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Social Innovation Through Tilapia Cage Culture in Tamansari Village, Banyuwangi

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ABSTRACT

This community service project aims to empower the youth of Karang Taruna in Tamansari Village, Banyuwangi, through social innovation in tilapia cage farming. The program seeks to enhance youth knowledge and skills in aquaculture, fostering greater productivity and community welfare. Through training and mentorship, the initiative aspires to develop an independent and competitive youth group capable of leveraging the village's potential in the fisheries sector. The project results show a positive impact, including increased capacity in institutional and aquaculture skills, the formation of the Pokdakan group, and the construction of nine tilapia cages in residential water channels.

Keyword: Social Innovation, Fish Farming, Social Entrepreneurship, Karang Taruna, Pokdakan



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1. Introduction

The rise and growth of social enterprises worldwide have made them a key topic in administrative sciences, extending beyond empirical analysis to include practical applications within organizations and management adjustments. Social innovation has emerged as a “new” or at least innovative way to tackle interconnected social issues [1]. Drawing from various theoretical perspectives, this concept has become widely accepted as a collaborative approach aimed at addressing social challenges and fostering change [2,3,4].

Karang Taruna is a youth organization established by the community as a space for young people to develop, grow, and thrive. It is built on collective awareness and social responsibility and aims to achieve social welfare through youth-led initiatives. Social Welfare Resources include individuals, families, groups, and communities that help maintain, create, and strengthen social welfare efforts. According to the Minister of Social Affairs

Regulation No. 25 of 2019, Karang Taruna is considered a vital organization with the potential to serve as a source of social welfare, specifically for empowering youth.

Tamansari Village in Tegalsari District, Banyuwangi Regency, has strong potential for local economic development. This potential is supported by a productive population and fertile land, including rice fields, dry lands, and community plantations. The village's youth are expected to play an active role in development and foster cross-generational collaboration. Karang Taruna in Tamansari Village was established in 2018 and includes approximately 48 members, mostly aged 20–30 and high school graduates. Since its founding, the organization has hosted various activities such as youth gatherings, cultural events, and participation in village celebrations like *grebeg suro* (2018), *dolan ndesoku* (2021), and workshops on decorative lamp-making [5].



Figure 1. Grebek Suro 2018



Figure 2. Dance art 2019



Figure 3. Anjangsana 2019



Figure 4. Making decorative lamps hias 2021

The situation analysis of the challenges faced by the Karang Taruna youth organization in Tamansari Village, Banyuwangi, East Java, highlights the need for social innovation:

- a) **Limited understanding of organizational structure:** Karang Taruna's activities have been minimal, with the last recorded initiative in 2021. Since then, there have been no regular or ongoing programs. The organization still does not follow the guidelines set by Minister of Social Affairs Regulation No. 25 of 2019, which outline the functions of Karang Taruna. As a result, the group has not been able to carry out key functions such as administration, facilitation, mediation, communication-information-education (CIE), social advocacy, motivation, mentoring, leadership, and the use of technology. The current structure does not meet the required administrative, managerial, and functional standards.
- b) **Low initiative in using village assets:** To improve youth programs and entrepreneurial activities, Karang Taruna Tamansari could collaborate with the village government to make better use of local assets like irrigation channels. These channels, which span about 2-3 kilometers, could be used for freshwater fish farming in cages, generating potential income and supporting the local economy. This project could spark youth and community initiatives, build skills, and develop entrepreneurial management without harming the natural ecosystem.

The main goals for introducing social innovation and boosting the economy through tilapia cage farming in the irrigation channels of Tamansari Village's Karang Taruna include:

- a) **Strengthening the understanding and knowledge of youth organization structures** to align with the guidelines of Minister of Social Affairs Regulation No. 25 of 2019.

- b) **Enhancing the competitiveness of Karang Taruna**, both institutionally and in terms of human resources, so they can adapt quickly to changes driven by digitalization and modernization and succeed at local and regional levels.
- c) **Expanding technological access and infrastructure** for Karang Taruna, such as increasing entrepreneurial opportunities and using appropriate technologies like fish farming in irrigation channels, along with forming a Pokdakan (fish farming group).

2. Implementation Method

The Brawijaya University team created a structured plan for this community service project to strengthen Karang Taruna's organizational capacity and introduce social innovation through tilapia cage farming in residential water channels. The plan aimed to be effective and sustainable, covering planning, execution, and evaluation. The approach included training, mentoring, and collaboration with key stakeholders like the Banyuwangi District Fisheries Office, Glenmore Banyuwangi Water Resource Coordinator (KORSDA), and the Tamansari Village Government. The focus was on improving organizational management, recognizing

Karang Taruna's important role in youth engagement and boosting the local economy.

In addition to socialization and entrepreneurship training, mentoring in fish cage assembly was a key part of the program. The cages were both business tools and learning resources for Karang Taruna members to build their managerial and technical skills. To ensure the program's long-term success, each phase included monitoring and evaluation with partners. The project involved the service team, government partners, and the local community, promoting sustainable economic growth in the village.

2.1. Preparation

- a) **Survey and Observation:** The initial stage of the Doctoral Service Program (DM) by Brawijaya University included meetings and coordination with the Tamansari Village Government. These meetings discussed work plans, follow-up actions, and technical details for the project, as well as identifying issues that needed support. Social mapping of participants was also done. Both online and in-person sessions were held to decide on the main issues to address in the 2024 program.

- b) **Identifying Challenges:** The challenges include:

1. Meetings were held with Karang Taruna members and village officials to identify challenges, proposed solutions, and set targets for the community project.
2. The main challenges found were a limited understanding of the structure of Karang Taruna and Pokdakan, weak management of programs and youth activities, low entrepreneurship efforts, and limited use of irrigation channels, which were mainly used for rice field irrigation.

2.1. Implementation

- a) **Administrative and Managerial Training for Programs, Activities, and Entrepreneurship Using Fish Farming in Irrigation Channels:** Effective management of administrative and organizational aspects is crucial for Karang Taruna to consistently contribute positively to the community. The fish cage farming initiative represents a new entrepreneurial activity for Tamansari Village by utilizing irrigation channels. Introducing this technology is essential for Karang Taruna and Pokdakan in Tamansari to ensure optimal fish farming practices and achieve the desired results. Strengthening human resource capacity and entrepreneurship training can effectively educate and empower the community.
- b) **Cage Assembly:** The cage assembly process was conducted collaboratively by the Doctoral Service Program (DM) team from Brawijaya University, Karang Taruna members, and the Pokdakan group in Tamansari. The main goal was to foster a sense of ownership and responsibility among participants, ensuring they could manage the fish cages independently and handle any challenges during the farming process. Fish breeding using these cages, provided to the Pokdakan group, involved a four-month growth period with regular feeding by members. The DM team, along with students, worked jointly on control, supervision, and data recording to support effective management.

2.3. *Monitoring dan Evaluation*

The activity was conducted to monitor progress, identify any issues, and implement solutions as needed.

2.4. *Partner Contributions to Implementation*

The contributions of partners involved in the Doctoral Service Program (DM) activities were as follows:

1. Coordinating the fish farming group (POKDAKAN) to participate in workshops, training, mentoring, and monitoring and evaluation sessions.
2. Assisting with the preparation of facilities and infrastructure for the DM program activities.
3. Supporting the permitting process with relevant stakeholders.
4. Actively participating in and supporting the DM program focused on social innovation through the use of irrigation channels for tilapia cage farming in Tamansari Village, Tegalsari District, Banyuwangi Regency.

3. Results and Discussions

The program involved a series of activities, including the formation of the fish farming group (POKDAKAN), management training and outreach, as well as the construction of fish cages and the use of irrigation channels as economic assets. Each phase was designed collaboratively between Karang Taruna Tamansari, Pokdakan, the village government, and the Brawijaya University service team. The initiative applied various community empowerment theories, such as active participation, use of local assets, and social entrepreneurship. By involving all stakeholders and the local community, the program not only created new economic opportunities but also fostered a sense of ownership and independence among residents. Below are the results of the mentoring process and the impact of the activities across different aspects.

3.1. *Mentoring and the Formation of Pokdakan*

The mentoring provided by the Brawijaya University team successfully facilitated the formation of the Pokdakan (Fish Farming Group) in Tamansari Village. This group became a key element in managing fish cages and served as a local entrepreneurship body. The formation of Pokdakan involved extensive discussions with the Village Government and the Banyuwangi Fisheries Office to ensure the necessary legal and administrative support. Throughout the mentoring process, all Karang Taruna members participated, from planning to operations. This involvement not only fostered a sense of ownership but also enhanced skills in organizational management and entrepreneurship. This aligns with community empowerment theories that emphasize the importance of active participation in decision-making to achieve independence [6].



Figure 5. Mentoring and the Formation of Pokdakan

3.2. *Socialization and Managerial Education*

Managerial training and socialization were provided to Karang Taruna members, covering administrative management and fish cage business operations. This education aimed to equip the village youth with the capacity to run economic activities independently and sustainably. Additionally, lessons on social entrepreneurship were included, enabling Karang Taruna to act as social entrepreneurs focused on creating social value for the community. This educational approach aligns with the concept of empowerment theory,

which suggests that enhancing human resource capacity can strengthen the social and economic positions of individuals or groups within a community [7].



Figure 6. Socialization and Managerial Education

3.3. Construction and Assembly of the Fish Cages

The fish cages were assembled by Karang Taruna members and the Pokdakan group, with guidance from the service team. This activity was designed to ensure both groups gained sufficient technical knowledge to operate and maintain the fish cages independently. The construction of the cages utilized the potential of a 2-3 km stretch of irrigation channels as a fish farming medium. This process aligns with the community asset-based theory, which highlights the importance of leveraging local resources for economic development [7]. Consequently, the irrigation channels, previously used solely for rice field watering, have become productive assets contributing to the village economy.



Figure 7. Construction and Assembly of the Fish Cage

3.4. Monitoring, Evaluation, and Sustainability

Monitoring and evaluation were conducted regularly by the Brawijaya University team in collaboration with the Village Government and the Fisheries Office to ensure the activities stayed on track. The evaluation covered cage management, fish growth, and achievement of production targets.

This monitoring and evaluation approach allows for early identification of emerging issues and timely implementation of solutions. This step supports sustainable empowerment, ensuring that activities not only have short-term impacts but continue to grow and adapt to the needs of the community.

FORM MONITORING KEMAMBAHAN TETAP ABUM									
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Figure 8. Fish Monitoring Sheet



Figure 9. Monitoring dan Evaluation of the Cages

4. Conclusion

The community service program focused on tilapia cage farming in Tamansari Village, Banyuwangi, successfully achieved its main goal of enhancing the knowledge and skills of Karang Taruna youth. Through workshops and mentoring, Karang Taruna members and the Pokdakan group gained comprehensive knowledge of tilapia farming techniques, including pond preparation, seed selection, feeding, and water quality management. These technical skills have motivated Karang Taruna youth to take a more active role in productive activities. They have not only become fish farmers but also act as facilitators for the broader community. This demonstrates that the program has effectively boosted youth productivity and made a tangible contribution to improving the welfare of Tamansari Village.

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