

Empowerment of Pokdakan in the Context of Increasing Tilapia Fish Production Using the Biofloc System in Anreapi Village, Polewali Mandar Regency

Dahnir¹, Abd Jamal², Fajriani³, Najmah Ali⁴

¹²³⁴Universitas Sulawesi Barat, Universitas Al Asyariah Mandar

Email : jmhutbun@gmail.com

Abstract

The aim of this PKM activity is to increase the productivity of tilapia cultivation using the biofloc technique so that harvest and marketing results increase to increase the optimal income of partner group members. The final target to be achieved in this activity is to improve partners' skills in sustainable production and marketing of tilapia. The implementation methods for this activity to overcome partner problems are socialization, training, application of technology, mentoring and evaluation, and program sustainability. The results of this service are carried out in the form of training and guidance on the application of biofloc technology. To measure the level of knowledge of participants during this activity, a pre-test and post-test were carried out regarding biofloc technology and online marketing. The results obtained by partners' knowledge about biofloc technology were on average 93.79% of those who did not know, 6.21% of those who already knew. After implementation there was an increase of 80.55% who knew and 19.45% who didn't know. In the marketing aspect, before the training was carried out, the level of partner knowledge was 82.23% who did not know and 17.77% who knew. After implementation, there was an increase in the level of knowledge of partners from 82.23% who did not know to 98.00% who knew about marketing on social media. From the results above in terms of productivity carried out by group members, it is hoped that it can increase production both in terms of quantity and quality of tilapia. , while the marketing aspect can provide insight and understanding to partners regarding marketing efforts through product promotion and distribution, both directly and via social media to consumers. It is hoped that the impact obtained by the community after this activity will increase the income of the partner group and be able to facilitate the development of partner businesses and then provide a multiplier effect for similar businesses.

Keywords: Tilapia, Biofloc, and online marketing

INTRODUCTION

Anreapi is a Subdistrict Of Polewali Mandar Regency, West Sulawesi, Indonesia. The majority of residents in Anreapi District come from tribes Pattae. The distance from the capital of Anreapi District to the capital of Polewali Mandar Regency is around 5 km. Anreapi Village is one of the areas for developing freshwater fish cultivation activities in Polewali Mandar Regency, considering that none of the areas in Anreapi District directly border the sea, so it is very suitable for developing freshwater cultivation. The problem faced by the partner group is that the cultivation techniques used are still conventional with a density of 10-15 fish/m³. Apart from using low stocking densities, tilapia production is not yet optimal because the survival rate is around 50-70%, with a high feed conversion of 1.4-1.6, this causes tilapia production to not be optimal at the moment, feed use is still high, unprocessed aquaculture waste, fish mortality rates are still high as well as disease in tilapia. Aquaculture waste also contains high levels of ammonia and nitrogen

and thus has an impact on environmental pollution around tilapia cultivation.

One of the efforts that the PKM implementing team can make to increase tilapia production is biofloc technology. The biofloc system is an innovative fish farming technique with the potential to increase efficiency and sustainability in fisheries production. The advantages of the biofloc system are: fish survival rate is very high, reaching 90%, saves feed costs because leftover feed and feces can be converted back into feed, high stocking density, reaching 1000 fish, fast growth of cultivated fish; faster keeping time is around 2-3 months, the water does not need to be changed frequently and the water quality is better because it doesn't smell so it doesn't have an impact on polluting the environment.

METHOD

The method for community service activities that will be carried out initially is preparation, namely, a. Forming cooperation with local village officials. b. Forming

collaboration with partner groups and fisheries instructors, and c. Prepare materials.



Figure 1. Stages of Implementation of PKM Activities Stages

Implementation stages with five stages arranged systematically as in Figure 1, namely:

1. Socialization

This aims to establish cooperation between the implementing team and the local government, the Head of Kunyi Village. With this activity, it is hoped that cooperation will be created between the community, the PKM activity implementation team and government officials. Socialization and coordination are also carried out between the implementing team before implementing the activity.

2. Training

This stage is carried out by providing material to partners regarding the importance of implementing biofloc technology for tilapia cultivation to increase production and productivity in tilapia cultivation in order to increase income. Next, partners were invited to discuss the training material, namely regarding biofloc technology and marketing outreach that had been delivered by resource persons and the implementing team so that they better understand the material presented in the form of FGD.



Figure 2. Training and FGD on biofloc technology and tilapia marketing

3. Application of Technology

At this stage partners will carry out direct practice in making round tarpaulin ponds to support the tilapia cultivation business. Materials and tools as well as the location for the practical implementation will be prepared by the partners themselves and some will be prepared by the implementation team. Partners will also prepare a place for practice



Figure 2. Practice of assembling a round pond containing tilapia fish with a biofloc system

Application of marketing techniques through social media, namely in the form of online promotional media training through marketplaces and other social media (Instagram, Twitter, Facebook fanpage). This briefing is aimed at partners to understand the role, function and purpose of online promotional media, understand the steps in activating e-commerce, such as: creating an account, determining content, strategies for having as many followers as possible via Instagram, Twitter, Facebook fanpage; and others

4. Mentoring and Evaluation

At this stage, assistance and evaluation is carried out during the process of cultivating tilapia using Biofloc technology. This activity is intended to facilitate partner groups in resolving problems that arise during cultivation activities. This activity takes place once every two weeks until harvest. Meanwhile, evaluation of activities is carried out periodically by involving implementing members and partner groups.

The aim of implementing this mentoring and evaluation is to find out the extent of partners' understanding of the application of biofloc technology and marketing management in the development of tilapia cultivation production that has been provided.

5. Program Sustainability

The need for further assistance in the field of tilapia production with biofloc technology and marketing through collaboration with universities so that the production and marketing of tilapia can be developed optimally through online media with more optimal applications so that marketing is more easily recognized by tilapia consumers and the public in general and creates Tilapia development center supported by the regional government.

RESULTS OF IMPLEMENTATION OF ACTIVITIES

Community Partnership Program (PKM) activities consist of training activities, application of technology, and creation of demonstration plots. Each activity that has been carried out is described as follows:

1. Training

Training activities regarding knowledge of biofloc technology and marketing via social media. This training activity was attended by 15 participants consisting of 10 community members from partner groups, 2 extension workers and 3 students from the fisheries and agribusiness study program who were involved in this activity.

Training activities are divided into 2 sessions with two different topics. The first topic concerns biofloc technology. The second topic discusses the use of social media for marketing tilapia fish production. Before training activities are carried out

pretest to participants involved in the training to determine the level of knowledge of activity participants regarding biofloc technology. After the practical activities are carried out *posttest* to determine the activity participants' understanding of the material that has been given and practiced. The answers of activity participants to the questionnaire distributed at the end of the socialization and training activities are a picture of basic information about the knowledge and skills of all participants in terms of cultivating and marketing tilapia. The results of the questionnaire showed that some of the participants (6.21%) already had knowledge about biofloc, however 93.79% of the activity participants did not know how to use biofloc technology. After training and practical activities were carried out, there was an increase in activity participants' knowledge about biofloc with 80.55% of participants able to answer knowledge questions correctly. Likewise, there was an increase in skills with all activity participants (100%) being able to assemble a round pond for cultivating tilapia using biofloc technology. Activity participants also showed the same trend in knowledge and skills in creating marketing accounts on social media. As many as 17.77% of activity participants had knowledge about online marketing, but 82.23% did not know how to create marketing accounts on social media. However, after outreach activities and practice of creating marketing accounts on social media, participants' knowledge increased where 98% of participants were able to create marketing accounts on social media. After the practical activity, all activity participants (100%) can create marketing accounts on social media.

Table 3. Results *pres test* and *posttest* about the knowledge and skills of tilapia cultivation partners with biofloc technology and online marketing in Kunyi village, Anreapi sub-district, Polawali Mandar Regency.

What is asked in the questionnaire	Before Activities Community service		After the activity Community service	
	Not yet	Already	Not yet	Already
	%			
Knowledge of biofloc technology	93,79	6,21	9,72	90,28
How to cultivate tilapia using biofloc technology	100	0,00	0,00	100,00
Online marketing knowledge	82,23	17,77	2,00	98,00
How to create a marketing account on social media	82,23	17,77	0,00	100,00

CONCLUSION

Based on the results described above, it can be concluded that This community service activity in the form of training and guidance on cultivating tilapia fish recycled from mining rope waste, was well received. Recycling Mining rope waste can be processed properly using adequate equipment, so that in terms of productivity carried out by group members it can increase production both in terms of quantity and quality, while in terms of marketing carried out by the service team it can provide insight and understanding to partners about marketing efforts, both directly and via social media to consumers. The impact that the community will get after this activity is expected. This business can absorb more local workers. Various promotion and sales methods are carried out so that tilapia production has added value to people's income.

ACKNOWLEDGEMENT

We would like to thank the Ministry of Education and Culture, the Directorate General of Higher Education, Research and Technology, and Community Service (DPRTM) for funding assistance for the program Devotion to the Community

Partnership Program (PKM) scheme for Fiscal Year 2024. Apart from that, thank you to the partner group, the Kunyi Village Head and the Anreapi District BPP extension workers who supported the implementation of this community service activity

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