

# Diversification of Processed Tilapia Fish Products Based on Ecopreneurship to Improve the Quality of Housewife Education Management

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## Authors' contributions

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## ABSTRACT

**Aims:** Improving the ability of housewives to become tilapia farming communities in terms of processed fish.

**Study Design:** Using One-Shoot Case Study.

**Place and Duration of Study:** Sample: A farmer group of 40 people in Polaman, Yogyakarta, Indonesia. The time taken is 8 months.

**Methodology:** The method used is training and mentoring of tilapia processing practices.

**Results:** All members of farmer groups experienced improvements in skills, knowledge, production, new entrepreneurs, and products sold.

**Conclusion:** This community service program can run well. The results of the programs given to KWT Sedyo Rahayu have a good opportunity to be used as material for the creation of a new independent business unit. Thus, it can trigger business independence, and economic independence for mothers, and generate better income.

*Keywords: Diversification; ecopreneurship; education management; housewife.*

## 1. INTRODUCTION

Marine resources are the main driver of new economic development in the city of Yogyakarta. This is evidenced by the development paradigm of Among Tani Dagang Layar [1]. The very basic reason is the abundance of fish resources in the Indian Ocean or the Fisheries Management Area of the Republic of Indonesia [2]. Yogyakarta is one of the managers of the Fisheries Management Area of the Republic of Indonesia [3]. Division of fisheries management areas based on ecology, regional characteristics, and fish resources used as the basis for sustainable and sustainable fisheries management. The number code 573 is the numbering according to the Food and Agriculture Organization (FAO) [4]. The potential of fish resources is not only expressed in terms of the number, but also in the biodiversity of fish species that inhabit and migrate in the waters south of the city of Yogyakarta [5]. Fish resources are only part of the potential of marine resources that have enormous economic potential. The sustainable potential of fish resources is 12.5 million tons per year, the potential for marine fish cultivation is about 45 million tons per year and the potential for fisheries and marine biotechnology is 100 billion USD per year [6]. One of the hamlets in Bantul Regency which has abundant sources of fish is in Polaman Hamlet.

Polaman Hamlet is located in Argorejo Village, Kapanewon Sedayu, Bantul Regency. Around 3.5 hectares of rice fields are used for mina padi, as well as having a fresh fish market in the middle of the rice fields which was inaugurated by the Bantul Regent through the Expert Staff for Financial Economics and Development Yus Warseno on December 22, 2021 [7]. Mina Padi is quite productive, for every 10 kg of seed, 50 kg of tilapia can be produced, which is harvested every 3 months. The results that can be obtained from 15 mina PADI farmers are very diverse. But the average production per month can reach around 100-150 kg of tilapia. Tilapia is sold through collectors to various markets in the Special Region of Yogyakarta, sold independently, and partly processed by women farmer groups.

The Women Farmers Group Sedyo Rahayu is a community organization consisting of about 40 women farmers who process the tilapia into various ready-to-eat menus, such as fried tilapia, sweet and sour tilapia, tilapia stew, and so on. Types of processed menus are still limited to ready-to-eat menus and have not produced

packaged processed menus. So far, the processing is done manually by the production department which consists of about 10 people. Management and recording of orders for raw materials and additional materials are also still done manually. Financial management and business management are still carried out simply. The sales method is still done simply from person to person, or when there is an order.

In addition to the processed food products that are usually produced, the production of tilapia which is quite abundant every month has the potential to be processed into frozen food products such as fish balls, rolls, and so on. With a high protein content, these processed products are an alternative consumption for all ages. With the application of technology, these processed products can have a higher selling value, with a longer shelf life. In addition, these products can be marketed outside Polaman with a wider market reach, especially if people are familiar with online sales methods. In addition to these fish meat-based processed products, the fish bones can also be used to be processed into fish bone meal products. This bone meal product can be mixed with various other food products as a source of calcium.

The existence of Sedyo Rahayu, and his role in overcoming the problem of processed food products, are in line with the direction of government policy regarding new economic development in Yogyakarta. For environmental conditions that have been degraded by both natural factors and human exploitation, extra measures are needed to prevent and overcome them. Productivity shows its usefulness in helping to evaluate performance, planning, income, wage, and price policies through identifying factors affecting income distribution, comparing different sectors of the economy to determine aid policy priorities, and determining the growth rate of a sector or economy [8]. To achieve increased economic productivity, Sedyo Rahayu needs support to increase his capacity in the management of processed fish products, management of processed fish, and marketing processed fish products comprehensively and effectively so that he becomes a business entity that can survive in the current digital era. The community service activity that we propose is an activity that can overcome this problem.

## 2. MATERIALS AND METHODS

The method of implementing the activities will be carried out in a blended learning manner. In

addition, the implementation of this activity uses 5 procedures, namely 1) orientation and licensing; 2) planning, 3) implementation, 4) evaluation and monitoring, and 5) preparation of reports and outputs. The target of this activity is 40 administrators at KWT Sedyo Rahayu. Implementation lasts for 8 months. The process of this activity aims to overcome the problems faced by partners and develop knowledge skills to utilize processed fish products to increase income/productive economy. This program uses a lecture method approach to increase knowledge/understanding, socialization, practice and mentoring. Data processing method using One-Shoot Case Study.

### 3. RESULTS AND DISCUSSION

Community Service in increasing ecopreneurship-based productivity is carried out by providing counseling/socialization, training, and mentoring fish processing practices. This activity was attended by all members of the Women Farmers Group (KWT) Sedyo Rahayu. This community service is carried out to provide a deep understanding so that KWT Sedyo Rahayu can develop themselves through processed tilapia products. Therefore, it can be the basis for KWT Sedyo Rahayu to produce, sell, and increase ecopreneurship-based income.

#### 3.1 Coordination with Partners

Starting with joint coordination between the Community service team from Ahmad Dahlan University and partners represented by the chairperson of KWT Sedyo Rahayu Mrs. C. Sumiyem on Saturday, June 11, 2022. This coordination aims to synchronize the time

required in the Community service programs, the places that will be used, consumption needed in the process of socialization, training, and mentoring, as well as related to Community service implementation permits. The coordination of this program is also to understand the characteristics of Sedyo Rahayu's KWT and aims to analyze the needs that can be developed and optimized through programs that will be provided by the Community service team from Ahmad Dahlan University.

#### 3.2 Program Socialization

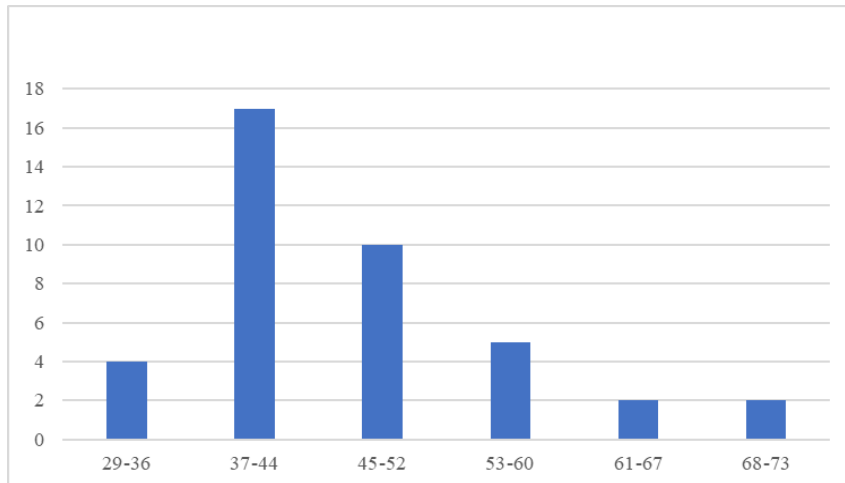
The first meeting after coordination with the chairman of KWT Sedyo Rahayu was the socialization of the program to all members of KWT Sedyo Rahayu which was held on Tuesday, June 14, 2022. There were 40 KWT members, but at the time of socialization, not all KWT members came. KWT members have heterogeneous ages, so it takes effort to be able to provide training materials well. The heterogeneity of KWT age can be seen in Fig. 2 and Fig. 3.

#### 3.3 Tilapia Fish Processing Training

The Community service program begins with training to make processed tilapia products into samosas and meatballs by KWT Sedyo Rahayu on Tuesday 19 July 2022. This training begins by providing an understanding to all KWT members about the nutritional content of tilapia, and the potential for tilapia processing to increase productivity. creative economy, added value in processed fish variants, and tips/tricks in processing fish into various kinds of food menus that can be enjoyed.



Fig. 1. Koordinasi program community service



**Fig. 2. Member of KWT Sedyo Rahayu Age Range**



**Fig. 3. Program socialization**



**Fig. 4. Samosa making process**



**Fig. 5. The process of making tilapia fish meatballs**

The process of making processed tilapia into samosas and fish balls begins with counseling on how the processing works by the community services team. The process is KWT Sedyo Rahayu's understanding of thinking in

understanding the ingredients used, preparing ingredients for processing, and skills in processing fish, starting from mixing, cleaning fish scales, cutting meat by the slice, and making dough. The processed tilapia are as follows:



**Fig. 6. Samosa processed products**



**Fig. 7. Meatball processed products**

The second fish processing practice is making nuggets. This processing training was conducted on Thursday, July 27, 2022.



**Fig. 8. Nuggets processed products**

The third practice of processing tilapia is carried out on Thursday, August 3, 2022. The processing of fish on this occasion is making sticks and crackers.



**Fig. 9. Cracker processed products**



**Fig. 10. Sticky products**

KWT member Sedyo Rahayu has basic cooking skills, this is because 100% of the members are housewives. This ability can be improved with various processed variants developed through tilapia raw materials. In addition, the understanding, skills, processed quality, and processed variants of KWT Sedyo Rahayu members have increased significantly, starting from how to cut tilapia meat, and techniques for sorting thorns and meat so that the ingredients are not mixed with dirt or tilapia bones, as well as the manufacturing process to produce processed quality and processed variants.

### 3.3.1 Socialization of ecopreneurship-based HR development

The socialization of ecopreneurship-based HR development was carried out on Saturday, July 23, 2022. KWT members Sedyo Rahayu are

productive individuals who can develop their potential and skills in processing tilapia. Micro-human resources in Polman Village are mothers who are active and become members of farmer groups so that the tilapia that is cultivated is not only processed with wet and non-durable dishes, but also with processed products that last a long time and can be marketed in a wide range. The development of human resources based on Ecopreneurship can be seen in the number of processed fish products produced by KWT member Sedyo Rahayu, types of products/variants of processed products that are cooked/processed, and the capacity of processed tilapia products, as well as KWT management capabilities.

The implementation of socialization of ecopreneurship-based HR development can be seen in Fig. 13.

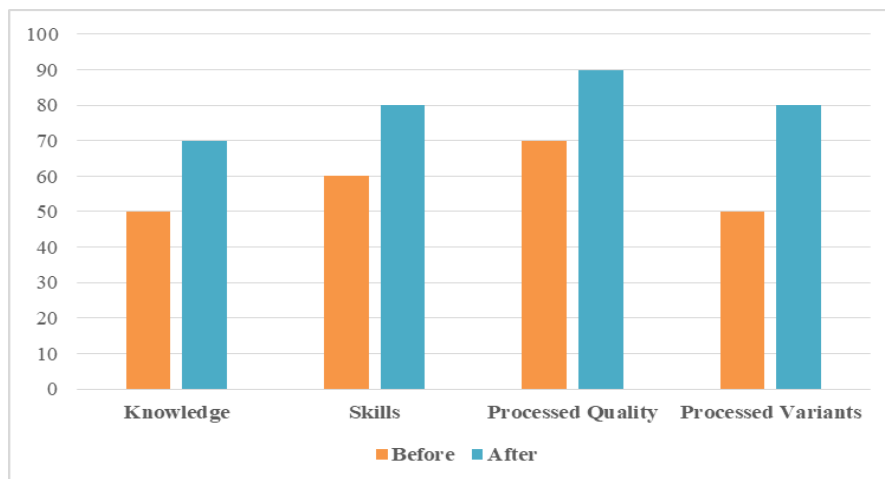


Fig. 11. Data Peningkatan Praktik Pengolahan Ikan

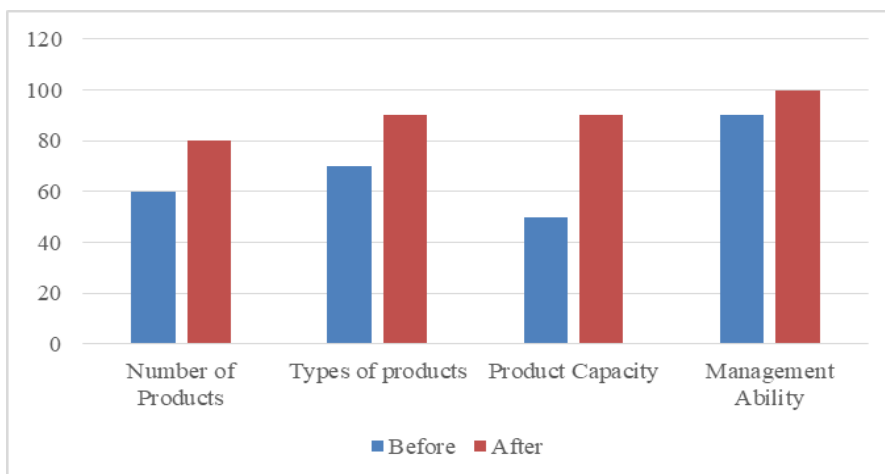


Fig. 12. Ecopreneurship-Based HR development improvement data



**Fig. 13. Socialization of Ecopreneurship-based HR development**

### **3.3.2 Costing and pricing training**

Held on Monday 25 July 2022. This training aims to provide KWT Sedyo Rahayu with an understanding of the costs involved in the manufacturing process to produce the ideal product and the price to be included on the label of processed tilapia products. The basic thing in this training program is that Sedyo Rahayu's processed fish products have an increase in assets, turnover, ROI, and profits. This can be used as a basis for KWT's readiness to create a business unit.

### **3.3.3 Marketing strategy training**

The training was conducted on Thursday, July 28, 2022. The marketing strategy training provides knowledge and practical skills to KWT Sedyo Rahayu members to be able to analyze, formulate, and design marketing strategies and marketing plans for processed fish products that are applicable and worthy of being traded widely.

### **3.3.4 E-commerce account builder training**

Implementation for KWT Sedyo Rahayu on Monday, August 1, 2022. This account creation training was carried out in two stages the online method and face-to-face through intensive assistance to representatives from KWT Sedyo Rahayu. The reason for using these two methods is that not all KWT Sedyo Rahayu members participated in the training so the training was more flexible. This is because the age range of KWT members Sedyo Rahayu is less supportive

if taught one by one in creating e-commerce accounts. Ecommerce account creation is represented by younger members. So that there is a transferability process to other members in developing new independent business units. E-commerce account creation training can be seen in Fig. 16.

### **3.3.5 Halal self-declare imitation training for MSEs Sedyo Rahayu**

The training was held on Wednesday, August 3, 2022. This training is important because it is an integral part of MSEs, especially in Sedyo Rahayu. This training is related to certified products, standardized products, and business units with legal entities, and the number of new independent entrepreneurs is increasing.

Based on the results of Community Service that has been carried out by the above programs, it can be studied in depth. Community service programs can run because of the communication and interaction between the Community service team and KWT Sedyo Rahayu. This is part of the program socialization that has been carried out. In terminology, socialization is the main concept that has clarity in understanding the substance of the program that will be carried out together [9]. Socialization can be interpreted as a process of planting or transferring habits or values and rules from one generation to another in a group or society [10]. Socialization is very important for everyone in social life because with socialization the program can be implemented properly.

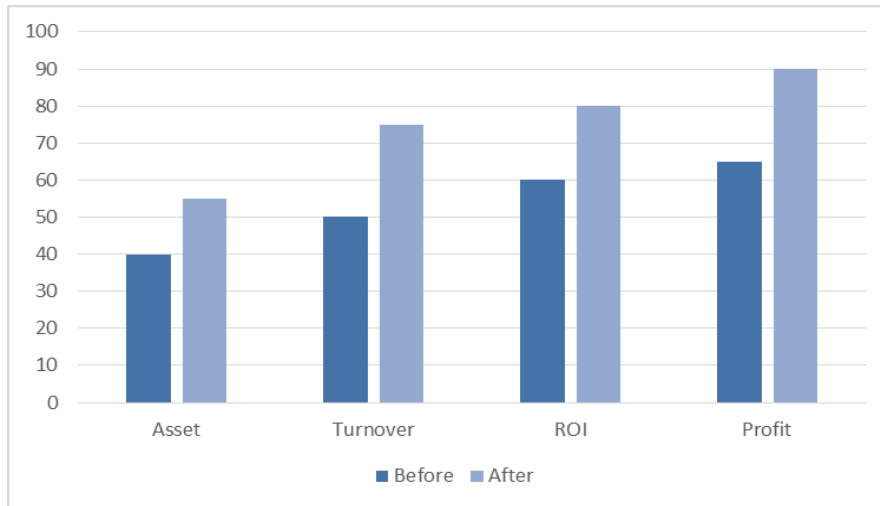


Fig. 14. Costing and pricing



Fig. 15. Marketing strategy training



Fig. 16. Ecommerce account builder training





**Fig. 17. Halal Self-declare imitation training**

The first program in this Community service is tilapia processing with menu variants. Tilapia is a basic ingredient that can be developed into a variety of dishes. Tilapia has good nutrition. So that the variant of the tilapia menu made into a differentiator and attraction for customers. Tilapia processing requires deep skills to produce menu variants that are not on the market [11]. Tilapia is not only fried, grilled, and made into soup, but can also be used as an ingredient in other dishes such as nuggets, sticks, meatballs, and crackers. The menu variants in processing tilapia into various dishes are the findings of increasing skills and knowledge for the community in Polaman village as a place of service.

The process of processing tilapia certainly requires qualified Human Resources (HR). This means that it is not only human resources that can increase cooking potential and skills but also the long-term effect is that the food made can be developed to be marketed and traded to the wider community. Thus, processed fish products are based on ecopreneurship. Ecopreneurship-based HR development is a productive human resource capable of analyzing situations and opportunities to generate additional income generation. The potential for developing human resources in improving products through ecopreneurship can be emphasized on the assumption that the products produced can improve the welfare of life [12]. Ecopreneurship seeks profit and environmental sustainability [13]. Human resource development in fish processing

certainly does not stop at ecopreneurship but also other activities that support ethics in business.

This relates to the calculation of costs and pricing of products produced through processed fish. Using the formula  $\text{selling price} = (\text{cost}) + (\text{desired profit margin})$ . Thus KWT Sedyo Rahayu can calculate the sales price by finding the cost per item, and the cost to sell the product or provide the service, such as per unit of bulk or wholesale products from processed fish. That being the basis for business actors, in this case, is KWT Sedyo Rahayu to set marketing strategies.

The marketing strategy used by KWT Sedyo Rahayu is to meet the needs of consumers through various processed fish products, to make a profit. In the business world, it certainly cannot be separated from a marketing or promotion process to increase sales and income. Therefore, KWT Sedyo Rahayu needs to understand marketing strategies, one of which is being traded online. It aims to reach a wider market from various regions. In this regard, KWT Sedyo Rahayu needs to have an e-commerce account.

Creating an e-commerce account aims to be used in buying and selling at a wide range. E-commerce is an abbreviation of two words, namely electronic and commerce. When taken literally, it means electronic commerce. That is,

all forms of trade include the process of marketing goods to distribution through electronic or online networks. Because of the wide range, it is necessary to ensure that the products made are certified and standardized. So it requires halal products.

#### 4. CONCLUSION

This community service program can run well. The results of the programs given to KWT Sedyo Rahayu have a good opportunity to be used as material for the creation of a new independent business unit. Thus, it can trigger business independence, and economic independence for mothers, and generate better income. Based on the conclusion, it is necessary to provide intensive assistance to KWT Sedyo Rahayu in processing fish into various unique variants that can be enjoyed and enjoyed by anyone of all ages. This Community service requires sustainability so that it can increase new independent business opportunities for residents in the Polaman hamlet.

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#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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