who are always aware of the season and the response from the community to the manufacture of fermented forage grass, the Abdimas Team conducted a comparative study to UP3J (Jonggol Animal Husbandry Education and Research Unit, Faculty of Animal Husbandry - IPB. From this comparative study we got provision to conduct training on the manufacture of fermented green grass to be further managed at the "feed bank" in Suteru. Here are some comparative study activities: Stage 1: loading the grass into the milling machine, Stage 2: mix the coarsely ground grass to make it even, Stage 3: adding concentrate to the milled grass, Stage 4: collect grass that has been mixed with concentrate, Stage 5: collect grass that has been mixed with concentrate so that is easy to put into packing, Stage 6: weight the grass that has been added concentrate, Stage 7: removing air so that the conditions are anaerobics in fermented grass, Stage 8: grass that is already under anaerobic conditions will be fermented for 1 to 3 months

After the abdimas activities in terms of making fermented grass and marketing methods, the community became aware of the process of making fermented grass from forage plants produced from their own yards. The community is motivated to continue optimizing the vacant lands they have in order to increase the productivity of forage plants as materials for the manufacture of fermented grass which is managed by the "feed bank" at the Suteru Ranch. The availability of fermented grass managed by a "feed bank" will make it easier for Suteru Farm in terms of supplying animal feed. The high availability of fermented grass can be overcome with sufficient conditions by distributing supplies through marketing to farmers in Tegal Waru Village, Ciampea District, around Suteru Farm. The following picture shows the initial training in making fermented grass, Stage 1: milling elephant grass to machines in Suteru, Stage 2: the process of making grass that has been mixed with concentrate is put into a bucket, Stage 3: weighing grass that has been mixed with concentrate compacted in a bucket.

The benefit of this activity is to improve the financial management of livestock in order to increase profitability. The output of this solution is an increase in financial management competence for the owners in order to create good livestock governance. The results of research related to good governance from (Lestari, 2020) that good governance will affect financial performance, one of which is profitability, especially livestock has biological assets that require special handling in their financial reporting.

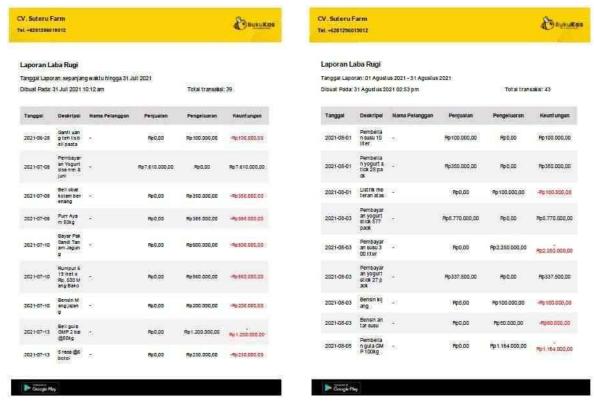
Animal husbandry financial reporting is expected to use SAK ETAP (Financial Accounting Standards for Entities Without Public Accountability) or The Indonesian Accounting Standards for NonPublily-Accountable Entities, and has been ratified by DSAK IAI (Finance Accounting Standards Council of the Indonesian Institute of Accountants) on 19 May 2009.

The Financial Accounting Standards for Entities Without Public Accountability (SAK ETAP) are intended to be used by Entities Without Public Accountability (ETAP), ie entities that do not have significant public accountability; and issue general purpose financial statements for external users. Examples of external users are owners who are not directly involved in business management, creditors, and credit rating agencies. SAK ETAP aims to create flexibility in its application and is expected to provide easy access for ETAP to funding from banks. SAK ETAP is an independent SAK and does not refer to General SAK, mostly using the historical cost concept; regulate transactions conducted by ETAP; a simpler form of arrangement in terms of accounting treatment and has remained relatively unchanged for several years.

Prior to the Livestock financial governance training:

Management at the Suteru farm made financial reports that were not in accordance with the accounting standards applicable in Indonesia, namely the Financial Accounting Standards (SAK).

Financial statements have not been compiled, management is still making simple bookkeeping, which is only limited to a cash book. The cash book that was created is shown in Figure 32 below.



**Figure 18**: Cash Book for July 2021 version of CV Suteru from the Appstore

**Figure 19**: Cash Book for August 2021 version of CV Suteru

From the picture above, it can be seen that the Cash Book made by the Suteru farm management is not in accordance with the general ledger reporting concept. Management wants to inform the Income Statement through the cash ledger, but this is still not in accordance with SAK ETAP.

After the livestock financial management training:

Suteru Farm Management began to understand the concepts of preparing Financial Statements after several educations regarding the accounting cycle, from transactions to financial reporting in accordance with SAK ETAP. This abdimas activity educates management on financial management using an excel computer application that involves resources from the Computer Science field of Pakuan University. It can be seen from the following reports:

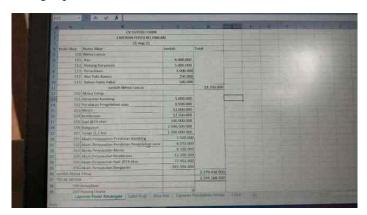


Figure 20: CV Suteru's Financial Position Report after Financial Management Training

Partner's contribution to implementation

Partners, in this case the management of the Suteru farm, are very enthusiastic and enthusiastic about participating in this series of Community Service activities because solutions to existing problems regarding animal feed needs and financial management have been resolved. Moreover, the impact is to empower the surrounding community in terms of the availability of forage grass which will be produced into fermented grass at the "feed bank" which will indirectly improve the economy and lifestyle of the community around the partner.

Partners fully support starting the FGD (forum group discussion) for the establishment of a "feed bank", helping inform and inviting communities around farms that have the potential to provide forage crops, are willing to become a "feed bank" facilitator and market them. Partners are also pleased to be educated on how to make financial reports according to SAK ETAP.

# A. Inhibiting Factors / Obstacles, Factors that encourage Follow Up

#### 1) Inhibiting Factors / Obstacles

Some of the things that hinder the Community Service activities at Suteru Farm for the formation of a community forum "feed bank" is in terms of the perception and purpose of the establishment of the forum. The participation of each individual is different, so that it can hinder the process. Often there is a difference in income between one person and another, so that new conflicts arise, because the success of empowering the "feed bank" depends on the individual who joins it.

This tropical nature in the Ciampea area causes forage no matter how dry the dry season is, even though the amount is small and dry and less nutritious. This condition does not encourage a mindset towards quality animal husbandry throughout the year, forage cultivation is not easy to apply to the community because it changes something that is not their habit into something new in their lives, especially farming is not their forte. Meanwhile, the factor that becomes an obstacle in terms of financial governance at Suteru Farm is at the stage of transferring knowledge about financial reporting concepts to management who do not have an educational background in accounting. This reason is what motivates the abdimas team to continue working hard to provide understandings to the management of Suteru Farm how to implement good governance.

# 2) Supporting Factors

The potential assets owned by Suteru Farm such as fishing ponds, swimming pools and biological assets (cows, goats, ducks, fish) are very material supporting factors for the formation of a "feed bank" and provide high trust from the community in its management.

Forage cultivation systems are usually adapted to the slope conditions of the land, so this supports and facilitates the abdimas team in educating the cultivation of forage crops including elephant grass, odot grass, pakehong grass, Indigofera and others. Judging from its economic benefits, the first harvest of elephant grass is done at the age of 90 days after planting. The next harvest is once every 40 days in the rainy season and every 60 days in the dry season. This is a motivation for residents to optimize their yards to be productive in the short term.

Another supporting factor is seeing the potential of the resources owned by Suteru Farm, encouraging management to continue to improve its management, especially financial governance, supported by human resources in a family manner.

# 3) Solution and Follow-up

Problems that often occur at Suteru Farm can be overcome by several activities with the abdimas team including the establishment of a "feed bank", training for forage cultivation for residents around Suteru Farm, training on making fermented grass in the form of silage and marketing methods, as well as financial management training.

Some of the training that has been carried out still requires further training considering that some of the solutions mentioned above cannot be done only 1-2 times, but need to be continuous. Cultivation of forage forage takes between 30 to 50 days, so this community service activity requires ongoing assistance.

#### 4) Next Plan

Training from community service activities at Suteru Farm requires ongoing assistance. The abdimas team will carry out further training and mentoring on how to manage the "feed bank" and distribution of its products. Assistance in the cultivation of not only grass but also how to use Indigofera in silage will be monitored. This is done because Indigofera contains high protein so it is good for fattening livestock, has a high digestibility value so that more nutrients will be absorbed by livestock than are wasted with manure.

This Indigofera is a forage type of legume, a tree that has high nutrition originating from the land of Papua. The average height of this Indigofera tree is medium but has dense leaves and can produce a lot. In

addition, this cheap and quality animal feed is believed to be able to reduce feed production costs, because from one hectare of Indigofera it is enough for 10 cows, while for one hectare of grass it is usually only enough for one cow, so it is very productive and efficient. This can have an impact on lowering livestock production costs, thereby increasing the profitability of Suteru Farm.

5) Strategic steps for further realization

Strategic steps for the realization of community service activities at Suteru Farm include:

- a. Introduction of technology for preserving forage forage and agricultural waste (silage, ammoniase and hay);
- b. Acceleration of strengthening the quality, materials, and methods of forage extension;
- c. Utilization of agricultural waste around Suteru Farm;
- d. Optimizing the use of cow waste as compost.

## 5) Conclussion

In this activity obtained a conclusion that:

- 1. The establishment of a community forum for producing forage crops around the Suteru Farm farm is running smoothly under the name "feed bank" has been formed with a Chair named,
- 2. Optimization of vacant land so that it becomes productive for plant feed by providing knowledge and skills for the community in the cultivation of feed crops is still in the mentoring stage,
- 3. Training and assistance in sharing knowledge and skills in the manufacture of fermented green plants from cultivation to marketing is still in process,
- 4. The management of livestock finance is still in the process of mentoring.

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