



EMPOWERMENT OF FISH FARMING GROUPS THROUGH DIVERSIFICATION OF FISH PROCESSED PRODUCTS TO IMPROVE THE WELFARE OF FARMERS IN NGRAJEG VILLAGE MUNGKID SUB-DISTRICT OF MAGELANG

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ABSTRACT

Fish commodity at the time of harvest in Ngrajeg village of Magelang Regency, the price becomes falling and fish that do not sell is also easy to rot. This condition will harm fish farmers. Therefore, it is necessary to diversify fish processed products to increase the economic value of fish. However, conditions in the field show that fish farmers in Ngrajeg are still limited in their knowledge and skills related to diversification of fish products. This community service activity aims to provide science stimulus to fish farmers regarding the diversification of processed fish products into a variety of economically valuable products. The target audience of this activity is the fish farmers in Ngrajeg village of Mungkid Magelang Sub-District. The methods used in problem solving through training in the form of material and practice. Hopefully after the fish farmers increase their knowledge about diversification of processed fish products can apply it. So the income of fish farmers will increase and ultimately the welfare of fish farmers will also increase.

Komoditi ikan pada saat panen raya di desa Ngrajeg Kabupaten Magelang, harganya menjadi jatuh dan ikan yang tidak laku juga mudah busuk. Kondisi ini akan merugikan petani ikan. Oleh karena itu perlu dilakukan diversifikasi produk olahan ikan untuk meningkatkan nilai ekonomis dari ikan. Akan tetapi kondisi di lapangan menunjukkan para petani ikan di Ngrajeg masih terbatas pengetahuan dan keterampilannya terkait dengan diversifikasi produk olahan ikan. Kegiatan pengabdian kepada masyarakat ini bertujuan untuk memberikan stimulus ilmu pengetahuan kepada para petani ikan mengenai diversifikasi produk olahan ikan menjadi aneka produk bernilai ekonomis. Khalayak sasaran dari kegiatan ini adalah para petani ikan di desa Ngrajeg Kecamatan Mungkid Magelang. Adapun metode yang digunakan dalam pemecahan masalah melalui pelatihan dalam bentuk pemberian materi dan praktek. Harapannya setelah para petani ikan bertambah pengetahuannya tentang diversifikasi produk olahan ikan dapat menerapkannya. Sehingga pendapatan petani ikan akan meningkat dan pada akhirnya kesejahteraan petani ikan juga meningkat.

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INTRODUCTION

Magelang Regency Government has established the leading commodity of the region to be developed in Magelang Regency namely tourism services products, fish products, and freshwater fish products. Ngrajeg Village Mungkid District Magelang Regency is a village bordering paremono village to the north, Muntilan sub-district to the east, Progowati village to the south and rambeanak village to the west.

Ngrajeg Village mungkid magelang sub-district is located at an altitude of 300 – 500 meters above sea level (319 meters above sea level). The soil type in Ngrajeg is mostly regosol. The average has a sufficient soil depth of 30 cm, with a mostly medium texture (Village Topography, 2013). The region is topographically highly potential for agricultural, livestock, plantation, and fishery sectors to develop. Based on the initial observation of the majority of the population livelihood as farmers, If viewed from its economic strata the villagers belong to the lower middle class.

Based on the topography of Ngrajeg Village and the local natural conditions, the magelang regency government's policy to include freshwater fish as one of the region's leading commodities is the right step. The potential area for freshwater fish cultivation is owned by the people of Ngrajeg Village itself in the form of a pond of 15 hectares with production potential reaching 10,000 tons per year (Magelang Regency Government, 2014). The types of fresh fish cultivated in Ngrajeg are tilapia, carp, catfish, and patin. The following is a picture of a pond in Ngrajeg Magelang village.

Figure 1. Freshwater Fish Cultivation Ponds in Ngrajeg



Freshwater Fish Farmers in Ngrajeg as many as 51 people are part of two Freshwater Fish Farming Groups. The first farmer group named "Lestari Mulya" consists of 25 people, while the second Farmer Group named "Ngudi Mulya" consists of 26 people. The yield of freshwater fish each time the harvest ranges from 40 - 60 tons. Freshwater fish crops in Ngrajeg have so far only been sold in raw form and have not been processed products. So at the time of the harvest the price of fish

became falling. Tilapia fish that the normal price of farmers Rp.20.000, - /kg during the harvest decreases to 18,000/kg. In addition, fish commodities are easy to rot and if they do not sell and are rotten, they are usually thrown away. This condition will cause harm to fish farmers.

Based on these conditions, it is necessary to diversify fish products to increase the economic value of fish and will ultimately improve the welfare of fish farmers. Product diversification is an effort to expand the range of goods to be sold and is a business strategy to increase market penetration (Kotler, 1994). This is an effort contrary to specialization. There are a variety of reasons that drive product diversification. The desire to expand the business is the main driver. Activities become all-round, the possibility of profit will also be greater, because the manufacture of a large number of goods needed by consumers or at least stable income, Because the loss of selling goods that one can close with the profit of selling the other goods (Porter, 1997).

Diversification of products from fish include fish sticks, fish chips, fish nuggets and fish abon. Diversification of fish products will be able to reduce the losses of freshwater fish farmers and will ultimately be able to improve the welfare of fish farmers. The following is a picture of various fish processed products.



Figure 2. Fish Sticks



Figure 3. Fish Nuggets



Figure 4. Fish Chips



Figure 5. Fish Abon.

PROBLEM

Commodity fish at the time of the harvest the price becomes falling and fish that do not sell are also easy to rot. This condition will harm fish farmers. Therefore it is necessary to diversify fish processed products to increase the economic value of fish. However, conditions in the field show that fish farmers in Ngrajeg are still limited in their knowledge and skills related to diversification of fish products. Thus can be formulated the following problems: a) how to overcome the lack of ability of fish farmers in Ngrajeg village in diversifying fish processed products? b) how is the form of providing stimulus science and technology to fish farmers in Ngrajeg related to diversification of fish processed products?

Community service activities in Ngrajeg village, Mungkid Sub-District of Magelang Regency are expected to be able to contribute foreign, so as to provide long-term benefits and contribute to the surrounding community regarding the understanding and application to process fish into a variety of products of economic value. Through diversification of these products, it is expected that the income of fish farmers will increase and will ultimately improve the welfare of fish farmers in Ngrajeg. The target audience of this community service activity is a member of a fish farming group in Ngrajeg village of 51 people. However, in order to effectively the training process, only 20 potential people will be selected to participate in the activity. The selection of participants based on the consideration of the chairman of the group is considered to be more aware of the potential of its members. Targets and outsiders in more detail can be explained in table 1.

Table 1. Expected changes in conditions before and after the service program

No	Elements	Pre-service	Post-service
1.	Knowledge of diversification of fish processed products	Not yet knowledge of diversification of fish processed products	Have knowledge of diversification of fish processed products
2.	Skills in processing fish into fish sticks, fish nuggets, fish chips and fish abon.	Partners in selling their products are still raw fish, have not been skilled in processing fish into fish sticks, fish nuggets, fish chips, and fish abon.	Activity partners are able and skilled in processing fish into fish sticks, fish nuggets, fish chips, and fish abon.
3.	The training of fish processing into fish sticks, fish nuggets, fish chips, and fish abon.	Partners have not been able to process fish into various products such as fish sticks, fish nuggets, fish chips and fish abon.	Training partners have knowledge and skills in processing fish into fish sticks, fish nuggets, fish chips, and fish abon
4.	Application of diversification of processed fish products into a variety of economically valuable products by partners	Partners have not diversified processed fish products only sell fish in raw form	Partners make various processed fish products into fish sticks, fish nuggets, fish chips, and fish abon.

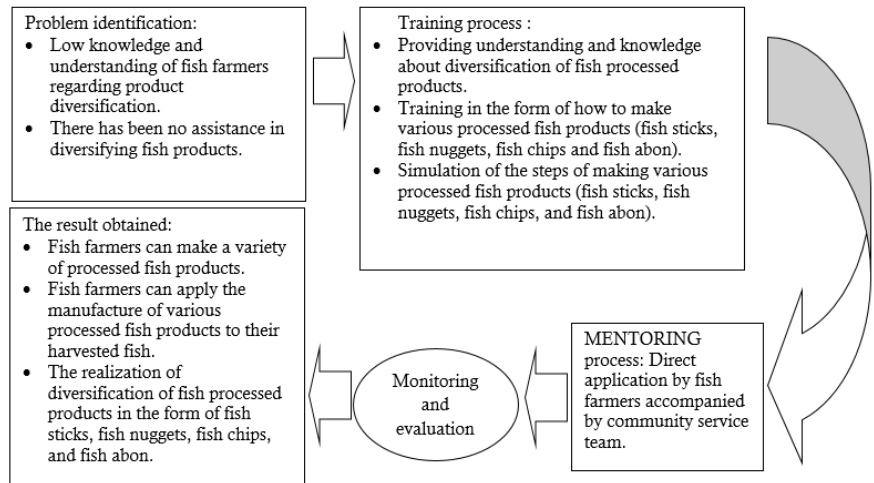
METHOD

The problem faced by fish farmers in Ngrajeg village mungkid sub-district of Magelang regency is the lack of knowledge and skills in making various fish products that are of economic value. The troubleshooting framework can be seen in figure 6

Based on the purpose of community service activities to fish farmers in Ngrajeg village Mungkid

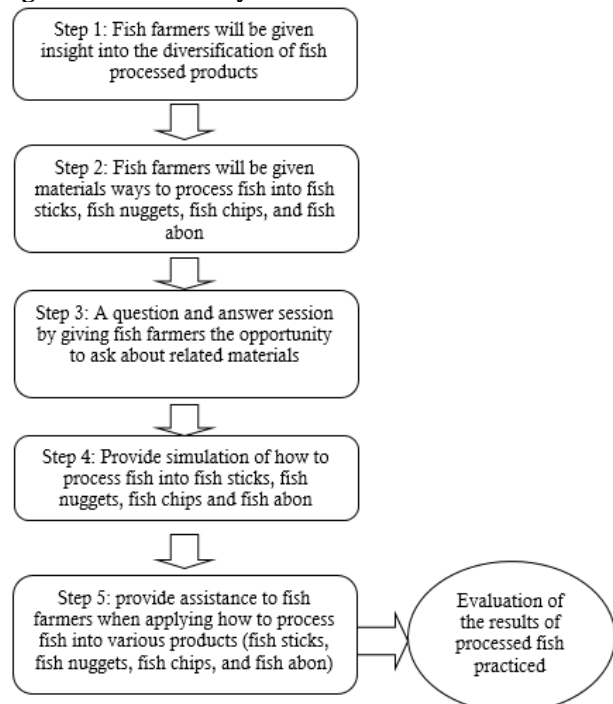
Sub-district of Magelang Regency, the realization of problem solving is carried out through training that is divided into two stages. The first step is to provide knowledge to fish farmers about diversification of fish processed products and in the second phase through practice. During the practice of making various processed fish products in the form of fish sticks, fish nuggets, fish chips, and fish abon, fish farmers are accompanied by a community service team.

Figure 6. Troubleshooting Framework



Community service activities in the form of fish processing training into various economically valuable processed products conducted by method of lectures, q&a, discussions, simulations and mentoring. The strategic steps that can be formulated will be explained in the following flowchart

Figure 7. Community Service Measures



RESULTS AND DISCUSSIONS

The realization of the implementation of the devotion model is the provision of material about

processing fish into various processed products that are of economic value. Hopefully after acquiring this knowledge, fish farmers can share their knowledge with other fish farmers. In addition, with the knowledge that farmers can apply it to their crops so that by diversifying the processed products the fish can increase the income of farmers and will ultimately improve the welfare of fish farmers.

The training process is carried out by providing material and simple simulation on how to process fish into fish sticks, fish nuggets, fish chips, and fish chips accompanied by a community service team. Hopefully after that fish farmers can apply it to their crops. Through diversification of these products is expected to increase the income of fish farmers.

The target audience of this community service activity is a member of a fish farming group in Ngrajeg village of 51 people. However, in order to effectively the training process, only 20 potential people will be selected to participate in the activity. The selection of participants based on the consideration of the chairman of the group is considered to be more aware of the potential of its members.

Partner participation is done by participating in training and listening to material exposure on the diversification of fish products, then followed by engaging in the simulation of how fish processing into fish sticks, fish nuggets, fish chips and fish abon, ending with fish farmers implementing directly and adopting simulations to be applied with the assistance of the service team.

Community Service Activities conducted by the Community Service Team from the Faculty of Economics in Ngrajeg Kec. Mungkid Kab. Magelang village in the form of giving materials through lectures and practices, followed by 20 fish farmers. The frequency of attendance of trainees during the training based on the list of presensi is at the first meeting that is the provision of material that 20 people attend. The amount corresponds to the number invited. This means the frequency of attendance of participants reaches 100%. At the second meeting, the practice of processing fish into various products of economic value that 20 people attended. This means the frequency of attendance of participants reaches 100%.

During the training, participants are very responsive and actively participate in activities. They earnestly and attentively pay attention to the material conveyed by the presenter. At the time of the practice the enthusiasm of the participants was also quite large, if there were things they did not understand, they immediately asked. Based on the monitoring of the service team, fish farmers in Ngrajeg village have been able to practice training materials well. Trainees warmly welcome this training activity and they expect this

training to be followed up with business management training. After being given the training, participants acknowledged that they had increased their knowledge and skills in diversifying fish products to increase the income of fish farmers.

Community service activities carried out by the community service team from the Faculty of Economics of UNNES were quite successful. This can be seen from the frequency of participant attendance during the 100% training and from the training results. Participants' ability to utilize science and technology related to diversification of fish processed products when measured quantitatively is 96%. Participants can understand the material provided by the presenter and can apply the material.

CONCLUSION

Problem solving model by training diversification of fish processed products through science stimulus and technology is very effective in improving the knowledge and ability of devotion participants in making a wide range of fish processed products of high economic value. The training conducted by the Community Service Team, can achieve the expected goal, namely increasing the knowledge and skills of fish farmers in processing fish into a wide variety of products of high economic value. The training conducted by the Community Service Team, can achieve the expected goal, namely increasing the knowledge and skills of fish farmers in processing fish into a wide variety of products of high economic value. With the knowledge and skills gained from the training, it is expected that fish farmers in Ngrajeg Kec village. Mungkid Kab. Magelang can apply it to increase its income. To the parties related to the development of small and medium enterprises, in order to provide follow-up coaching by providing knowledge and skills related to business management.

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