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Creativity of de-ka kopertis x cantine empowerment through various oyster mushroom processing

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ABSTRACT

The De-Ka Kopertis X Canteen is one of the businesses that was just opened in April 2021 by the KPN Kopertis X cooperative management for the period 2021-2023. Previously this cooperative was only engaged in the savings and loan business, although this cooperative was founded in 1992. The canteen Business (Kantin DeKa) serves members in terms of providing breakfast and lunch for members who work in the LLDIKTI X office, as well as guests who are underweight. at the LLDIKTI X office. Apart from providing lunch and breakfast, there are also various snacks, such as fried foods and other cakes. There are only a few types of fried foods, so the canteen's income is less. The purpose of this service program is to empower the canteen with creativity in various processing of oyster mushrooms. The methods are Socialization about various processed snacks of oyster mushrooms, especially Crispy oyster mushrooms and oyster mushroom Rissoles. Workshop/training on making Crispy and Oyster Mushroom Rissoles. Assistance for canteen employees in making these various mushroom snacks until they become skilled. The result at the time of socialization increased partners' knowledge of oyster mushrooms and their processing, which was marked by an increase in post-test results of 90% from the average pre-test value of 21.4%. The increase in the income of the De-ka canteen per day is approximately Rp. 312,000. The manager's creativity-by processing oyster mushrooms into various snacks is an effort to empower De-Ka canteen to increase income.

KEYWORDS
Creativity;
Empowerment;
Oyster mushroom;
KPN Kopertis X;
Mushroom processing

1. Introduction

This community service program is carried out by a joint lecturer team from the Muhammadiyah university of west Sumatra and STISIPOL Imam Bonjol, a private university under LLDIKTI X, in partnership with the KPN Kopertis X cooperative. This cooperative consists of lecturers and employees, who are ASN (State Civil Apparatus). , which was founded in 1992. Although it has been around for a long time, it has just opened a business other than savings and loans, namely the De-Ka canteen. De-ka's canteen business is to provide breakfast and lunch for customers as well as snacks such as fried foods. The existence of a canteen is needed so that members' food is guaranteed from unwanted things. In addition, the existence of a canteen at the LLDIKTI X office is an activity to strengthen friendship when eating together [1], such as allergies to certain foods [2], [3]. There are very few variations of the fried menu, so the income from the De-Ka canteen is less.The Cooperative management for the period 2021-2023 collaborates with the service team who are experienced in mushroom and ear mushroom cultivation service programs. Oyster mushroom cultivation is increasingly popular both in Indonesia [4] and abroad such as in Iran, Ukraine, Hongkong [5], Taiwan [6] and other areas in Europe [7]–[10].

Oyster mushroom cultivation is carried out with various techniques and innovations, such as a case study in the west java area, precisely in Cianjur, examining the development of the oyster mushroom

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business [4]. Meanwhile, the cultivation continues to use the usual techniques but increases capacity through collaboration with outside parties. In Hungary innovations have been made in mushroom cultivation with seedling methods and sustainable agricultural cultivation [11]. Likewise, in Australia an innovation was made to the growing media [12], namely by using caffeine. Where the metabolism of caffeine contained in the growing media is a solution for coffee waste. Another innovation that has been carried out on mushroom cultivation is by making automatic humidity and temperature regulators in the mushroom cultivation or cultivation room [13]. There are several things that must be considered when doing business with oyster mushrooms [10], namely studying the benefits of the content of mushrooms as nutrients and medicine, recognizing and controlling fungal diseases when cultivating, and utilizing waste from former baglog / oyster mushroom growing media.

There has not been much use of the former baglog's waste, even though it has a great opportunity to get its benefits. Mushroom growing media which is waste contains high NaOH [14], so when it is used as organic plant fertilizer [7] it should be steamed first at a temperature of 210 0C. In addition, this waste is used as material to make biogas [10], [15] The nutrients in oyster mushrooms have high nutritional value because they contain carbohydrates, protein [16] and several vitamins and minerals [8], [10], [17] where the protein content is 3.95%, fat 1.8%, 8 .27% and 0.77% ash content and calories in kilo calories per 100 grams is 65.8%. The mineral content of Fe is 85.18%-88.86%, P 6.83%-9.38%, and Zn 29.86%-32.53%. The nutritional content of mushrooms can vary in value depending on the type of growing media or baglog [9]. The nutritional content of mushrooms can be increased by using certain media compositions. With the high carbohydrate content, mushrooms can be used as a diet to lose weight [18], [19]. Oyster mushrooms can also help lower sugar levels or help diabetic patients to diet [20]. Besides mushrooms being a supplement for humans, mushroom cultivation itself also requires supplements for life which are also rich in ingredients with high carbohydrates [21].

Furthermore, for disease control in the cultivation of oyster mushrooms, there are those who use the sterilization of the room where the cultivation is carried out by flowing hot steam through pipes [22]. Hot steam will kill microbes and pests that will eat away at the leaves of the Oyster mushroom. Oyster mushroom plays a very important role as a natural antimicrobial [23]–[25] which can kill bacteria and fungi. This antioxidant is in the form of mushroom powder [26] containing polyphenols and sulfonic triazoline ethyl benzoate. Oyster mushroom can be processed into mushroom flour and is a mixture to make noodles [27], where mushroom flour [28] is used as a flavoring agent. Besides that, mushrooms can also be processed into mushroom nuggets mixed with chicken and called chicken mushroom nuggets [29].

Besides chicken nuggets with mushrooms, there are also mushroom nuggets with a mixture of tuna [30]. Likewise, mushrooms can be processed into crispy mushrooms [31], where the process of making them crispy can be done by ordinary frying or by vacuum frying. Another variation of mushroom processing is to make boiled mushrooms and mushroom sauce [17]. The team and partners agreed to empower the cooperative canteen by varying the types of snacks through various processed oyster mushrooms. Considering the information that has been learned, the contribution of this service program is to train and assist employees and members of this cooperative to be creative by processing oyster mushrooms into mushroom chips and mushroom rissoles which can increase the cooperative's income.

2. Method

The implementation of activities is carried out using the following methods:

2.1. Socialization About Various Processed Oyster Mushroom Snacks, Especially Crispy Oyster Mushroomand Mushroom Rosole

In this outreach activity, knowledge was given to canteen members and other cooperative members about what is oyster mushroom, the nutritional value of oyster mushrooms and various types of oyster mushroom processing, including oyster mushroom crispy. Knowledge is also given on how to package

these crispy and rissole when they are finished. Prior to the socialization, a pre test was held for participants about their knowledge in the oyster mushroom field. And after the socialization, a post test was carried out. The activity was carried out in the KaDe cafeteria room so that the atmosphere was interesting and seemed a bit relaxed.

2.2. Workshop or Training to Make Crispy Oyster Mushroom and Mushroom Rissole

In the workshop and training to make oyster mushroom crispy and mushroom rissole, partners were trained to make crispy until they could. So that it can be an additional variety of snacks that can generate additional profits for the canteen.

2.3. Assistance in Making Crispy Mushrooms Oysters Mushroom Rissole

The mentoring process is to accompany partners for 6 months to make oyster mushroom crispy and mushroom rissole and make them a variety of snacks at the DeKa canteen, which can increase canteen income.

3. Results and Discussion

3.1 Socialization about Various Processed Snacks of Oyster Mushrooms, Especially Crispy Mushrooms and Mushroom Rissole

The community service socialization presented by the service team is shown in Fig. 1. The picture shows that the service team consists of four people. The socialization was presented by members of the service team attended by partners, canteen employees and other cooperative members as shown in Fig. 2. The picture shows that there were some members of the service partners during the socialization.

Fig. 1. Some members of the service team during socialization

In the socialization, the team conducted a pre-test to the service partners, the results of which are shown in Table 1. The table shows the results of the pre-test. At the beginning of the socialization activity, an assessment was carried out on the partners' initial knowledge about oyster mushrooms and their preparations. Both about the oyster mushroom itself such as its shape, cultivation and vitamin and chemical content (carbohydrates / protein). There are 10 questions to be tested. It turns out that the understanding of partners is low. It is evident from the average value of the questions that can be answered only 21.4%. This is in accordance with what was done in the service program, namely the lack of initial knowledge from partners.

Fig. 2. Some members of service partners during socialization

Table 1. Pretest results, socialization

No.	Name	Out of 10 questions		% knowledge
		Number of correct answers	Number of wrong answers	
1.	Irma Hermansyah	4	6	40%
2.	Rabbayani	5	5	50%
3.	Cun	3	7	30%
4.	Tiara Lovely	4	6	40 %
5.	Reni	2	8	20%
6.	Ramaduti Sari	3	7	30%
7.	Rini Sulastri	3	7	30%
	Rata-rata			21.4%

After the socialization activity, the post test was carried out again to measure the knowledge of partners as shown in Table 2. The table shows that there are 10 questions that must be answered by seven participants. The results of the post test at the end of the socialization activity were quite encouraging, because some of the partner members were able to answer 9 questions out of 10 questions given, although the average result was 90% and there was an increase in knowledge of 55%. This is in accordance with what is done in the dedication program.

3.2 Socialization about Various Processed Snacks of Oyster Mushrooms, Especially Crispy Mushrooms and Mushroom Rissole

The atmosphere of the training can be seen in Fig. 3. Fig. 3 shows that there were three participants who participated in the training on making crispy mushrooms. The three participants saw how the packing process was carried out by the trainer in packing crispy mushrooms.

Table 2. Post test results, socialization

No.	Name	Out of 10 questions		% knowledge	% Knowledge enhancement
		Number of correct answers	Number of wrong answers		
1.	Irma Hermansyah	9	1	90%	50%
2.	Rabbayani	8	2	80%	30%
3.	Cun	10	0	100%	70%
4.	Tiara Lovely	9	1	90 %	50%
5.	Reni	10	0	100%	80%
6.	Ramaduti Sari	9	1	90%	60%
7.	Rini Sulastri	8	2	80%	50%
	Average			90%	55%

Fig. 3. Some members of the service team when processing mushrooms into crispy

The crispy mushrooms are fried and packaged by the service team in the canteen as shown in Fig. 4. The picture shows that the crispy mushroom frying process in a frying pan is given a large volume of cooking oil to fry the crispy mushrooms. Crispy mushroom products that are ready for sale are displayed at the De-Ka canteen.

Fig. 4. Some members of the service team when processing mushrooms into crispy

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There are productions other than crispy mushrooms which are displayed at the De-Ka canteen which is shown in Fig. 5. The picture shows that the mushroom rissole products are displayed at the De-Ka canteen.

Fig. 5. Some members of the service team when processing mushrooms into crispy

3.3 Assistance in Making Crispy Oyster Mushroom and Mushroom Rissole

For six months the canteen employees were assisted in making crispy oyster mushroom, so that partners who were canteen employees and other cooperative members were proficient in making oyster mushroom crispy and participated in solving problems encountered during mentoring. For one time making crispy mushrooms, try to calculate the costs and income results, as in Table 3.

Table 3. Consumables needed for one time/day for making crispy mushrooms

Material	Amount	Price (Rp)
Fresh Mushrooms	3 kg	105,000
Cooking Oil	6 Liter	84,000
Wheat Flour	6 kg	60,000
Egg	25 eggs	48,000
Seasoning	12 packs	24,000
Pepper powder	6 packs	30,000
Plastic packaging	2.5 ounces	25,000
Total		376,000

The yield of crispy mushrooms is 300 packs with a selling price of Rp. 2000/pack. So that sales of Rp. 600,000., because labor and tools are not provided specifically, the average income from crispy mushrooms per day is around Rp. 224,000. And for one day of making rissole the income is Rp. 88,000. so that the additional income of the canteen per day is approximately Rp. 312,000. If the canteen operates for 20 working days, the De-Ka canteen will increase in income according to what happened to farmers in ChangChua Taiwan [6] as much as Rp. 6,240,000 one month.

4. Conclusion

The service program carried out at KPN Kopertis X can solve the problems that exist in the canteen, by increasing the variety of snacks with crispy oyster mushrooms and mushroom rissole. Likewise, it can indirectly increase the knowledge of canteen employees and other members about oyster mushrooms and how to make oyster mushroom crispy and mushroom rissole. Finally, the cooperative's business income from the canteen can be increased.

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3. Member of Cooperative KPN Kopertis Region X.
4. De-Ka canteen employees

Who has helped in the implementation of this service program. May it be a charity and be given a double reward. And this program is useful for the community.

Author contribution

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Conflict of interest

The authors declare no conflict of interest.

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