



INCREASING GALO-GALO HONEY PRODUCTION THROUGH THE UTILIZATION OF CULTIVATED PLANTS AS NATURAL FEED IN BUKIK KANDUANG NAGARI X KOTO DIATAS DISTRICT, SOLOK REGENCY

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ABSTRACT

The purpose of this community service activity is to assist the community in increasing the production of galo-galo honey by utilizing cultivated plants as natural food. The community service team consists of lecturers specializing in botany, taxonomy, and ecology, providing assistance in resolving partner issues. The method used in this activity is lectures, demonstrations, or collaborative practice to identify and utilize cultivated plants as natural food for galo-galo honey. Workshops are also provided on managing the honey bee business and determining the market for galo-galo honey.

Key word: galo-galo, cultivated plants, Bukik Kandang

ABSTRAK

Tujuan dari kegiatan pengabdian ini adalah pendampingan masyarakat dalam meningkatkan produksi madu galo-galo dengan memanfaatkan tumbuhan budidaya sebagai pakan alami. Tim pengabdian ini merupakan dosen ahli di bidang botani, taksonomi dan ekologi sehingga dapat membantu dalam menyelesaikan masalah mitra. Metode yang digunakan dalam kegiatan ini adalah metode ceramah, dan demonstrasi atau praktik bersama dalam pengenalan dan pemanfaatan tumbuhan budidaya sebagai pakan alami galo-galo, serta memberikan workshop pengelolaan usaha lebah madu yang sudah dihasilkan dan menentukan pasar untuk penjualan madu galo-galo.

Kata Kunci: Galo-galo, tanaman budi daya, Bukik Kandang

INTRODUCTION

The Bukik Kandang area possesses a pristine natural environment with a diverse range of plant species, which is highly supportive of stingless (galo-galo) bees in obtaining raw materials for honey production. The availability of diverse flora is a critical factor for the nutritional needs and colony health of stingless bees (Noor et al., 2020). However, honey production has experienced a continuous decline in recent years due to various challenges. Based on field observations, the local community group possesses adequate skills in cultivating galo-galo bees. Currently, the KTH Sari Nektar business group has successfully expanded the number of galo-galo bee hives located in the yards of its members. Despite this, the quantity of honey produced remains far from optimal. On average, each hive only yields 0.25 kg of honey per production cycle, resulting in a total average of just 15 kg. Ideally, a productive galo-galo hive should be able to produce 0.4–0.5 kg of honey per cycle, a benchmark supported by studies on stingless bee productivity (Muhammad et al., 2018). This would bring the total production to 30 kg. With a market price of IDR 400,000 per kg of honey, the group could potentially generate revenue of up to IDR 12,000,000 per month.

A key requirement for cultivating galo-galo bees is a sufficient supply of bee forage. Adequate feed, consisting of nectar and pollen, is essential for bees to thrive and produce honey optimally (Wong et al., 2019). A survey conducted in Nagari Bukik Kandang, X Koto Diatas District, Solok Regency, revealed that the area contains numerous and diverse plants that can serve as bee forage. Horticultural plants found around residents' homes, such as avocado, durian, longan, mango,



melinjo, jackfruit, papaya, banana, and cacao, are known to be excellent sources of nectar and pollen for various bee species, including stingless bees (Dwianto et al., 2021).

Based on a situational analysis of the partners' challenges, the following solutions are proposed to address the priority issues:

1. Mentoring the business group by forming a dedicated team to guide the community in managing their enterprise and products.
2. Providing technical training on identifying plants that can be used as bee forage.
3. Conducting a workshop on business management.
4. Determining markets for the resulting products by developing a comprehensive marketing strategy, which includes product, pricing, distribution, and promotion strategies.

Through this mentorship program, the farmer group is expected to benefit in the following ways:

1. Establishing a business group focused on utilizing yard plants as a natural feed source for galo-galo bees.
2. Receiving training on the management of flowering plants that serve as the primary food source for the bees.
3. Receiving assistance with the provision of production facilities and infrastructure.
4. Participating in a business management workshop.

METHOD

The methods employed in this program include lectures and demonstrations conducted by a team of lecturers in Nagari Bukik Kandang, X Koto Diatas District, Solok Regency. The following activities were carried out:

1. Forming and Mentoring a Business Group To foster a spirit of bio-entrepreneurship among the community groups in Nagari Bukik Kandang, the PKM team offered several solutions, including an introduction to surrounding plants and management of bee forage planting.
2. Providing Training on Bee Forage Identification Techniques The business group received a workshop on identifying key forage plants that enable bees to produce honey optimally. To support this, the PKM team provided identification equipment and other infrastructure to support the production process.
3. Conducting a Business Management Workshop For the sustainability of the business group, proper management is essential, particularly for managing business capital, cash flow, bookkeeping, and other financial aspects.
4. Identifying Markets for Product Absorption The PKM team developed a marketing concept and strategy. This included marketing revitalization through product, pricing, distribution, and promotion strategies.
5. Providing Mentoring The PKM team provided continuous support to the partner business group, from the production preparation phase to the production process and marketing.
6. Creating a Honey Brand To build market trust, a brand is necessary. To support the brand for this honey, the PKM program will facilitate the acquisition of a RI Health Ministry permit and an Industrial and Trade Ministry permit for the business group to obtain an IRT (Home Industry Food) license. The brand is expected to boost market confidence in the products.
7. Evaluation To measure the success of the activities, an evaluation was conducted, encompassing process, final, and follow-up evaluations. The success of the program was measured qualitatively, and the evaluation involved tutors/experts from the PKM Proposers. The indicators for achieving objectives and the benchmarks used to justify the level of success were described qualitatively.



RESULTS AND DISCUSSION

The community engagement program in Batu Gadang, Sungai Geringging, was supported by the Research and Community Service Institute (LPPM) of Universitas PGRI Sumatera Barat, and was conducted in alignment with the university's vision and mission. The implementation team provided guidance and training to the galo-galo honeybee business group in Nagari Bukik Kandung on techniques for identifying plants suitable for bee forage. The findings and directives from this program are presented below.

Table 1. Findings and Directives of the Community Engagement Program

No. Findings	Directives of the Training
1. The honeybee business group was not aware of cultivated plants that could serve as natural bee forage.	Provide information and training on cultivated plants that can be used as a natural food source for honeybees.
2. The honeybee business group lacked knowledge in business management, cash manage their business, including cash flow, business flow, and bookkeeping.	Develop partners with the knowledge and skills to management, and bookkeeping.

Based on the findings in Table 1, several steps were taken to address the identified issues. Following the community engagement activities, it is hoped that solutions and motivation will be provided to the galo-galo honeybee business group to help them develop their business products. This community service program produced several outputs, including:
 An article published in a scientific journal.
 An article published in print media.

CONCLUSION

The community service activities highlight the critical need to provide information and training to beekeeping groups regarding the use of cultivated plants as a natural forage, thereby fostering the sustainability of their honeybee businesses.

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