

# Increasing Community Income Through Tilapia Farming In Bontomatene Village, Pangkep

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## Abstract

The purpose of the Community Partnership Program activities is Fisheries Development in Rumah Great Village. The method used in the implementation of the program is carried out through three stages. In the first stage, fish farming to farmer groups. The next stage is to provide assistance with fish pellet molding machines and materials for making fish pellets. Then, guiding the fish farmer group in using the pellet molding machine and making tilapia pellets directly by mixing various types of fish pellet-making materials according to the dosage. In the last stage, the service team handed over 4000 tilapia seeds to be stocked in the pond that became the activity area, so that the farmer group could start cultivation activities with the help of tilapia seeds. Based on the results of interviews with the community, especially farmer groups on community service activities carried out by the service team, they feel that this activity has increased knowledge about tilapia farming, this activity also improves the skills of farmer groups in making tilapia pellet feed using a pellet molding machine.

**Keywords:** Cultivation, Feed, Seeds, Tilapia Fish.

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## Introduction

As a country surrounded by oceans, Indonesia has a long coastline with extensive coastal waters. This shows that Indonesia has good potential to develop and utilize its marine resources, especially tilapia aquaculture (Dsikowitzky et al., 2019). The utilization of Tilapia Aquaculture then develops towards commercial to be exported and traded as raw materials for consumption (Dhar et al., 2021). To increase the production and quality of Tilapia Aquaculture and to utilize Indonesian aquatic land, efforts to develop Tilapia Aquaculture still need to be studied and studied. The results of these experiments are expected to be developed as a Tilapia Aquaculture Business that is efficient and effective. In optimizing the role of the fisheries sector, the government has tried to encourage the community as widely as possible to carry out development activities and development of the fisheries subsector which is believed to be able to improve and become the mainstay of the national economy, especially to improve the welfare of the fishing community. In 2009, it is targeted to reach 8,780 hectares with production reaching 307,300 tons (Juliswara & Muryanto, 2022).

Therefore, the Agribusiness Department of Pangkep State Agricultural Polytechnic as an educational institution that is one of the forms of practicing science, technology and cultural arts directly in the community has the duty and function of disseminating knowledge and application of Tilapia cultivation technology to the community, especially in Bontomatene Village, Segeri District. Each cultivator has a different ability to handle problems found in the field depending on his intelligence, skills and experience, which is why even though in the same place, cultivation system and available materials do not necessarily get the same production results when handled with different techniques. Handling cultivation problems in the field requires speed in taking action based on the analysis of existing problems.

Speed will be achieved when a cultivator has sufficient sensitivity and knowledge in seaweed cultivation. Many books systematically and “sophisticatedly” explain the latest cultivation system but do not review the basic theories of cultivation that are sometimes forgotten or not explained enough so that there is a gap in its application. Therefore, in this community service activity, it will be explained how to cultivate Tilapia fish and market prospects both locally and internationally.

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This activity aims to socialize Tilapia cultivation technology in coastal farming areas, with the target of increasing production and welfare of pond farmers. Community service activities carried out by the Department of Business of Politeknik Pertanian Negeri Pangkajene Kepulauan carried out in Bontomatene Village, Segeri District, Pangkep Regency, aim to socialize Tilapia cultivation technology in the cultivator area in coastal ponds, with the target of increasing production and welfare of Tilapia fish pond farmers.

#### *Tilapia Aquaculture Business*

Aquaculture in the narrow sense is the effort to raise fish that were previously wild as pet fish (Stickney & Gatlin III, 2022). Meanwhile, in a broad sense, it is all efforts to breed and obtain fish, both fish that still live in the wild and those that have been converted into a separate place due to human intervention. Therefore, the idea of cultivation is not just raising fish in ponds, ponds, aquariums, rice fields and others. But this definition includes the production of fishery products in rivers, lakes, seas, and reservoirs in general. The purpose of aquaculture is to produce fish that are good or better than those produced by fish in nature.

Fish farming will never die out. No matter where it is, fish farming always exists. From ancient times to the present, with the continuous change of humans, fish farming will continue to accompany them. This is because fish farming is always associated with humans as an effort to fulfill their needs. Therefore, wherever people are, they will always see business opportunities to cultivate fish, because cultivation is also relatively easy both at the nursery and enlargement levels, with government advice and at the same time offering support to the community in the cultivation and development of freshwater fish.

Tilapia is known as a fish that has a relatively high resistance to water quality and also has extraordinary resilience (Abd El-Hack et al., 2022). In addition, tilapia is very easy to breed. Tilapia is very adaptable to the environment, so in intensive cultivation tilapia has a very high economic value. For this reason, tilapia farming is believed to have the potential to improve the welfare of farmers. In order to make the investment and selection of tilapia farming more stable, we must know the benefits of this cultivation. Tilapia fish, often known as tilapia, is an imported fish that is not native to the Indonesian sea (fish originating from outside Indonesia but cultivated in Indonesia). It originates from the waters of the Nile River in Africa. Tilapia, on the other hand, is technically from Taiwan, not Africa. The term tilapia comes from the Latin name *Nilotica*, which is related to the origin of the Nile fish. Tilapia is also known as *nile* in other parts of the world. Tilapia was first introduced to Indonesia in 1969. The government promoted tilapia as a freshwater fish by introducing it through the Freshwater Fisheries Research Center (Balitkanwar) during this time. Since 1972, the term tilapia has been used as the official species name in Indonesia (El-Sayed, 2019).

Tilapia is morphologically very similar to muajair (*Oreochromis mossambicus*), which is why many people refer to tilapia as "red tilapia". Tilapia is just a close relative of the cichlidae family of the Percomophi tribe and they also come from the same region of the African continent. Tilapia and tilapia can be distinguished by their total body length and height, as well as the stripes on their caudal and dorsal fins. There is a straight oblique (vertical) line on the tail fin and dorsal fin, while tilapia does not have this line (Suryani et al., 2022). Tilapia has excellent business prospects. This is supported by the many consumers of tilapia from various walks of life. In addition, tilapia also has several advantages, including fast growth despite being kept in high densities, high survival rates, nutrition that is not too difficult because it is an omnivorous animal, breeding techniques that are not too complicated and can be maintained in different indoor locations, for example in dams, ponds and floating nets (Engle, 2020).

#### *Production cost*

Production costs are the value of all production factors used, both in the form of goods and services, during the ongoing production process (Grewal et al., 2020). Production costs can be said to be effective if these costs are not wasteful and are able to provide results in good quality and quantity, this requires a systematic effort in the company by comparing work with plans and actions whose differences have been adjusted.

#### *Revenue*

Income is the sum of revenue from all products multiplied by price. Total agricultural production activities include all production sold and consumed. Income is the income of funds generated from the sale of goods or services with the aim of making a profit. multiplication between the production obtained and the selling price and production is generally

negatively correlated with prices, meaning that prices fall with excess production (Ostapenko et al., 2020). The more products produced and the higher the price per unit, the higher the total income received by the producer. However, if fewer products are produced and the price is low, the total income received by the producer will be lower.

Revenue is the total output or services sold multiplied by the price, but revenue is the consequence of revenue minus production costs (Phillips, 2021). Production revenue is multiplied by the number of product units produced at the product price per unit. This shows that the high and low price will affect the high and low income. Total agricultural production activities include all production sold and consumed. Income is the income of funds generated from the sale of goods or services with the aim of making a profit (Deepak & Jeyakumar, 2019). multiplication of production obtained by the selling price and production is generally negatively correlated with prices, meaning that prices fall with excess production.

#### *Income*

Income is all the money that an entrepreneur or family receives during a certain period of time, income consists of wages and receipts and payments/receipts from government transfers such as social benefits or unemployment insurance (Niankara & Traoret, 2023). Income is defined as income received by individuals through economic activities in the form of wages or money that has value over a certain period of time. Revenue is the price charged to customers multiplied by the units sold (Anggara et al., 2022).

The profit resulting from the difference in income and total production costs incurred during the farming process is known as farm income (Esau et al., 2019). If income goes up and costs go down, income will go up. However, if income goes down or costs go up, income will go down. In accounting theory, (Hendriksen, 1997) explains that revenue, namely revenue, can generally be interpreted as the result of business. Usually measured in units of the prevailing exchange rate. Revenue is approved after the sales process or after the achievement of important events. In this case, revenue is usually agreed at the time of sale.

#### **Method**

The implementation of activities to the community is carried out in the form of counseling by presenting a predetermined topic, namely increasing community income through improving the quality of Tilapia using Cultivation Technology in Bontomatene Village, Segeri District, Pangkep Regency. Community service was carried out by the Department of Business, Politeknik Pertanian Negeri Pangkajene Kepulauan, held on April 11, 2023 in Bontomatene Village, Segeri District, Pangkep Regency. This community service activity was carried out in the form of counseling accompanied by discussions with the local community. The implementation of this activity was carried out in several sessions, namely the first session, opening by the protocol followed by remarks by the Head of the Fisheries Agribusiness Department and the local government in this case the Head of Bontomatene Village.

The second session was the delivery of material to the community in the form of presentations made by team members who have been appointed and have expertise in tilapia cultivation. The third session is a question and answer session between the community and the implementing team, in this case the appointed speaker, the community is given the opportunity to ask about the overall material that has been delivered if there is something unclear and not understood. The fourth session is the closing session of the entire series of community service activities by drawing conclusions from the material that has been delivered and providing suggestions both addressed to the community and to the local government related to Tilapia cultivation.

#### **Results and Discussion**

Community service activities carried out in bontomatene Village, Segeri District, Pangkep Regency by lecturers of the Department of Fisheries Agribusiness, Politeknik Pertanian Negeri Pangkajene Kepulauan were attended by 50 participants consisting of community members, lecturer staff, technicians, administrative staff and village officials. the activity began with the opening by the protocol then continued with remarks and continued with the provision of material on tilapia cultivation, by the speaker and ended with questions and answers by the participants. Figure 1 shows the process of community service activities.



Figure 1. Providing material

Figure 1 is a documentation of the socialization activities that began with presentations on the introduction of tilapia, pond arrangement, fish farming in earthen ponds, how to stock tilapia seeds, enlargement of tilapia seedlings, how to make tilapia feed and ended with how to feed tilapia.

From the results of the training and mentoring activities, it can be seen that the farmer groups gained an increased understanding of tilapia farming. This is indicated by the positive response of the farmer groups to the socialization materials provided, which include pond land preparation, fish seed selection, frequency of tilapia pellet feeding, how to stock fish seeds and tilapia seed enlargement. Based on the results of interviews with the community, especially farmer groups on the community service activities carried out by the community service team, they felt that this activity increased their knowledge about tilapia farming, besides that this activity also increased the skills of farmer groups in making tilapia pellet feed using a pellet molding machine.

From the results of these activities, several benefits can be obtained for the community, namely:

The socialization activities began with a presentation on the classification of tilapia, pond settings, fish cultivation in earthen ponds, how to stock tilapia seeds, enlargement of tilapia seedlings, methods of making tilapia feed and ended with how to feed tilapia.

From the results of the socialization activities, it can be seen that the farmer groups gained an increased understanding of tilapia farming. This is indicated by the positive response of the farmer groups to the socialization material provided, which includes soil pond preparation, selection of fish seeds, frequency of tilapia pellet feeding, how to stock fish seeds and enlargement of tilapia fish seeds.

From the results of the activity, several benefits can be obtained for the community, namely:

1. The community gained knowledge about how to cultivate tilapia.
2. The community gained skills on the use of tilapia pellet machine.
3. The community gained skills in making tilapia feed pellets.
4. The community can increase income by reducing production costs through making tilapia feed independently.
5. The community gained initial capital in conducting tilapia farming with the assistance of tilapia seeds.

## Conclusions

The conclusions that can be drawn from the results of the community service activities of this Community Partnership Program are:

1. There was an increase in the knowledge of the Siangkaan farmer group about tilapia farming.
2. There was an increase in the skills of the Siangkaan farmer group in making tilapia feed pellets independently using a pellet molding machine.
3. There was an increase in profits for the Siangkaan farmer group in fish farming because they were able to reduce production costs through making tilapia feed pellets independently.

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