Empowerment the producers of crispy oil palm mushrooms through a training on processing the home-based industry of food production permit and digital bookkeeping

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Abstract Crispy oil palm mushroom is made of oil palm mushroom and has been produced by producers for approximately ten years. Unfortunately, this home-based business of mushrooms has not yet secured a permit from authorities, and the producers have not regularly recorded the sales. Therefore, this community program aims to empower the producers of crispy oil palm mushrooms by providing training and mentoring on the process of obtaining a home-based industry of food production permit and digital bookkeeping. The program's success was measured by the results of the assessment in a questionnaire, by identifying the participants' motivation to process the permit and by implementing digital bookkeeping. The program successfully enhanced the producers' knowledge and understanding of the home-based industry of food production permits and digital bookkeeping. The producers have obtained the business permit number 2041405010034-27, and they have also implemented digital bookkeeping to record sales.

Keywords: empowerment; producers; crispy oil palm mushroom; home-based industry of food production; digital bookkeeping
INTRODUCTION

Rawang Empat urban village, Bandar Petalangan sub-district is one of the villages in Pelalawan regency, Riau. Rawang Empat village was previously a village called Lubuk Keranji. Rawang Empat village was established based on the Regional Regulation of Pelalawan Regency No.12 of 2012 regarding village expansion and the change of village status to an urban village in the capital city of Bandar Petalangan sub-district. Bandar Petalangan sub-district has the potential for oil palm plantation with a total fresh fruit bunches production of 138,540 tons in 2021 (BPS, 2021).

One of the products of the fresh fruit bunches other than the crude palm oil (CPO) and liquid waste is empty fruit bunches (EFB) of palm oil. These bunches are usually stacked on a plate or disc at approximately 50 centimetres from the oil palm trunk. Mushrooms could naturally grow on stacks of empty fruit bunches, so they are known as oil palm mushrooms. If the empty fruit bunches of palm oil are left on the farm for 5 to 6 weeks, they could generate straw mushrooms with a production period of 14 days (Fadhilah & Budiyanto, 2018). The more 'empty fruit bunches' are produced, the more oil palm mushroom will grow.

Some of the oil palm mushrooms can be consumed, and some are not due to their poison. Those that can be eaten are usually processed into various kinds of food such as mushrooms curry, 'bakwan' (fried mushrooms mixed with flour), soup, 'pepes' (steamed mushrooms mixed with other ingredients), stir-fried mushrooms, and others. However, the mushrooms could be processed into crispy mushrooms to gain a longer shelf life and increased selling points. This product of crispy mushrooms has been made by some women in Rawang Empat urban village, Bandar Petalangan sub-district, Pelalawan regency for approximately ten years. A large number of mushrooms available, using their free time, and increasing the family's income are some reasons these women (or mothers) make crispy mushrooms (Indrawati et al., 2021). Although the business has been run for a quite long time, it regrettably has not had a significant impact on the development of the business. The mushrooms are still produced on a small scale with a capacity of 35 kg per month with a selling price of Rp80,000 per kg. During the Covid-19 pandemic, the production declined to 20 kg per month due to a lack of demand.

The business management adopted is very simple. Simanjuntak et al., (2021) state that one of the key aspects of business management is managing financial transactions. Thus far, the merchants have not separated personal finances from business finances. The financial transactions have been recorded; it is, nonetheless, simple, not digital-based and done irregularly. They still use books, which are oftentimes not well-organized, to record finance. The merchants assume that a financial report is not very crucial in business development. The majority of small enterprise does not create a financial report because they are occupied with their business and do not have an adequate understanding of the importance of the digital financial report and how to create it (Kirana & Sitanggang, 2019). Therefore, it is important to understand digital-based bookkeeping to facilitate financial records. Digital bookkeeping training is then one of the solutions that can be done to assist producers or small enterprises.

One of the digital bookkeeping applications that is moderately easy to use is 'Buku Warung'. Pratisti et al., (2022) reveal that the Buku Warung application provides a financial recording that eases its users, particularly for micro-enterprises, in creating a clear and well-organised transactions record. There are many small businesses or home-based businesses that are still puzzled about how to create accurate and efficient bookkeeping. Buku Warung is a record of income and expenses so that cash flow keeps being recorded, and the report can be
accessed daily, weekly, or even monthly. In addition, this application also has a feature to record debt, accounts receivable (AR), and sales turnover. The community service program completed by Ningsih, Suryandari & Bhagawati (2022) and Meilisa et al., (2021) discloses that the Buku Warung application was helpful in improving the merchant's ability to make a financial report. Moreover, the payment becomes faster (Muhtadin et al., 2021), and the merchants could identify the gained benefits that can later be used as a prerequisite to apply for credit or to make a business decision (Riani et al., 2021). Provided that merchants have clear, efficient, and well-organized bookkeeping, then they could understand the business performance which may lead to opportunities to obtain loans from formal financial institutions.

The producers have not had a home-based industry of food production permit. This permit is crucial to expand marketing (especially if it is done online), to increase buyer interest, and consumer trust in the product. According to Verawati et al., (2021); Majdi et al., (2020); Sriyana & Sari, (2018), a home-based industry of food production certificate is important to increase buying interest and consumer trust to the product. The home-based industry of food production certificate is a permit certificate issued by a city mayor through the Department of Health. This certificate denotes that food products have met the determined requirements and safety standards (Jupri et al., 2021).

The home-based industry of food production permit is a regulation that controls the safety of food products starting from raw materials, food processing, and the final product (Herlina & Yulia, 2020). Due to the strict competition of more modern and various food products which already have complete results from a laboratory test, products from small enterprises or businesses thus need to have a certificate of consumption (Putri et al., 2021). Another community service program conducted by Jupri et al., (2021) about the socialization of the home-based industry of food production permits has developed businessmen/women's awareness of the significance of having the permit. Mentoring activities carried out by Isa & Mayasari (2022) were also able to solve the permit problem of a small enterprise named 'Skippy'. The issue of the home-based industry of food production certificates increases the merchants' confidence to market their products on a bigger scale (Morais et al., 2021). A secure product could also increase consumers' trust and interest in the products to be purchased. As stated by Anita et al., (2018), the home-based industry of food production permit improves the quality of products and product competitiveness, especially in the digital era today (Arianto, 2020).

There are ample raw materials for oil palm mushrooms and this is a good opportunity to develop a crispy mushrooms business. Hence, the community service team collaborates to help the producers. Several solutions offered are: 1) The home-based industry of food production permit will be resolved by conducting training and assistance to gain the permit; 2) The problem of using manual and simple financial book records will be solved also by conducting training and assistance using a digital bookkeeping application. Overall, this community service program aims at empowering producers of crispy oil palm mushrooms by sharing knowledge and building awareness about the home-based industry of food production permits and digital bookkeeping.
Empowerment the producers of crispy oil palm mushrooms through a training on processing the home-based industry of food production permit and digital bookkeeping.

**METHOD**

The program was conducted in Rawang Empat urban village, Bandar Petalangan sub-district, Pelalawan regency. The target participant is 10 women who produce crispy oil palm mushrooms.

The program involves several stages as follows:

1) Preparation: It begins by communicating the program carried out by the team to the target participants and related parties such as the head of the village and his team, and students involved in *Kukerta Terintegrasi Abdimas*. Preparation also includes training material preparation, deciding location and time, as well as preparing the facilities or infrastructure to support the activities of the program;

2) Implementation: Not only training and assistance to obtain the home-based industry food production permit were given to the participants but also training and assistance on the implementation of digital bookkeeping. At this stage, the team was helped by students from *Kukerta Terintegrasi Abdimas*. The students helped with the logistics such as preparing the room and tools, distributing training materials and the refreshment, as well as helping in documenting the activities. Furthermore, they also took part in the process of gaining the permit and using digital bookkeeping;

3) Evaluation: This stage involves comparing the participants' conditions before and after the program. It was done using a questionnaire, observation, and direct interviews with the participants. The purpose of the evaluation was to understand whether the activities have been done according to the plans, to identify the problems and find the solutions. The results of the evaluation were analyzed and used as a reference for future actions both for participants and the team. Students of *Kukerta Terintegrasi Abdimas* also helped in distributing and compiling the attendance list and the questionnaires;

4) Monitoring: Monitoring was regularly conducted to guarantee that the participants could apply the given knowledge to develop their business. At this stage, the team was also helped by the students of *Kukerta Terintegrasi Abdimas* by doing a routine monitoring activity by visiting the participants' business stalls or homes.

The results of the questionnaire were analyzed using descriptive statistics (mean value), and were given categorization with 5 categories, namely very low, low, moderate, good, very good.

The achievement measuring instruments for this program are: 1) Increased knowledge of the participants regarding the process to obtain the home-based industry of food production permit and digital bookkeeping. The increase is assessed from the score the participants gained before and after the training; 2) The participants are motivated to immediately process the permits; 3) The participants successfully operate the digital bookkeeping application in daily business operation; 4) By using the digital bookkeeping, the participants' ability to record financial aspects increases.
RESULTS AND ACHIEVEMENTS

Opening activities

The community service activity was carried out on 13 July 2022 in a meeting room of the Rawang Empat urban village office. Apart from the women who own crispy oil palm mushrooms business, students of Kukerta Terintegrasi Abdinas and the head of the village also attended the opening program (Figure 1).

Figure 1. Opening activity

The head of the village gave an opening speech and greatly appreciated the community service program as it corresponded to one of the agendas of Rawang Empat urban village, which was to accelerate the digitalization of small and medium enterprises (SMEs). Thus, this activity is expected to be done continuously to support the development of small and medium enterprises in Rawang Empat village.

Training and assistance of the home-based industry of food production permit

The training began by distributing questionnaires to identify participants' understanding of the permit. Once it was finished, the team presents materials about the process of obtaining the home-based industry of food production permit (Figure 2).

Figure 2. Material presentation

The presentation encompasses a brief introduction to the home-based industry of food production, the importance of escalating product quality through the home-based industry of food production permits, its benefits, requirements, and the application procedures. In this session, participants had a chance to ask questions. The presentation is expected to improve participants' awareness of the significance of having the home-based industry of food production permit. Participants were enthusiastic while listening to the presentation. As much as 75% of participants ask detailed questions regarding the requirements of the permit application, its procedure, and the cost.
Empowerment the producers of crispy oil palm mushrooms through a training on processing the home-based industry of food production permit and digital bookkeeping.

Before the session was closed, participants were given another questionnaire to identify their understanding of the presented materials. Prior to the training, the average of their understanding was 2.40 (low category) and it was 4.01 (good category) after the training (Table 1). During the training process, students of Kukerta Terintegrasi Abdimas helped to distribute the questionnaires, prepare the room and equipment, supply the refreshment and food, and document the activities.

Table 1. Participants' understanding of the home-based industry of food production permit

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Understanding of a home-based industry of food production permit</td>
<td>2.40</td>
<td>4.20</td>
</tr>
<tr>
<td>2</td>
<td>Understanding of the significance of having the permit</td>
<td>2.80</td>
<td>4.00</td>
</tr>
<tr>
<td>3</td>
<td>Understanding about the requirements to get the permit</td>
<td>2.20</td>
<td>4.10</td>
</tr>
<tr>
<td>4</td>
<td>Understanding of the process to obtain the permit</td>
<td>2.20</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Table 1 depicts that prior to the training, participants' understanding of the requirements and procedures to obtain the permit was low category (2.20). Based on the interview, these two aspects become the two biggest inhibiting factors faced by the participants. Thus, they have not processed the permit for their business. Nevertheless, their understanding of the permit has improved. In other words, before the training, they do not have sufficient understanding of the permit and only after the training, their understanding rises. Hence, it can be inferred that this community service program has a positive influence on the participants' comprehension of the home-based industry of food production permit.

In addition to the questionnaire on the understanding of the permit, another questionnaire regarding the training itself was also given to the participants for evaluation as detailed in Table 2. This evaluation aims to understand if the program has been in line with the plan, to identify problems and find out solutions. The results of the evaluation are analyzed and used as a reference for future actions both for the team and participants.

Table 2. Evaluation of the training on the home-based industry of food production permit

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Average score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clarity of the materials.</td>
<td>4.1</td>
<td>Good</td>
</tr>
<tr>
<td>2</td>
<td>Increased knowledge of the procedure to obtain the permit.</td>
<td>4.2</td>
<td>Good</td>
</tr>
<tr>
<td>3</td>
<td>Improved understanding of the procedure to obtain the permit.</td>
<td>4.0</td>
<td>Good</td>
</tr>
<tr>
<td>4</td>
<td>Motivation to process the permit.</td>
<td>4.8</td>
<td>Very good</td>
</tr>
<tr>
<td>5</td>
<td>The effectiveness of the materials.</td>
<td>4.3</td>
<td>Very good</td>
</tr>
<tr>
<td>6</td>
<td>Training time and duration</td>
<td>4.2</td>
<td>Good</td>
</tr>
</tbody>
</table>

Table 2 shows that the participants' evaluation of the material about the home-based industry of food production permit was very good (4.3). Participants were motivated to immediately process the permit. An enterprise that was likely to register its product to obtain the permit was 'Jamur Sawit Krispi Tiga Putra'.
Training and assistance of digital bookkeeping

This training session also started by distributing questionnaires to understand participants' initial knowledge about digital bookkeeping and application. Once it is finished, the team presented the material (Figure 3).

![Image](image1.png)

Figure 3. Material presentation and buku warung installation process

The digital bookkeeping introduced to the participants was the 'Buku Warung' application. The presentation covered some key information such as the importance of a well-organized financial transaction record, the definition and functions of bookkeeping, an overview of Buku Warung and its benefits, how to install the Buku Warung application, how to record income, expenses, debts, and accounts receivable, as well as how to arrange the number of stocks, and record payments. A discussion was also carried out to check participants' comprehension. The discussion was done informally so that participants could easily share opinions, information, and experience with one another. A demonstration was also carried out before the participants use the digital bookkeeping application by themselves. The presenters demonstrate the methods to make digital bookkeeping sequently.

In the discussion session, many participants asked about how to install the application and how to use it for their business. The presenters then informed that after the presentation, the participants would be guided to install and use the application, followed by an evaluation. In the installation process, the students of *Kukerta Terintegrasi Abdimas* helped the process. Not only the installation process but the registration process of the 'Buku Warung' application on each participant's phone was also assisted as illustrated in Figure 3.

Before closing the session, participants were given another questionnaire to identify their understanding after the training. Before the training, the average of their understanding was 2.23 (low category) and 3.53 (good category) after the training as shown in Table 3. Questionnaires distribution was also helped by students of *Kukerta Terintegrasi Abdimas*.

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Definition of digital bookkeeping</td>
<td>2.5</td>
<td>3.8</td>
</tr>
<tr>
<td>2</td>
<td>Benefits of digital bookkeeping in a business</td>
<td>2.3</td>
<td>3.6</td>
</tr>
<tr>
<td>3</td>
<td>How to install the digital bookkeeping</td>
<td>2.1</td>
<td>3.2</td>
</tr>
<tr>
<td>4</td>
<td>How to register the digital bookkeeping application</td>
<td>2.0</td>
<td>3.5</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>2.23</td>
<td>3.53</td>
</tr>
</tbody>
</table>

*Source: processed data, 2022*

Table 3 shows that before the training, participants have less understanding of digital bookkeeping with an average value of 2.23 (low category). There was a slight increase in their understanding after the training with an average value of 3.53 (good category). The increase
Empowerment the producers of crispy oil palm mushrooms through a training on processing the home-based industry of food production permit and digital bookkeeping.

is not significant because most of the participant was 48 years old, thus, they are not truly familiar with the technology. Nevertheless, it can be inferred that this training program has a positive influence on the participants' comprehension of digital bookkeeping.

To evaluate the training, an evaluation questionnaire was shared with the participants as shown in Table 4. The average score of participants in the training in digital bookkeeping was 4.44 (very good category). It means that there is a positive response from the participants to the training. After the training, the participants were motivated to utilize the Buku Warung application to record financial transactions of their business.

Table 4. Participants' evaluation of the training on digital bookkeeping

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Average score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The material clarity of digital bookkeeping delivered by the presenters.</td>
<td>4.2</td>
<td>Good</td>
</tr>
<tr>
<td>2</td>
<td>The relevance of materials on digital bookkeeping to the participants' needs.</td>
<td>4.3</td>
<td>Very good</td>
</tr>
<tr>
<td>3</td>
<td>The level of adequacy of materials to support the implementation of digital bookkeeping in the business.</td>
<td>4.3</td>
<td>Very good</td>
</tr>
<tr>
<td>4</td>
<td>The level of presenters' understanding in delivering materials on digital bookkeeping.</td>
<td>4.8</td>
<td>Very good</td>
</tr>
<tr>
<td>5</td>
<td>The method used by the presenters to deliver the material so that it is easy to implement.</td>
<td>4.4</td>
<td>Very good</td>
</tr>
<tr>
<td>6</td>
<td>The presenter's clarity in answering the questions.</td>
<td>4.5</td>
<td>Very good</td>
</tr>
<tr>
<td>7</td>
<td>Motivation to use Buku Warung application to record financial transactions.</td>
<td>4.6</td>
<td>Very good</td>
</tr>
<tr>
<td>8</td>
<td>The assistance provided by the team to use Buku Warung application.</td>
<td>4.2</td>
<td>Good</td>
</tr>
<tr>
<td>9</td>
<td>The availability of training time and duration.</td>
<td>4.9</td>
<td>Very good</td>
</tr>
<tr>
<td>10</td>
<td>Increased understanding on digital bookkeeping.</td>
<td>4.2</td>
<td>Good</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>4.44</td>
<td>Very good</td>
</tr>
</tbody>
</table>

Source: processed data, 2022

As a follow-up activity to the training, participants were required to implement the Buku Warung application to record financial transactions. This activity was facilitated by students of Kukerta Terintegrasi Abdimas by visiting the participants' stalls or houses (Figure 4). If the participants still have difficulty using the features of the Buku Warung application, the students help them to utilize the existing easy-to-use features. The participants are expected to be capable of using the application independently.

Figure 4. Assistance provided in the implementation of buku warung application

The supporting factors for the success of this community service program are 1) the excellent support from the head of Rawang Empat village who has been hospitable and has provided a place for the training; 2) the participants' enthusiasm for participating in the training; 3) the curiosity and willingness of the participants to try new technology; 4) the fact that all participants have a smartphone with internet data; 5) the assistance from students of...
Kukerta Terintegrasi Abdimas in facilitating the team in the training, mentoring, and evaluation process.

There was no significant obstacle during the training. Despite their limitation in using gadgets or technology, participants were enthusiastic to use the Buku Warung application to record financial transactions. For that reason, this assisting activity is done continuously so that the participants more familiar and become skilled at using the application.

**Target achievement level**

The level of achievement of the program objectives is measured by:

1) The increasing knowledge of participants about the home-based industry of food production permits by 67 percent, and digital bookkeeping by 57 percent.

2) The realization of the home-based industry of food production permits, and the issuance of the permit (P-IRT) number 2041405010034-27.

3) The participants successfully implement the digital bookkeeping application in their daily operational activities (Figure 5). Using the application develops the participant's ability to record financial transactions.

![Figure 5. The Implementation of Buku Warung application of the participants](image)

Figure 5 depicts the records of sales and benefits gained by the participants. The participants have started to get used to recording their financial transactions using the Buku Warung application. In this new practice, participants are expected to be more skilled in managing their financial records.

**CONCLUSION**

This community service program has brought several influential impacts. Firstly, participants' understanding of the home-based industry of food production permit and digital bookkeeping increases. In addition, the producers have obtained the business permit number 2041405010034-27. Lastly, the participants have also successfully utilised digital bookkeeping to manage the financial transactions of their business. Thus, the authorities of Rawang Empat village need to support this program by, for example, creating sustainable
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mentoring programs for small and medium enterprises (SMEs), particularly about digital bookkeeping dan online marketing.

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