

Increasing Pig Farming Efficiency through Feed Fermentation in the Bangun Sari Pig Farming Group, Pancasari Village

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ABSTRACT

Pigs are one of the livestock that have an important role in the lives of people in Bali, both as meat producers and also for traditional and religious ceremonies. The community service carried out at the Bangun Sari Pig Farm Group has contributed in the form of increasing partner knowledge about pig health management and cage sanitation as well as fermented feed production by utilizing plantation (vegetable) waste which is widely available in the surrounding environment. This activity was carried out on June 26, 2023 using the active participation method. The results of this service activity are that partners understand and are able to carry out animal health management and cage sanitation properly.

INTRODUCTION

In terms of socio-culture, Balinese people are accustomed to raising pigs. Generally, pigs are kept in the backyard of the house or what is commonly called "Tebe" by the Balinese people. Pigs were originally kept as banyu trivets. Budaarsa (2014) mentions that raising pigs as tatakan banyu means that the pigs are kept only as a container for waste produced during the cooking process in the kitchen. This is why pig farming is an inherent culture in people's lives, especially in rural areas. Pigs are evenly distributed throughout the regencies and cities on the island of Bali. Buleleng Regency is recorded as the regency in Bali that has the largest pig population in Bali. The pig population in 2022 in Buleleng Regency was recorded at 111,573 heads (BPS Bali, 2022). The high pig population in Buleleng Regency is supported by the supportive natural potential and the high demand for this type of livestock in the community. The high interest of farmers in raising pigs is because pigs have favorable characteristics. Wheindrata (2013) mentioned the beneficial properties possessed by pigs, namely having fast growth, litter size, and a fairly high number of offspring per birth. Duroc and Landrace pigs are common breeds of pigs developed by farmers (Nuryasa, 2015).

Pancasari Village is a government administrative area located in Sukasada District, Buleleng Regency, Bali Province which was formed in 1966. It has an area of 12.80 km² and is located 850 meters above sea level (Website Desa Pancasari, 2023). Pancasari Village consists of five (5) hamlets namely Buyan, Dasong, Karma, Lalang Linggah, and Peken. The population of Pacasari Village until 2023 is 4,061 people consisting of 2,004 men and 2,057 women. The livelihoods of the residents of Desa Pancasari are quite diverse, ranging from private employees, entrepreneurs, trade, civil servants, teachers, state-owned enterprises employees, and so on. However, the majority work as farmers/plantations. Pancasari Village borders Buleleng Regency and Tabanan Regency. The village is also adjacent to the Bedugul area of Bali, which is known as the Beratan Lake tourism area complete with Ulun Danu Temple which also has a very beautiful panorama. There is also Lake Buyan which is used as a campsite because it has a beautiful forest. Pancasari Village also turns out to be 2 surrounded by high hills, so Pancasari Village is nicknamed Lesung Village because of its topography. Pancasari Village has a cold temperature so the area is very suitable to be used as an agricultural and livestock area that supports tourism activities in the Bedugul area.

The development of pig farming in Pancasari Village began with village funds in the field of food security in 2022, then a pig farming group was formed as a forum to increase community income and succeed the food security program. This was the beginning of the development of pig farming in Pancasari Village with the hope that pig farming would result in increased income and welfare for the community. Bangun Sari Pig Farming Group is a pig farming group in Pancasari Village with 10 members. Feed provision has been using finished feed obtained from the local animal poultry shop. As the price of commercial feed continues to rise and pig prices fluctuate, farmers complain that their income from crops continues to decline. On the other hand, vegetable waste found in vegetable gardens and markets is abundant and has not been optimally utilized as quality pig feed. Widayati et al. (2018) states that feed for pigs can come from food waste from markets, restaurants, and households. The utilization of vegetable waste has a big role to play in reducing operational costs, especially in terms of the use of commercial feed. The feed aspect is one of the three aspects that spend about 70-80% of production costs and have a significant influence on a livestock business (Pattiselanno et al. 2021).

Based on the results of the location assessment, the team found that the problem faced by the members of the Bangun Sari Pig Farmer Group is that they do not have knowledge about livestock health management and cage sanitation as well as skills in making fermented feed by utilizing plantation waste (vegetables) that are abundant in the surrounding environment. The members of the Bangun Sari Pig Farming Group expect to receive counseling on livestock health management and cage sanitation. In addition, they also need assistance in the form of hands-on practice on how to ferment vegetable waste into quality pig feed to reduce operational costs, especially in terms of using commercial feed from community service activities carried out by the international team of Animal Husbandry Study Programmes, Faculty of Agriculture, Warmadewa University in collaboration with a team of servants from CBSUA (Central Bicol State University of Agriculture), Philippines

IMPLEMENTATION AND METHODS

The implementation of community service activities is carried out in several stages, namely:

1. Survey of locations for the implementation of counselling activities and places to conduct demonstration plots.
2. Interviews and questions and answers about the problems faced by partners, as well as planning activities that show the technique of solution steps for the problems faced.
3. Problems in the field of animal health management and cage sanitation will be addressed by providing education on pig health management, assisting in developing a planned schedule for vaccination, administering drugs and vitamins to pigs raised, and providing counselling and techniques for implementing good and correct cage sanitation.

4. Delivery of equipment to partners to support livestock health and sanitation activities.
5. Problems in the field of improving feed quality derived from vegetable waste will be addressed by increasing partner knowledge in formulating pig rations and providing assistance in the form of hands-on practice on how to ferment plantation waste (vegetables) that are abundant in the surrounding environment into quality pig feed.
6. Partners will be given materials that have been prepared by the team in the form of modules pig health management, cage sanitation, and ration formulation.

RESULTS AND DISCUSSION

Community service activities carried out at the Bangun Sari Pig Farming Group have run smoothly and successfully. The members of the Bangun Sari Pig Farming Group totaled 15 people, and all of them were present during the activity. Despite having a small number of members, this group is very active and shows its seriousness in developing its pig farming business. Before starting the service activity, the Head of Pancasari Village and other village officials welcomed the service team at Oak Tree Bali. After the Village Head opened the activity, the activity continued in the group's pigsty. The implementation of the activity was divided into two sessions. In the first session, group members were educated through counseling on health management and cage sanitation. The implementation of pig health management is important in order to obtain healthy pigs and reduce mortality rates. Moreover, the ASF virus is currently spreading in the community and tends to potentially harm farmers with high mortality and spread rates. Putra et al. (2021) stated that the implementation of biosecurity, one of which is through the implementation of cage disinfection, has been proven to reduce the spread of viruses, one of which is ASF.

Furthermore, in the second session, partners were given education about the nutritional content still contained in vegetable waste. So far, vegetable waste has only been discarded without being utilized as animal feed. After completing the education, the activity continued with hands-on practice on how to ferment vegetable waste into quality pig feed to reduce operational costs, especially in terms of reducing the use of commercial feed. This was done to train the partners to be able to make the feed independently and also to anticipate the price of commercial pig feed which has been increasing lately. Ibrahim et al. (2015) mentioned that fermentation can increase crude protein (PK) levels and reduce crude fiber (SK) levels. High enthusiasm was shown by group members starting from the preparation of the meeting place, session one, and session two activities. In the first session, group members asked a lot of questions about how to schedule vaccinations, administering the right drugs and doses, and early detection of diseases in pigs. In addition, on the implementation of pen sanitation, the most asked questions were what is the right dose of disinfectant and what disinfectant is most effective to use to prevent diseases, especially ASF. There are several stages of cage sanitation that can be carried out including the

cleanliness of feed and drinking places and the cleaning of livestock feces in the cage (Herlambang, 2014).

The high interest of the partner farmers in the second session was shown by their great curiosity in utilizing vegetable waste into pig feed by fermenting it first. The group members were even directly involved starting from the collection of vegetable waste, chopping of raw materials, mixing, and the fermentation process. After completion of the counseling, discussion, and hands-on activities, it was seen that group members already understood how to prevent diseases, make a schedule for administering drugs and vaccinations to pigs, and properly disinfect the barn. As for the training activities, the farmers were able to make fermented pig feed made from vegetable waste with the correct sequence of activities. From the two sessions that have been passed, it can be seen that the target of this service activity has been achieved. Service activities can be seen in Figures 1, 2, and 3 below.



Figure 1. Welcomed Ceremony of The International Community Service Team at Oak Tree Bali by Head of Pancasari Village



Figure 2. Session I (Extension Activities)



Figure 3. Session II (Hands-on Practice)

CONCLUSIONS AND RECOMMENDATIONS

This international community service activity has been well received and is expected to be continued by members of Bangun Sari Pig Farm Group. This activity contributes to increasing partner knowledge in terms of health management and cage sanitation and the nutritional content still contained in vegetable waste. In addition to knowledge, farmer skills are also improved in terms of fermenting vegetable waste into quality pig feed to reduce operational costs, especially in terms of reducing the use of commercial feed to anticipate the price of commercial pig feed which has been increasing lately and increase farmer income.

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