



TILAPIA FEED (PELLETS) TRAINING FOR BOKAPE FISH FARM GROUP IN BONTOKADDOPEPE VILLAGE, TAKALAR

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<p>Info Article</p>	<p>Abstract: <i>The Community Partnership Program (PKM) activity was carried out with the aim of providing counseling on the use of local raw materials to support independent feed needs for the Bokape Fish Farm tilapia farming group in Bontokaddopepe Village, North Galesong District, Takalar Regency. The problem faced by partners is the high price of tilapia feed sold on the market, while the need for tilapia feed must still be met in order to obtain maximum tilapia farming results. So that alternative solutions are needed to be able to create their own fish feed by utilizing available local materials, including corn. The method used is the Community Development approach method where the community plays an important role in the activities carried out. The results of this PKM activity show that 100% of partner group members agree that the training and practice that have been carried out can contribute to the growth of more optimal tilapia farming and provide new knowledge and independence in tilapia feed production for the future.</i></p>
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<p>Abstrak: Kegiatan Program Kemitraan Masyarakat (PKM) ini dilakukan dengan tujuan untuk memberikan penyuluhan pemanfaatan bahan baku lokal untuk menunjang kebutuhan pakan mandiri bagi kelompok budidaya ikan nila Bokape Fish Farm di Desa Bontokaddopepe, Kecamatan Galesong Utara, Kabupaten Takalar. Permasalahan yang dihadapi oleh mitra adalah mahalanya harga pakan ikan nila yang dijual di pasaran, sedangkan kebutuhan akan pakan ikan nila harus tetap terpenuhi guna memperoleh hasil budidaya ikan nila yang maksimal. Sehingga diperlukan alternatif solusi untuk mampu menciptakan pakan ikan sendiri dengan memanfaatkan bahan lokal yang tersedia yakni diantaranya adalah jagung. Metode yang digunakan adalah metode dengan pendekatan community development dimana masyarakat berperan penting dalam kegiatan yang dilakukan. Hasil kegiatan PKM ini menunjukkan bahwa 100% anggota kelompok mitra setuju bahwa pelatihan dan praktek yang telah dilakukan mampu memberikan kontribusi pada pertumbuhan budidaya ikan nila yang lebih optimal serta memberikan pengetahuan baru dan kemandirian dalam produksi pakan ikan nila untuk kedepannya.</p>	

INTRODUCTION

Tilapia (*Oreochromis niloticus*) is a type of fish that is widely known and sought after by the community for consumption and cultivation. This freshwater fish species is chosen for farming due to its ability to adapt easily to various environments and survive in low-oxygen conditions (Eka, 2020). Tilapia can thrive not only in freshwater environments like rivers, lakes, irrigation canals, reservoirs, rice fields, and swamps, but also in brackish water with a salinity range of 0-35%. Purnomo (2020) mentioned that tilapia has delicious and firm meat, grows quickly, is relatively affordable, and is accessible to people from all socioeconomic backgrounds, making it a popular choice. Tilapia farming has been widely practiced with various objectives, one of which is to increase income and stimulate the economy in rural areas (Yunaidi & Wibowo, 2019). As demand for tilapia increases, the income of farmers also rises. This situation demands that farmers are able to provide adequate feed supplies. Fish feed or pellets play a vital role in the growth and development of tilapia (Fradina & Latuconsina, 2022). The availability of high-quality feed is a determining factor for the success of fish farming. Tilapia (*Oreochromis niloticus*) is a type of fish that is widely known and sought after by the community for consumption and cultivation. This freshwater fish species is chosen for farming due to its ability to adapt easily to various environments and survive in low-oxygen conditions (Eka, 2020). Tilapia can thrive not only in freshwater environments like rivers, lakes, irrigation canals, reservoirs, rice fields, and swamps, but also in brackish water with a salinity range of 0-35%. Purnomo (2020) mentioned that tilapia has delicious and firm meat, grows quickly, is relatively affordable, and is accessible to people from all socioeconomic backgrounds, making it a popular choice.

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One of the groups that farms tilapia is the Bokape Fish Farm in Bontokaddopepe Village, North Galesong District, Takalar Regency. Takalar Regency is known as a hub for tilapia farming in Indonesia. The rapid growth of tilapia farming and the high demand for pellets in Takalar pose significant challenges for farmers in meeting feed

requirements. Currently, the price of commercial feed for tilapia is high because most of it uses imported raw materials (Sukarman, 2011). The high cost of tilapia feed leads to lower-quality fish, both in weight and nutrition, as farmers reduce the amount of feed provided to cut expenses. In freshwater fish farming, feed costs often account for up to 75% of total expenses (Yunaidi & Wibowo, 2019). This reduction in feed results in underdeveloped tilapia, reducing their market value and causing losses for farmers.

To address the issue of feed availability for the Bokape Fish Farm group, an alternative solution is needed to provide more affordable feed to meet market demands. Bokape Fish Farm can consider producing their own tilapia feed, increasing biofloc pond facilities, and improving human resources for group members. According to Utomo (2018), to solve high feed costs in farming, the use of locally sourced, non-economic raw materials is essential. Tilapia feed can be made from various local raw materials, both animal and plant-based, ensuring that the nutritional content is appropriate for the fish being farmed (Putra et al., 2022). Locally available materials, considering their quantity, quality, and price, can produce homemade tilapia feed (Safir, Serdiati, Tobigo, & Mansyur, 2020).

Takalar Regency is known for producing superior corn, which makes it an ideal and cost-effective raw material for fish feed production. Corn contains high levels of carbohydrates and some proteins and fats, making it an excellent energy source for tilapia growth. Corn can be combined with other feed ingredients such as rice bran, fish meal, wheat flour, and fish vitamins to meet the nutritional requirements of tilapia. However, the members of the Bokape Fish Farm still lack the knowledge and technology to produce their own feed, relying heavily on commercial feed. This gap in knowledge motivated the authors to provide training and practical exercises in making tilapia feed using corn as the main ingredient so that the Bokape Fish Farm group could produce their own feed and improve the quality of their tilapia farming.

METHOD

The activity took place in Bontokaddopepe Village, North Galesong District, Takalar Regency, in August 2024. The issues encountered by the partners in this endeavor are addressed through community development. As per Setiyanti's (2022) methodology Community Advancement This strategy focuses on fostering community empowerment, wherein the community acts as both the subject and object of development, necessitating direct and active engagement in all service activities

conducted. The participants in this case include the Bokape Fish Farm fisheries organization, which cultivates tilapia in Bontokaddopepe hamlet, including 11 attendees.

The solution of partner problems is more complete by using several methods that involve direct interaction between PKM members and partner groups. Some of the methods used are as follows:

– Extension

Counseling related to the use of local materials to support the development of independent feed was carried out on Wednesday, August 28, 2024 with the subject matter of the benefits of tilapia feed from corn, the introduction of the necessary tools and materials, and how the stages of making fish feed or pellets using corn as the main ingredient.

– Field practice demonstrations

Field practice demonstration activities were carried out directly at the tilapia cultivation location on Monday, August 26, 2024. In this activity, the trainees were given the opportunity to try to make tilapia feed from prepared materials and tools. On this occasion, participants can also implement the understanding and knowledge that has been obtained so that in its application it can produce results that are in accordance with expectations.

– Monitoring and evaluation

After the practice of making tilapia feed from corn materials is completed, monitoring steps are needed to ensure that the fish feed produced meets the quality in supporting tilapia growth. In addition, mentoring is also carried out with the aim of ensuring that the partner group is able to implement all knowledge and techniques of making feed correctly. After the series of activities were completed, the evaluation was then carried out by providing questionnaires and conducting interviews with the trainees to find out the progress of the activities that had been carried out and identify the shortcomings and advantages of the program to be better in the future.

RESULTS AND DISCUSSION

Community Partnership Empowerment (PKM) activities are carried out in two stages as follows:

- Counseling activities for the Bokape Fish Farm group
- Tilapia feed making practice

In more detail, it can be seen in Table 1. below:

Table 1. Details Of The Stages Of Implementing The Activity

No.	Form of Activity	Information
1	Counseling activities	Succeed
2	Tilapia feed making practice	Succeed

The counseling workshop for the Bokape Fish Farm group elicited a positive response from all attendees. Up to 75% of the extension participants remain unaware of how to formulate or produce their own tilapia feed using locally accessible components. This statistic underscores the significance of engaging in this counseling workshop. The content delivered by Dr. Kamaruddin M. Si from BRIN imparted novel insights and comprehension to the training participants. Tilapia farming enterprises can utilize corn as a source for feed production. The questionnaire findings indicate that every member of the Bokape Fish Farm Group meets their tilapia feed requirements by purchasing commercially available feed. The exorbitant cost of commercial feed, which poses a significant burden for tilapia farming operators, has intensified their motivation to turn maize into the requisite fish feed. Furthermore, the incorporation of maize in tilapia feed is predicated on its nitrite concentration, which can enhance fish breeding efficiency.



Figure 1. Presentation Of Material In Counseling Activities

During this counseling program, members of the Bokape Fish Farm group were provided with knowledge and an explanation of the phases involved in the production of fish feed. In the production of fish feed, numerous factors must be evaluated, including assessing nutritional requirements, selecting feed components, and formulating mixtures. The assessment of the nutritional requirements for aquaculture feed must focus on its protein content, which is essential for energy provision, tissue maintenance, and growth enhancement in farmed fish. The growth of tilapia is influenced by the protein level in its meal (Adibrata, Gustomi, & Syarif, 2021). Tilapia is an omnivorous fish that necessitates moderate protein levels of 30-40%. The selection of feed ingredients must be informed by their nutritional content, determined through proximate analysis and analyses of amino acids and fatty acids. Proximate analysis is employed to ascertain macronutrients, including protein, fat, nitrogen-free extracts (NFEs), crude fiber, ash, moisture, and energy content. Moreover, fish feed components must be non-toxic, readily accessible, non-competitive with human consumption, economical, non-essential as a staple meal, and available throughout the year (Mubaraq, Novita Ainul Hamzah, Sari, & Rusdi, 2022). The documentation of the conducted counseling actions is illustrated in Figures 1 and 2.



Figure 2. Question and Answer Session In Counseling Activities

The Bokape Fish Farm group, along with members of the PKM team, executed a trial session for the production of tilapia or pellet feed on August 26, 2024. Initially, all required materials for tilapia feed are produced. The production of tilapia feed

incorporates maize as the primary ingredient, along with additional components such as bran, fish meal, wheat flour, and fish vitamins to fulfil the comprehensive nutritional requirements of tilapia. Once all the ingredients are produced, the grinding process is conducted to crush, smooth, and sift the material, resulting in a uniform consistency with a maximum particle size of 400 μm .



Figure 3. The Practice Of Making Tilapia Or Pellet Feed

The subsequent stage is to quantify or gauge the substance in accordance with the required quantity. The ingredients are thereafter combined manually to ensure uniform distribution. Subsequent to mixing, the ingredients are moulded to get the desired form and size of feed appropriate for the fish's requirements. The dimensions of the fish feed must be calibrated to the oral aperture of the cultured fish. Simultaneously, the shape can be produced via a printing machine and can be fabricated according to your specifications; it may take the form of emulsion/suspension, paste, slab/flake, crumble, or pellets (either moist or dry). The final step is the drying of the printed feed. The drying occurs immediately under sunlight. Figures 3 and 4. This document outlines the practice activities involved in the production of tilapia feed that have been conducted.



Figure 4. Tilapia Feed Practice Activities

CONCLUSION

The questionnaire results indicated that all training participants concurred that fish feed produced from corn significantly impacts the growth and weight of grown tilapia. The nutritious composition of the feed ingredients promotes healthy growth in tilapia. The identical outcomes were achieved, demonstrating unanimous agreement among all members that the PKM activities conducted aligned with the goals and expectations of partners, yielding good results in addressing the challenges faced by the Bokape Fish Farm tilapia cultivation group. No substantial impediments or difficulties were encountered during the activity; the supplied content was comprehensible, and the practice of feed production could be readily applied. This PKM activity significantly enhances the autonomy of the Bokape Fish Farm livestock group by improving the efficiency and quality of tilapia feed and cultivation production.

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